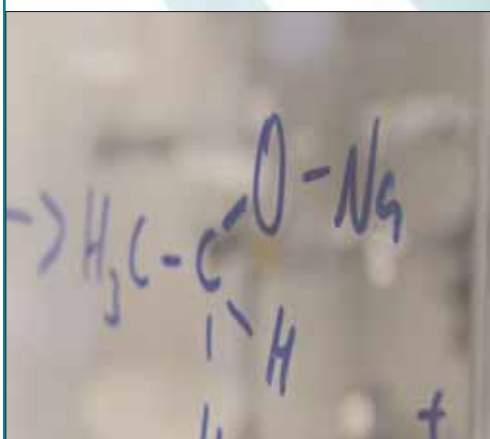


Impurities, metabolites and synthesis capacities



LGC Promochem offers over 1,600 pharmaceutical impurities to support the pharmaceutical industry worldwide produced by LGC - experts in the creation of chemical reference substances and a wide range of chemical processes and techniques. We have a technical support team and expert customer service to aid you with any specific query you may have.

- 1,600 + impurities linked to the European Pharmacopoeia (EP) wherever possible
- Customised pharmaceutical impurities created on request
- Supply of mg or g quantities
- GMP production up to 1kg possible
- Detailed certificates of analysis provided
- Tailored certificates with additional documentation available
- Assistance in finding the right material to suit your analyses

For further information or to receive any one of our catalogues, please contact your local office or visit our web site.

www.lgcpromochem.com

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Introduction

About the catalogue

The 2006/2007 edition of the LGC Promochem catalogue "Reference materials for clinical, forensic and toxicological analysis" replaces the previous 2004/2005 edition. This new edition includes the range of reference materials from the National Measurement Institute of Australia, NMIA (see special paragraph below).

The information provided in this catalogue has, wherever possible, been taken from electronic sources provided to LGC Promochem by our suppliers, rather than transcribed from printed texts. Original descriptions and spellings are retained. In some cases additional information has been added to make the lists easier to use.

About LGC Promochem

LGC Promochem offers Europe's most comprehensive source of reference materials from the world's leading producers and this range of clinical, forensic and toxicological reference materials represents an important and fast growing section of our product portfolio.

Our many years' experience in reference materials and associated analysis enables us to provide high levels of customer service and technical support. For example, assisting customers with the often time consuming task of locating the most appropriate materials for their application needs.

Our network of European offices and relationships with key reference materials suppliers throughout the world allows us to provide short delivery times and advice on differing requirements for the importation of reference materials.

About reference materials

There are considerable differences between the procedures used to manufacture conventional laboratory reagents and reference materials. Traditionally, certified reference materials (CRMs) and reference materials (RMs) have been produced by a range of government funded national and international agencies, together with a limited number of commercial organisations.

The production of high quality standards or standard solutions with appropriate certificates of analysis is mainly carried out by commercial companies such as Cerilliant Corporation, while the production of matrix CRMs is dominated by agencies such as IRMM and NIST. These organisations produce CRMs as a part of an overall remit to develop and promote good measurement practice. The cost of production is partially covered by government or other funding and, therefore, the sales price does not fully represent the true cost of production and certification.

The certification of RMs and CRMs as well as SRMs (standard reference materials, SRM[®] is a trademark of NIST) is a lengthy and complex procedure and many producers of RMs also involve external competent and highly regarded laboratories.

All CRMs, SRMs and most RMs are sold with detailed certificates of analysis, where in addition to the certified parameters, important instructions for storage, handling and use are also described. Several producers e.g. IRMM provide a complete certification report. This is a detailed report about manufacture, quality control and certification procedures including the results from external organisations.

LGC Promochem and the National Measurement Institute of Australia

We are proud to present in this new catalogue the range of certified reference materials from our new partner, the National Measurement Institute of Australia, NMIA.

Through its chemical synthesis and analytical capabilities, NMIA produces an extensive range of some 300 CRMs for the fields of sports drugs (such as anabolic steroids, growth promotants and their metabolites), forensic drugs, and agricultural and veterinary chemicals. NMIA reference materials are of the highest quality and are supplied with extensive supporting information. This includes certified and - where applicable - isotopic composition values with associated uncertainty statements, and a substantial analysis report. Before their release onto the market, all reference materials are reviewed by a panel of external experts. NMIA has third party accreditation as a reference materials producer.

For more details about NMIA and how to order the reference materials from NMIA, please refer to the NMIA chapter starting on page 65.

Other producers of reference materials

BCR/IRMM reference materials are the product of both research funding and direct action programmes of the European Commission, in which new or improved measurement or testing methods are developed. These programmes are aimed at improving, harmonising or standardising measurements and testing in the European Union. BCR is part of the Institute for Reference Materials and Measurements (IRMM) in Belgium.

LGC Promochem is authorised distributor of BCR/IRMM reference materials. We currently stock more than 2000 units of certified BCR/IRMM reference materials under controlled conditions.

NIST produces standard reference materials (SRMs). Based in the United States, NIST has provided reference materials to industry and commerce for nearly 100 years. NIST collaborates with companies to provide academia and industry with SRMs for expanding areas such as air and water pollution, which are international issues.

LGC has a long history in the development and validation of analytical methods and the reference materials production facility at LGC, complements this expertise. LGC offers a range of chemical and bioanalytical laboratory services across a variety of industries including: food and agriculture, environment, life sciences, chemicals and forensic science. LGC also plays a pivotal role in a number of programmes with both government and industry to improve analytical standards and performance.

Cerilliant's products are widely used and acknowledged in forensic analysis. The company is situated in Texas (USA) and is recognised worldwide as the premier provider of standards for drugs of abuse analysis. They offer the widest selection and highest quality isotope labelled and "native" standard solutions suitable for analytical purposes in drug testing of urine and other body fluids, therapeutic drug monitoring, pharmaceutical analysis and other uses. They also supply alcohol standards, steroid standards and their metabolites, and derivatising reagents.

Materials from the following sources are also included in this catalogue:

- Medichem, Germany
- National Research Centre for Certified Reference Materials, China
- SERO, Norway

Availability of products

Items listed in the catalogue may not always be available at the time of ordering. In particular, some of the matrix reference materials and their values derive from proficiency testing schemes. Once sold out, the same product will not be available any more. Should this situation arise, a LGC Promochem representative will contact you and an alternative product will be suggested, if possible.

Please note that replacement products may differ in analytical profile and analyte value.

Handling and safety

The correct handling for the intended use of RMs and CRMs is described in instructions, certificates, reports, and other product accompanying documents. Please note that it is important to ensure sufficient homogeneity if RMs must be prepared e.g. dissolving of lyophilisates or diluting of samples. Furthermore, regard has to be paid to the amounts recommended in the instructions, because a reduction in the sample size might not correspond to the certified quality parameter. During opening of containers any contamination must be strictly avoided. Opened containers must be closed tightly to avoid any influence of humidity and protected from light. It is recommended that unopened containers are stored in the same manner.

Once a particular batch of a given CRM is sold out, there may be a considerable delay before a replacement is available. The analytical data mentioned with the specific products were exact at the time of print. Replacement products may differ in analytical profile and analyte value. For critical and sensitive analytical procedures, where the use of a reference material is essential and demanded by regulations, customers are recommended to establish the use of two reference materials from different producers.

Some clinical, forensic and toxicological RMs are classified as hazardous. All necessary safety information, including possible risks to health, are described in detail in the certificates of analysis, reports and other accompanying documents. Instructions on how to handle these hazardous RMs or hazardous materials containing RMs, are given in detail in the MSDSs. Any hazardous RMs should only be handled by a specially trained technician or member of staff.

All RMs and CRMs based on human body fluids are tested for contamination with Hepatitis B and the human immunodeficiency virus (HIV), according to the legal regulations. However, as no test method can offer complete assurance, all human samples should be handled at bio-safety level 2 conditions.

All reference substances and standards in this catalogue are for laboratory analytical use only and not for use in humans.

Controlled substances

A number of the forensic reference substances, notably narcotics, tranquillisers and drugs of abuse, described in this catalogue are controlled substances. Also, anabolic steroids are considered as controlled substances in certain countries as well. The purchase, possession and use of controlled substances are subject to national and international regulations designed to limit their abuse. It is the responsibility of the customer to obtain any authorisation necessary to both possess and purchase controlled substances, complying with the laws of the importing country, before ordering.

The complex administration associated with the supply and possession of these materials makes it necessary for LGC Promochem companies to ensure all customers requiring controlled substances are aware of all the relevant national requirements, the associated charges and consequential delivery times.

Customers wishing to obtain controlled substances must contact their LGC Promochem sales office before ordering, and clarify with the sales specialists at LGC Promochem the procedure to be followed, and the exact cost. All orders for controlled substances must be provided in writing and signed by an authorised person and must be accompanied with the original import permit and/or possession permit. Please send the order and all related documents to the LGC Promochem sales office that is responsible for your country.

General ordering information

Prices and delivery procedures are shown in the price list that accompanies this catalogue, or are available from your local LGC Promochem sales office. For products requiring special delivery procedures (cooled shipping, special licensing, controlled substances, etc.) additional charges will be applied. Please check with your local LGC Promochem sales office for detailed procedures and transport charges where applicable. Unless otherwise agreed in advance and in writing, orders are accepted only against LGC Promochem's standard terms and conditions of sale.

Once delivered to the customer, reference substances are non returnable. For this reason it is very important for users to be certain that the product ordered meets their needs.

LGC Promochem's technical staff are available to advise on the use and suitability of a particular product. Customers requiring assistance with the use or application of a particular reference substance should contact their local LGC Promochem office, contact details are provided at the beginning of this catalogue.

Abbreviations

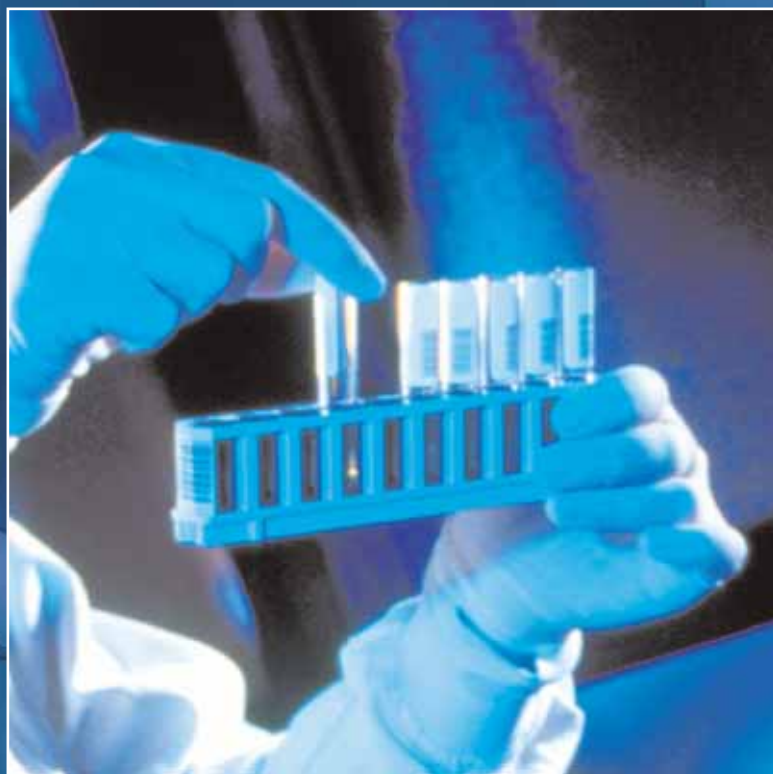
BCR	Bureau Communautaire de Reference, Registered Trademark of the IRMM
BtmG	Betäubungsmittelgesetz (Controlled Drugs Act)
CRM	Certified Reference Material
FDA	Food and Drug Administration
GTfCh	Gesellschaft für Toxikologische und Forensische Chemie (Society for Toxicological and Forensic Chemistry)
IFCC	International Federation of Clinical Chemistry
IRMM	Institute for Reference Materials and Measurement, Joint Research Centre of the European Commission
ISO	International Organisation for Standardisation
MSDS	Material Safety Data Sheet
NIST	National Institute of Standards and Technology, USA
NMIA	National Measurement Institute of Australia
REMCO ISO	ISO-Committee on Reference Materials
RM	Reference Material
SFTA	Société Française de Toxicologie Analytique
SFBC	Société Française de Biologie Clinique
SI	Système International d'Unités
SRM	Standard Reference Material, Registered Trademark of NIST
WHO	World Health Organization

We constantly add new products to our range, so please call us to find out about new products and services and to make sure you are automatically kept up to date by subscribing to our free newsletter.

Just send an e-mail to:

clintoxfor-news@lgcpromochem.com

Clinical reference materials





European Reference Materials - ERM®



The current ERM® range comprises 177 premium quality certified reference materials, as pure standards or matrix materials, applicable to a diverse range of chemical analyses including:

- Environmental
- Food
- Industrial
- Clinical
- Forensic

This range will grow and become more comprehensive as new products with relevance to European legislation and testing methods are released on a regular basis.

(www.erm-crm.org)

European Reference Materials (ERM®) represent a new standard in reference materials and help to provide assurance of the reliability and comparability of results from chemical analysis.

The ERM® combines the expertise of three major European reference material producers

- The Institute for Reference Materials and Measurements (IRMM) of the European Commission's Directorate General Joint Research Centre, Belgium
- The Bundesanstalt für Materialforschung und -prüfung (BAM), Germany
- LGC, United Kingdom

ERM® certified reference materials (CRMs) are of the highest quality, with clearly defined and stated traceability of the certified values.

All ERM® CRMs are peer reviewed by panels of experts with representatives from each of the participating producers.

Clinical analysis

Blank matrices / negative controls

Human serum

Code	Product	Unit
ME 40151	Human serum control (Medidrug Basis-line S) Native human lyophilised serum control can be used for base line determination in different applications, as negative control or as dilution medium of concentrated serum from patients.	10 x 2.5 mL

Human blood

ME 40161	Human whole blood control (Medidrug Basis-line VB) Native human lyophilised whole blood control can be used for base line determination in different applications, as negative control or as dilution medium of concentrated blood from patients.	10 x 2.5 mL
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Human urine

ME 40201	Human urine control (Medidrug Basis-line U) Native human lyophilised urine control can be used for base line determination in different applications, as negative control or as dilution medium of concentrated urine from patients.	9 x 5 mL
New CER-720-1	Synthetic urine (Surine TM - negative urine control)	1 L
New CER-720-2	Synthetic urine (Surine TM - negative urine control)	50 mL
New CER-720-3	Synthetic urine (Surine TM - negative urine control)	5 mL

Multi-analyte serum

Human serum

Code	Product	Unit																																							
NIST-909b	Human serum Set of 6 x 10 mL This standard is primarily intended for use in evaluating the accuracy of clinical procedures for determination of specified constituents in human serum. It can also be used to validate working or secondary reference materials. A unit consists of six bottles of lyophilised human serum, three bottles each of two different analyte concentration levels and six bottles of deionised, autoclaved water for reconstitution. Certified values for trace metals and other clinical analytes; cholesterol, urea etc. are given in both mmol/L and mmol/L/g. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Level 1 mmol/L</th> <th>Level 2 mmol/L</th> </tr> </thead> <tbody> <tr><td>Calcium</td><td>2.218</td><td>3.532</td></tr> <tr><td>Chloride</td><td>89.11</td><td>119.43</td></tr> <tr><td>Cholesterol</td><td>3.787</td><td>6.084</td></tr> <tr><td>Creatinine</td><td>0.05618</td><td>0.4674</td></tr> <tr><td>Lithium</td><td>0.6145</td><td>2.600</td></tr> <tr><td>Magnesium</td><td>0.7634</td><td>1.918</td></tr> <tr><td>Potassium</td><td>3.424</td><td>6.278</td></tr> <tr><td>Sodium</td><td>120.76</td><td>141.0</td></tr> <tr><td>Total glycerides</td><td>0.949</td><td>1.529</td></tr> <tr><td>Triglycerides</td><td>0.804</td><td>1.271</td></tr> <tr><td>Urea</td><td>5.51</td><td>30.75</td></tr> <tr><td>Uric acid</td><td>0.2809</td><td>0.7579</td></tr> </tbody> </table> Uncertified (information) values ALP 86 410 U/L LDH 145 480 U/L ALT 49 150 U/L AST 43 200 U/L CK 92 300 U/L pH 7.9 at 22.6°C 7.8 at 22.9°C		Level 1 mmol/L	Level 2 mmol/L	Calcium	2.218	3.532	Chloride	89.11	119.43	Cholesterol	3.787	6.084	Creatinine	0.05618	0.4674	Lithium	0.6145	2.600	Magnesium	0.7634	1.918	Potassium	3.424	6.278	Sodium	120.76	141.0	Total glycerides	0.949	1.529	Triglycerides	0.804	1.271	Urea	5.51	30.75	Uric acid	0.2809	0.7579	set
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Proteins

Proteins

Multiple proteins in serum

Code	Product	Unit
ERMI-DA470	15 Plasma proteins in human serum	amp.
	Analyte mass concentration in g/L	
	Transthyretin (TTR)..... 0.243 ± 0.18	Transferrin (TF)..... 2.45 ± 0.06
	Albumin (ALB)..... 39.7 ± 0.8	Complement C3c (C3c)..... 1.091 ± 0.027
	Alpha1-acid Glycoprotein (A1AG)..... 0.656 ± 0.005	Complement C4 (C4)..... 0.151 ± 0.005
	Alpha1 Trypsin (A1AT)..... 1.206 ± 0.011	C-reactive protein (CRP)..... 0.0392 ± 0.0019
	Ceruloplasmin (CER)..... 0.205 ± 0.011	Immunoglobulin G (IgG)..... 9.68 ± 0.10
	Alpha1-anti-chymotrypsin (ACT)..... 0.245 ± 0.015	Immunoglobulin A (IgA)..... 1.96 ± 0.04
	Alpha2-Macroglobulin (A2M)..... 1.64 ± 0.05	Immunoglobulin M (IgM)..... 0.797 ± 0.023
	Haptoglobin (HPT)..... 0.893 ± 0.009	
	Each sample is the lyophilised form of a 1.0 mL portion of serum with additives (sodium azide and aprotinin). The material is kept under nitrogen gas in threaded glass bottles with Chlorbutylcaoutchouc GT rubber stoppers and PP screw caps. The water mass fraction of the sample is below 0.008 g/g.	

Alphafetoprotein

BCR-486	Purified human alphafetoprotein (AFP)	amp.
	Protein mass per ampoule..... 100 ± 9 µg	
	Each sample is in the lyophilised form and it contains purified AFP without additives. The material is kept under nitrogen gas in sealed glass ampoules. The protein mass per ampoule is equivalent to 100µg ± 9µg when the material is reconstituted. Carbohydrate mass of the molecule is not included.	

Apolipoprotein

BCR-393	Human apolipoprotein AI	amp.
	Mass concentration in the reconstituted material	
	g/L..... 1.06 ± 0.05	
	Each sample is in the lyophilised form of a 1.5 mL portion of Apo AI solution without additives. The material is kept under nitrogen gas in sealed glass ampoules.	
BCR-394	Human apolipoprotein AII	amp.
	Mass concentration in the reconstituted material	
	g/L..... 0.321 ± 0.019	
	Each sample is in the lyophilised form of a 1.5 mL portion of Apo A II solution without additives. The material is kept under nitrogen gas in sealed glass ampoules.	

Carbohydrate deficient transferrin

New	ME 30890	Carbohydrate deficient Transferrin Medidrug AMF (CDT) 3/05-A S-plus Serum control (human) with certified values	10 x 0.5 mL
		Lyophilised serum control prepared from human serum for quality monitoring of CDT (carbohydrate deficient transferrin) determination in serum	
		Constituent Method Certified value	
		% CDT..... Axis Shield / Biorad..... 3.613	
		% CDT..... HPLC..... 2.290	
New	ME 30891	Carbohydrate deficient Transferrin Medidrug AMF (CDT) 3/05-B S-plus Serum control (human) with certified values	10 x 0.5 mL
		Lyophilised serum control prepared from human serum for quality monitoring of CDT (carbohydrate deficient transferrin) determination in serum	
		Constituent Method Certified value	
		% CDT..... Axis Shield / Biorad..... 6.130	
		% CDT..... HPLC..... 4.740	

C-reactive protein

BCR-273	Single cell protein	10 g
	The material consists of about 10 g single cell protein powder in a sealed argon filled ampoule.	
	Certified values	
	Ca..... 11.97 g/kg	K..... 2.22 g/kg
	Fe..... 0.156 mg/kg	N..... 121.6 g/kg
		P..... 26.8 g/kg
	Indicative values for Mg, N(Kjeldahl), Na, S	

Code	Product	Unit
Factor VIII		
BCR-629	<p>Human plasma (European reference plasma for factor VIII)</p> <p>The FVIII reference plasma consists of glass ampoules (labelled BCR-629) containing approximately 1 mL aliquots of pooled fresh human plasma, that is buffered by the addition of N-[2-Hydroxyethyl]piperazine-N'-[2-ethanesulfonic acid] (HEPES) (1.0 mol/mL pH 7.4) to a final concentration of 0.05 mol/mL and freeze-dried under conditions used for International Biological Standards. Ampoules were filled with nitrogen gas before sealing.</p> <p>This preparation is not for administration to humans. Each individual plasma donation and the final freeze-dried reference preparation was tested for HBsAg and for antibodies to HCV and HIV 1 and 2 and found to be negative.</p> <p>C value ((IU/ampoule)..... 0.70</p>	amp.
Glycated haemoglobin		
BCR-405	<p>Glycated haemoglobin (HbA_{1c}) in human haemolysate (RM)</p> <p>HbA_{1c} in reconstituted material..... 6.29 %</p> <p>Each sample is in lyophilised form and equivalent to about 0.5 mL of a solution of haemolysate of human erythrocytes without preservatives. The material is kept under carbon monoxide in sealed glass ampoules.</p>	amp.
Haemiglobincyanide		
BCR-522	<p>Haemiglobincyanide (HiCN) in bovine blood lysate</p> <p>Absorbance at 540 nm and 10.00 mm pathlength 0.5457 ± 0.0009</p> <p>Mass concentration (mg/L) 800.3 ± 1.3</p> <p>Substance concentration (µmol/L)..... 49.61 ± 0.08</p> <p>Each sample is in the form of bovine blood lysate and equivalent to about 800.3 mg/L of HiCN in each 10 mL sealed brown borosilicate glass ampoule.</p>	amp.
Prostate specific antigen		
BCR-613	<p>Prostate specific antigen (PSA)</p> <p>Each sample is in lyophilised form and it contains purified PSA without additives. The material is kept under argon gas in sealed glass ampoules. Carbohydrate mass of the molecule not included.</p> <p>Prostate specific antigen in the reconstituted material</p> <p>Protein mass (µg) / ampoule 70.8 ± 6</p> <p>The expanded uncertainty, taking into account the uncertainty of calibrators using a coverage factor k=2.</p>	amp.
Thromboplastin		
BCR-628	<p>Abnormal reference plasma-2 for the prothrombin time</p> <p>The abnormal reference plasma-2 consists of glass ampoules (labelled BCR-628) containing approx. 1 mL aliquots of pooled fresh human plasma, that is buffered by the addition of N-[2-Hydroxyethyl]piperazine-N'-[2-ethanesulfonic acid] (HEPES) (0.5 mol/L, pH 7.4) to a final concentration of 20 mmol/L and freeze-dried under conditions used for International Biological Standards. Ampoules were filled with nitrogen gas before sealing.</p> <p>Each individual plasma donation and the final freeze-dried reference preparation was tested for HBsAg and for antibodies to HCV and HIV 1 and 2 and found to be negative.</p> <p>Internationally normalized ratio (INR) 3.84</p>	amp.
BCR-630	<p>Normal reference plasma for the prothrombin time</p> <p>The normal reference plasma consists of glass ampoules (labelled BCR-630) containing approximately 1 mL aliquots of pooled fresh human plasma, that is buffered by the addition of N-[2-Hydroxyethyl]piperazine-N'-[2-ethanesulfonic acid] (HEPES) (0.5 mol/L, pH 7.4) to a final concentration of 20 mmol/L and freeze-dried under conditions used for International Biological Standards (1). Ampoules were filled with nitrogen gas before sealing.</p> <p>Each individual plasma donation and the final freeze-dried reference preparation was tested. for HBsAg and for antibodies to HCV and HIV 1 and 2 and found to be negative.</p> <p>International normalized ratio (INR) 0.99</p>	amp.
BCR-631	<p>Abnormal Reference Plasma-1 (for prothrombin time)</p> <p>The abnormal reference plasma-1 consists of glass ampoules (labelled BCR-631) containing approximately 1 mL aliquots of pooled fresh human plasma, that is buffered by the addition of N-[2-Hydroxyethyl]piperazine-N'-[2-ethanesulfonic acid] (HEPES) (0.5 mol/L, pH 7.4) to a final concentration of 20 mmol/L and freeze-dried under conditions used for International Biological Standards (1). Ampoules were filled with nitrogen gas before sealing.</p> <p>Each individual plasma donation and the final freeze-dried reference preparation was tested for HBsAg and for antibodies to HCV and HIV 1 and 2 and found to be negative.</p> <p>Internationally normalized ratio (IRN) 2.38</p>	amp.
ERMI-AD148	<p>Thromboplastin bovine (OBT/79)</p> <p>Parameters of the calibration line</p> <p>Prothrombin time slope..... 1.011 ± 0.015</p> <p>Prothrombin time intercept..... -0.321 ± 0.025</p> <p>The sample is the lyophilised form of an 2.2 g aliquot of bovine brain thromboplastin combined and is intended for prothrombin time determination on blood plasma. It is kept under vacuum in sealed glass ampoules.</p>	amp.

Proteins

Code	Product	Unit
ERMI-AD149	Rabbit thromboplastin Parameters of the regression line Prothrombin time slope 1.257 ± 0.013 Prothrombin time intercept -0.242 ± 0.019 The sample is the lyophilised form of an 0.5 mL aliquot of the extract of rabbit brain tissue, without calcium ion added and it is intended for the determination of the prothrombin time in human blood plasma in accordance with the described methodology. It is kept under nitrogen in sealed glass ampoules.	amp.

Thyroglobulin

BCR-457	Human Thyroglobulin (Tg) Mass concentration in the reconstituted material g/L 0.324 ± 0.018 Each sample is in lyophilised form and equivalent to about 100 µl of purified Tg without additives. The material is kept under nitrogen in sealed glass ampoules.	amp.
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Total serum proteins

NIST-927d	Bovine serum albumin (7% solution) This Standard Reference Material (SRM) is intended primarily for use in the standardization of procedures employed in clinical analyses for total serum protein, for critical evaluation of daily working standards used in these procedures, and as a reference standard for assays of total protein by colorimetric methods. It is a solution (mass fraction 7 %) of known protein concentration and purity. The protein content of this SRM was determined using the biuret reference method that is recommended for use in standardizing laboratory-prepared protein solutions and "normal" serum pools. In addition to the measurement using the biuret method, NIST made measurements of the bovine serum albumine (BSA) concentration using amino acid analysis. A unit consists of 10 ampoules each containing 2.1 mL of solution. Certified bovine serum albumine concentration by amino acid analysis BSA concentration 65.41 g/L ± 0.82 g/L Reference total protein concentration by the biuret method Protein concentration 70.10 g/L ± 0.74 g/L	set
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Troponin

NIST-2921	Human Cardiac Troponin Complex (unit of 5 x 115 µL) This Standard Reference Material (SRM) is primarily intended for use in calibrating clinical procedures and devices for the determination of cardiac troponin I (cTnI) in human serum. It can also be used for value-assignment of calibrators and control materials. A unit consists of five vials, each containing approximately 115 µL of a dilute solution of human cardiac troponin complex. Certified cTnI concentration 31.2 mg/L ± 1.4 mg/L	unit
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Enzymes

Enzyme preparations were produced to help standardising the results of measurements of enzyme catalytic concentrations in serum. For most of the preparations the catalytic concentration of the enzyme determined according to the method recommended by the International Federation of Clinical Chemistry (IFCC) is certified. Each BCR is intended to ensure the transferability of the IFCC method and to possibly establish correlations between the results obtained by a particular method and the IFCC method. All enzyme preparations are to be stored at -20°C and shipped with dry ice.

Human adenosine deaminase

Code	Product	Unit
BCR-647	Human adenosine deaminase (ADA 1) The intended use of the material is to validate, to calibrate or to assess the performance of adenosine deaminase catalytic concentration measurement procedures. The user must confirm that the transfer procedure is satisfactory. Each sample is in lyophilised form and equivalent to about 1 mL of solution of purified adenosine deaminase (ADA 1) from human erythrocytes. The preparation has been stabilised by incorporation in a matrix of 50 mmol/L Tris/HCl buffer pH = 7.4 and human serum albumin 30 g/L. No contamination, as assessed by measurement of their catalytic activity, has been detected for the following enzymes : acid phosphatase, acetylcholinesterase, glutamate dehydrogenase, glucose-6-phosphate dehydrogenase and adenosine deaminase isoenzyme2. L-lactate dehydrogenase, alanine aminotransferase and aspartate aminotransferase were found in trace amounts 0.39 %, 0.01 % and 0.09 %, respectively (% of total adenosine deaminase catalytic activity). Catalytic concentration / via I (mass fraction) 2.55 µkat/L	1 mL

Alanine aminotransferase

ERMI-AD454	Alanine aminotransferase AS Catalytic concentration of alanine aminotransferase in reconstituted material as determined by the IFCC method at 37 C U/L 186 ± 4 µkat/L 3.09 ± 0.07 Each sample is in lyophilised form and equivalent to about 1 mL of a solution of purified alanine aminotransferase from pig heart. The material is kept under dry nitrogen in sealed glass ampoules.	amp.
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Alkaline phosphatase

BCR-371	Alkaline phosphatase from pig kidney Catalytic concentration (IFCC recommended method at 30 C) of alkaline phosphatase in reconstituted material U/L 254 ± 6 µkat/L 4.23 ± 0.10 Each sample is in lyophilised form and equivalent to about 1 mL of a solution of partially purified enzyme, stabilised by incorporation in a matrix of bovine serum albumin. The material is kept under nitrogen gas in sealed glass ampoules.	amp.
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Creatine kinase

BCR-299	Creatine kinase (CK-BB Isoenzyme) from human placenta Catalytic concentration (IFCC recommended method) of creatine kinase in reconstituted material U/l 325 ± 10 µkat/l 5.42 ± 0.17 Each sample is in lyophilised form and equivalent to about 1 mL of solution of partially purified creatine kinase (CK-BB) from human placenta. The preparation has been stabilised by incorporation in a matrix of bovine serum albumin. The material is kept under nitrogen gas in rubber stoppered vials.	amp.
ERMI-AD455	Creatine kinase (CK-MB Isoenzyme) Catalytic concentration of creatine kinase-2 (CK-MB) in reconstituted material as determined by the IFCC method at 37 C U/L 101 ± 4 µkat/L 1.68 ± 0.07 Each sample is in lyophilised form and equivalent to about 1 mL of a solution of purified creatine kinase from human heart. Material is kept under dry nitrogen gas in sealed glass ampoules.	vial

Gamma-Glutamyltransferase

ERMI-AD452	γ-Glutamyltransferase AS Catalytic concentration of γ-glutamyltransferase in reconstituted material as determined by the IFCC method at 37 C U/L 114.1 ± 2.4 µkat/L 1.90 ± 0.04 Each sample is in lyophilised form and equivalent to about 1 mL of a solution of a partially purified pig kidney γ-glutamyltransferase. The material is kept under nitrogen gas in sealed glass ampoules.	amp.
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Enzymes

Code	Product	Unit
Human pancreatic lipase		
BCR-693	<p>Human pancreatic lipase from pancreatic juice</p> <p>Each sample is in lyophilised form and equivalent to about 1 mL of solution of purified human pancreatic lipase from human pancreatic juice. The preparation has been stabilised by incorporation in a matrix of Tris 20 mmol/L, pH = 7.6 and BSA 40 g/L. No contamination, as assessed by measurement of their catalytic activity, has been detected for the following enzymes: ALP, ALT, α-Amylase, AST, esterase, GGT and LDH. The material is kept under dry nitrogen in neutral clear glass ampoules.</p> <p>Catalytic 28.9 μkat /L concentration / ampoule 1732 U/L</p>	amp.
BCR-694	<p>Human pancreatic lipase (recombinant)</p> <p>Each sample is in lyophilised form and equivalent to about 1 mL of solution of purified recombinant pancreatic lipase from V79-rHPL cell line. The preparation has been stabilised by incorporation in a matrix of Tris 20 mmol/L, pH = 7.6 and BSA 40 g/L. No contamination, as assessed by measurement of their catalytic activity, has been detected for the following enzymes: ALP, ALT, α-Amylase, AST, esterase, GGT and LDH. The material is kept under dry nitrogen in neutral clear glass ampoules. Certified value</p> <p>Catalytic 17.4 μkat/L concentration / ampoule..... 1043 U/L</p>	amp.
Lactate dehydrogenase		
ERMI-AD453	<p>Lactate dehydrogenase isoenzyme 1 AS</p> <p>Catalytic concentration of lactate dehydrogenase isoenzyme 1 in reconstituted material as determined by the IFCC method at 37 C</p> <p>U/L 502 \pm 7 μkat/L 8.37 \pm 0.12</p> <p>Each sample is in lyophilised form and equivalent to about 1 mL of a solution of purified lactate dehydrogenase from human erythrocytes. The material is kept under dry nitrogen in sealed glass ampoules.</p>	amp.
Pancreatic alpha-amylase		
IRMM/IFCC 456	<p>alpha-Amylase AS</p> <p>Catalytic concentration of α-amylase in reconstituted material as determined by the IFCC method at 37 C</p> <p>U/L 546 \pm 19 μkat/L.....9.1\pm 0.3</p> <p>Each sample is in lyophilised form and equivalent to about 1 mL of a solution of a partially purified human pancreatic α-amylase. The material is kept under nitrogen gas in sealed glass ampoules.</p>	amp.
Prostatic acid phosphatase		
BCR-410	<p>Human prostatic acid phosphatase from human prostate</p> <p>Catalytic concentration of prostatic acid phosphatase in reconstituted material</p> <p>U/L 28 \pm 0.7 nkat/L 0.466 \pm 0.012</p> <p>Each sample is in lyophilised form and equivalent to about 1 mL of a solution of enzyme, stabilised by incorporation in a matrix of human serum albumin. Material is kept under dry nitrogen in sealed glass ampoules.</p>	amp.

Hormones

Angiotensin

Code	Product	Unit
NIST-998	Angiotensin I (human) This standard is intended primarily for use in the calibration and standardisation of the renin assay and as a reference peptide for amino acid analysis and HPLC. Certified purity.....94.1 ± 0.9 wt%	0.5 mg

Clenbuterol and salbutamol

BCR-673	Clenbuterol in reconstituted bovine eye (blank) The material consists of the equivalent of 2.00 ± 0.01 g (0.5 %) wet bovine eye material in sealed glass vials. It is a greyish powder obtained after lyophilisation and has to be reconstituted before use. Compound certified value Clenbuterol free base..... < 0.50 µg/kg	vial
BCR-674	Clenbuterol in reconstituted bovine eye (positive) The material consists of the equivalent of 2.00 ± 0.01 g (0.5 %) wet bovine eye material in sealed glass vials. It is a greyish powder obtained after lyophilisation and has to be reconstituted before use. Compound certified value Clenbuterol free base..... 9 µg/kg	vial
BCR-502	Clenbuterol, salbutamol in bovine urine (blank) The material is supplied in lyophilised form, sealed under nitrogen in brown glass vials. The contents of a vial are equivalent to 5.0 mL of fresh bovine urine. Compound certified value µg/L Clenbuterol..... < 0.1 Salbutamol..... < 0.2	vial
BCR-503	Clenbuterol, salbutamol in bovine urine The material is supplied in lyophilised form, sealed under nitrogen in brown glass vials. The contents of a vial are equivalent to 5.0 mL of fresh bovine urine. Compound certified value µg/L Clenbuterol..... 2.47 Salbutamol..... 2.29	vial
BCR-504	Clenbuterol, salbutamol in bovine urine The material is supplied in lyophilised form, sealed under nitrogen in brown glass vials. The contents of a vial are equivalent to 5.0 mL of fresh bovine urine. Compound certified value µg/L Clenbuterol..... 6.01 Salbutamol..... 6.01	vial

Cortisol

NIST-921	Cortisol (hydrocortisone) This standard is intended primarily for use in the calibration and standardisation of procedures for cortisol determinations employed in clinical analysis and for routine evaluation of the daily working standards used in these procedures. Certified purity..... 98.9 ± 0.2 %	1 g
ERMI-DA192	Cortisol in human serum (unspiked) Cortisol concentration in the reconstituted material µg/L..... 98.8 ± 2.0 nmol/L..... 273 ± 6 Each sample is the lyophilised form of a 1.25 mL portion of serum without additives kept under nitrogen in sealed glass ampoules.	amp.
ERMI-DA193	Cortisol in human serum (spiked) Cortisol concentration in the reconstituted material µg/L..... 277 ± 5 nmol/L..... 763 ± 14 Each sample is the lyophilised form of a 1.25 mL portion of serum without additives kept under nitrogen in sealed glass ampoules.	amp.
ERMI-DA451	Human serum Cortisol reference serum panel of fresh frozen human sera The panel is primarily intended for use in evaluation/verification of in vitro test systems for serum cortisol by method comparison with the ID-GC/MS method (for an appropriate measurement protocol, see full report). The results shall be described by linear regression/bias plot and interpreted in terms of sensitivity, specificity and metrologically correct measurement (trueness). The method comparison will also be used to investigate the suitability of the panel for recalibration of a test system. IRMM/IFCC-451 is a reference serum panel consisting of 34 vials originating from native single-donations that does not contain any additives. It is available in the form of screw capped cryo-vials (34 x 1 mL serum). Detailed information is given in the certificate of analysis.	34 vials

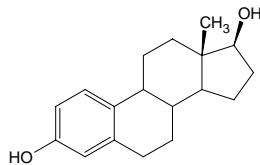
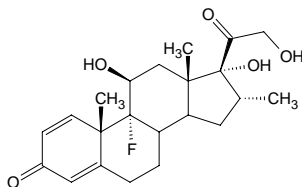
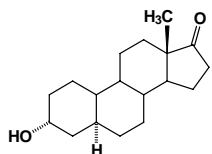
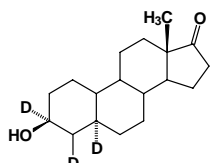
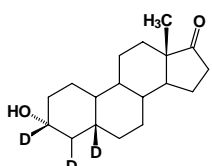
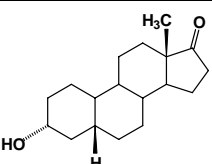
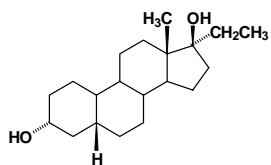
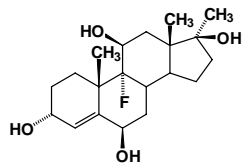
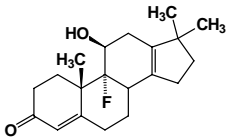
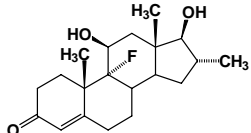
Code	Product	Unit
17-beta-Estradiol		
BCR-576	Estradiol-17-beta in human serum, low level 17-β-Estradiol concentration in the reconstituted material mass fraction (nmol/L) 0.114 ± 0.005 Each sample is the lyophilised form of a 5 mL portion of serum without additives kept under nitrogen in sealed glass ampoules.	amp.
BCR-577	Estradiol-17-beta in human serum, medium level 17-β-Estradiol concentration in the reconstituted material mass fraction (nmol/L) 0.689 ± 0.032 Each sample is the lyophilised form of a 1 mL portion of serum without additives kept under nitrogen in sealed glass ampoules.	amp.
BCR-578	Estradiol-17-beta in human serum, high level 17-β-Estradiol concentration in the reconstituted material mass fraction (nmol/L) 1.34 ± 0.07 Each sample is the lyophilised form of a 1 mL portion of serum without additives kept under nitrogen in sealed glass ampoules.	amp.
Progesterone		
ERMI-DA347	Progesterone in human serum (low concentration) Progesterone concentration in the reconstituted material ng/L 3.19 ± 0.07 nmol/L 10.13 ± 0.21 Each sample is the lyophilised form of a 1 mL portion of serum, containing endogenous progesterone, without additives kept under nitrogen gas in sealed glass ampoules.	amp.
Thyroid gland hormones		
IRMM-468	Thyroxine (T4) The material can be used as a calibrant by manufacturers and laboratories, e.g. for the preparation of lower order reference materials and for validation studies. The material consists of an off-white crystalline powder in an amber glass vial sealed under N ₂ atmosphere. Each vial contains about 100 mg of the powder. Certified value (mass fraction) 98.6 ± 0.7 %	vial
IRMM-469	3,3',5 Triiodothyronine (T3) The material can be used as a calibrant by manufacturers and laboratories, e.g. for the preparation of lower order reference materials and for validation studies. The material consists of an off-white crystalline powder in an amber glass vial sealed under N ₂ atmosphere. Each vial contains about 100 mg of the powder. Certified value (mass fraction) 91.1 ± 0.7 %	vial
Veterinary drugs and hormone residues in bovine urine		
BCR-386	Diethylstilboestrol (DES) in bovine urine, blank Diethylstilboestrol concentration in the reconstituted material µg/L < 0.1 The material consists of lyophilised bull urine obtained from animals which have never been treated with stilbenes. It is supplied in vials with a content equivalent to about 2.0 mL urine, sealed under nitrogen.	vial
BCR-389	Diethylstilboestrol (DES) in bovine urine, positive Diethylstilboestrol concentration in the reconstituted material µg/L 12.8 ± 2.5 The material consists of lyophilised bull urine mixed with Friesian steer urine biologically incurred with diethylstilbestrol. It is supplied in vials with a content equivalent to about 2.0 mL urine, sealed under nitrogen.	vial
BCR-387	Dienoestrol (DE) in bovine urine, blank Dienoestrol concentration in the reconstituted material µg/L < 0.1 The material consists of lyophilised calf urine obtained from animals which have never been treated with stilbenes. It is supplied in vials with a content equivalent to about 2.0 mL urine, sealed under nitrogen.	vial
BCR-390	Dienoestrol (DE) in bovine urine, positive Dienoestrol concentration in the reconstituted material µg/L 34 ± 7 The material consists of lyophilised calf urine mixed with Friesian steer urine biologically incurred with dienestrol. It is supplied in vials with a content equivalent to about 2.0 mL urine, sealed under nitrogen.	vial

Hormones

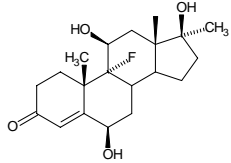
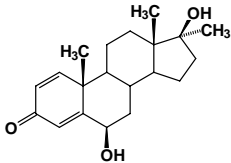
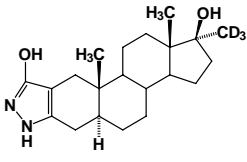
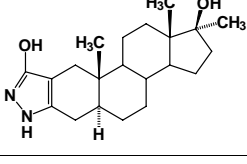
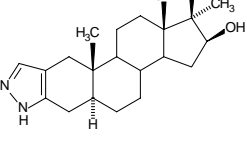
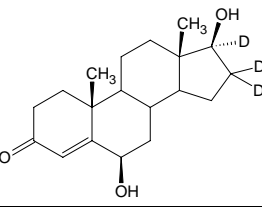
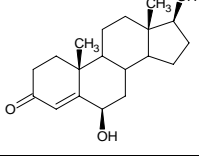
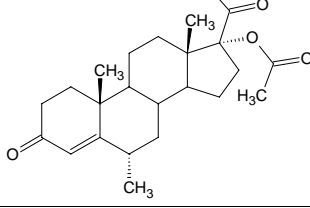
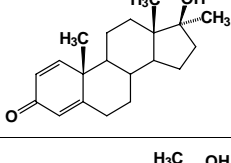
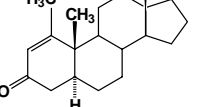
Code	Product	Unit
BCR-388	Hexoestrol (HEX) in bovine urine, blank Hexoestrol concentration in the reconstituted material µg/L..... < 0.1 The material consists of lyophilised cow urine obtained from animals which have never been treated with stilbenes. It is supplied in vials with a content equivalent to about 2.0 mL urine, sealed under nitrogen.	vial
BCR-391	Hexoestrol (HEX) in bovine urine, positive Hexoestrol concentration in the reconstituted material µg/L..... 13.3 ± 3.1 The material consists of lyophilised cow urine mixed with friesland steer urine biologically incurred with hexoestrol. It is supplied in vials with a content equivalent to about 2.0 mL urine, sealed under nitrogen.	vial

Steroids and their metabolites

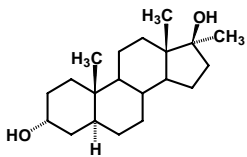
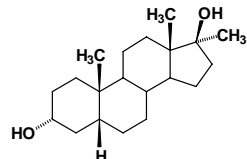
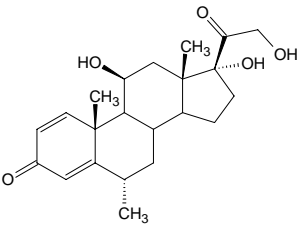
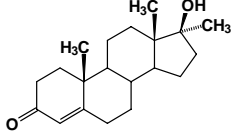
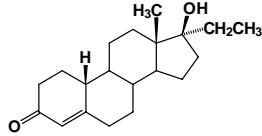
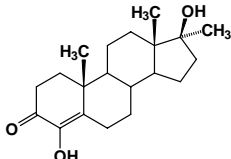
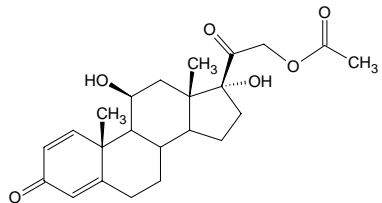
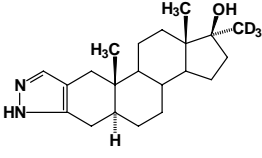
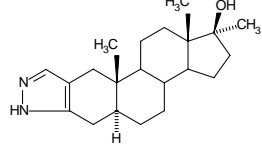
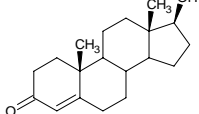
Cerilliant (TM) steroid standards

Code	Product	Unit
CERE-046	Estradiol	250 mg
		
CERD-027	Dexamethasone	100 mg
		
CERE-910	5 α -Estran-3 α -ol-17-one (Norandrosterone) (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERE-913	5 α -Estran-3 β -ol-17-one-D3 (Norepiandrosterone-D3) (100 μ g/mL) in 1,2-Dimethoxyethane	1 mL
		
CERE-911	5 β -Estran-3 α -ol-17-one-D3 (Noretiocholanolone) (100 μ g/mL) in 1,2-Dimethoxyethane	1 mL
		
CERE-908	5 β -Estran-3 α -ol-17-one (Noretiocholanolone) (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERE-905	17 α -ethyl-5 β -estrane-3 α -17 β -diol (100 μ g/mL) in 1,2-Dimethoxyethane	1 mL
		
CERF-913	9 α -Fluoro-17 α -methylandrosta-4-ene-3 α ,6 β ,11 β ,17 β -tetrol (100 μ g/mL) in 1,2-Dimethoxyethane	1 mL
		
CERF-912	9 α -Fluoro-18-nor-17,17-dimethyl-androsta-4,13-diene-11 β -ol-3-one (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERF-909	Fluoxymesterone (1.0 mg/mL) in Dimethoxyethane	1 mL
		

Steroids and their metabolites

Code	Product		Unit
CERH-913	6 β -Hydroxyfluoxymesterone (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERH-911	6 β -Hydroxymethandienone (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERS-903	3'-Hydroxystanozolol-D3 (0.1 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERS-908	3'-Hydroxystanozolol (1.0 mg/mL) in Water (7:3)		1 mL
CERH-915	16 β -Hydroxystanozolol (100 μ g/mL) in 1,2-Dimethoxyethane		1 mL
CERT-034	6beta-Hydroxytestosterone-D3 (0.1 mg/mL) in Methanol		1 mL
New CERH-059	6beta-Hydroxytestosterone (0.1 mg/mL) in Methanol		1 mL
CERM-117	Medroxyprogesterone acetate		100 mg
CERM-912	Methandienone (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERM-910	Methenolone (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL

Steroids and their metabolites

Code	Product	Unit
CERM-914	17 α -Methyl-5 α -androstane-3 α ,17 β -diol (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERM-916	17 α -Methyl-5 β -androstane-3 α ,17 β -diol (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERM-118	Methylprednisolone	100 mg
		
CERM-906	17 α -Methyltestosterone (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERN-914	Norethandrolone (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERO-910	Oxymesterone (1.0 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERP-054	Prednisolone acetate	100 mg
		
CERS-901	Stanozolol-D3 (0.1 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
CERS-906	Stanozolol (1 mg/mL) in 1,2-Dimethoxyethane	1 mL
		
New CERT-037	Testosterone (1.0 mg/mL) in Acetonitrile	1 mL
		

Code	Product	Unit
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Derivatising reagents

CERB-023	BSTFA with 1% TMCS		10 x 1 mL
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CERM-108	MTBSTFA (with 1% t-BDMCS)		5 x 1 mL
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Vitamins

Ascorbic acid

Code	Product	Unit									
NIST-970	Ascorbic acid in frozen human serum	set (4)									
<p>This standard is intended primarily for use in validating methods for determine ascorbic acid in human serum and similar matrices. It can also be used for quality assurance when assigning values to in-house control materials. A unit consists of four ampoules of frozen human serum, two ampoules each of level I (high normal) and level II (low normal). Each ampoule contains approximately 2.2 mL of solution , a 1:1 mixture of human serum and 100 g/L (10 % mass concentration) aqueous metaphosphoric acid (MPA). The MPA is present to stabilize and preserve the ascorbic acid.</p> <p>Certified concentration values for total ascorbic acid (TAA) (ascorbic acid + dehydroascorbic acid).</p> <table border="1"> <thead> <tr> <th>Levels</th> <th>value</th> <th>95 % confidence</th> </tr> </thead> <tbody> <tr> <td>level I, µmol/L of solution</td> <td>8.41</td> <td>7.75 to 9.07</td> </tr> <tr> <td>level II, µmol/L of solution</td> <td>28.05</td> <td>27.56 to 28.54</td> </tr> </tbody> </table>			Levels	value	95 % confidence	level I, µmol/L of solution	8.41	7.75 to 9.07	level II, µmol/L of solution	28.05	27.56 to 28.54
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level I, µmol/L of solution	8.41	7.75 to 9.07									
level II, µmol/L of solution	28.05	27.56 to 28.54									

Fat-soluble vitamins

NIST-968c	Fat-soluble vitamins and cholesterol in human serum	set (2)																								
<p>This standard is intended for use in validating methods for determining fat-soluble vitamins, carotenoids, and cholesterol in human serum and plasma. It can also be used for quality assurance when assigning values to in-house control material for these constituents. A unit consists of two vials of lyophilised human serum, one vial at each of two different concentration levels.</p> <table border="1"> <thead> <tr> <th></th> <th>level I µg/mL</th> <th>level II µg/mL</th> </tr> </thead> <tbody> <tr> <td><i>trans</i>-retinol</td> <td>0.841</td> <td>0.484</td> </tr> <tr> <td>δ-Tocopherol</td> <td>0.131</td> <td>0.527</td> </tr> <tr> <td>γ-Tocopherol</td> <td>3.90</td> <td>1.56</td> </tr> <tr> <td>α-Tocopherol</td> <td>7.47</td> <td>16.79</td> </tr> <tr> <td><i>trans</i>-β-carotene</td> <td>0.157</td> <td>0.391</td> </tr> <tr> <td>Total β-carotene</td> <td>0.171</td> <td>0.436</td> </tr> <tr> <td>Cholesterol</td> <td>1335</td> <td>1669</td> </tr> </tbody> </table>				level I µg/mL	level II µg/mL	<i>trans</i> -retinol	0.841	0.484	δ-Tocopherol	0.131	0.527	γ-Tocopherol	3.90	1.56	α-Tocopherol	7.47	16.79	<i>trans</i> -β-carotene	0.157	0.391	Total β-carotene	0.171	0.436	Cholesterol	1335	1669
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Electrolytes, metabolites and substrates

Pure substances

Code	Product	Unit
NIST-916a	Bilirubin This standard consists of a sample of unconjugated bilirubin primarily intended for the use in determination of bilirubin. Certified purity..... 98.3 ± 0.3 %	100 mg
New NIST-915b	Calcium carbonate, clinical Certified values: expressed as mass fractions, w, of CaCO ₃ , Ca, and carbonate (CO ₃ ²⁻). Quantity Value (%) w (CaCO ₃) 99.907 ± 0.021 w (Ca) 40.0104 ± 0.0083 w (CO ₃) 59.923 ± 0.012	20 g
ME 400002	Ethyl-β-D-6-glucuronide Reference substance	2 mg
ME 400010	Ethyl-β-D-6-glucuronide Reference substance	10 mg
ME 405002	Ethyl-β-D-6-glucuronide-D5 Reference substance	2 mg
ME 405010	Ethyl-β-D-6-glucuronide-D5 Reference substance	10 mg
NIST-917b	D-Glucose (dextrose, clinical) This standard is intended primarily for glucose determinations. Certified purity (mass fraction)..... 99.7 ± 0.2% α-D-Glucopyranose (mass fraction)..... 96.7 ± 0.2% β-D- Glucopyranose (mass fraction)..... 3.0 ± 0.2%	50 g
NIST-937	Iron, metal (clinical) This material is intended for use as an assay standard for iron. It is provided in the form of chips sized between 0.5 mm and 1.8 mm mesh. Certified purity (mass fraction)..... 99.90 ± 0.02 %	50 g
NIST-928	Lead, nitrate (clinical) This material is certified for use as an assay standard for lead. Certified purity..... 100.00 ± 0.03 %	30 g
NIST-924a	Lithium carbonate (clinical) This standard is intended primarily for use in the calibrations and standardisation of procedures. It is supplied in crystalline form. Certified purity (mass fraction)..... 99.867 ± 0.017 %	30 g
NIST-929a	Magnesium gluconate dihydrate This material is certified for use as an assay standard for magnesium. The material is highly purified magnesium gluconate dihydrate [Mg(C ₆ H ₁₁ O ₇) ₂ · 2H ₂ O] Certified purity.....5.362 ± 0.027 wt%	5 g
NIST-920	D-Mannitol This standard is intended primarily for triglyceride determinations. D-Mannitol..... 99.8 ± 0.1 % Loss on drying..... < 0.02 % D-Glucitol..... 0.1 % Ash..... < 0.001 % Total alditol 99.9 % Insoluble matter..... < 0.001 %	50 g
NIST-918a	Potassium chloride This standard is intended primarily for the use in potassium (K) and chloride (Cl) determinations. It is provided in crystalline form. Potassium chloride 99.9817 ± 0.0084 % Potassium 52.4354 ± 0.0044 % Chloride 47.5463 ± 0.0040 %	30 g
NIST-919a	Sodium chloride This standard is intended primarily for the use in the determination of sodium and chloride ions. Certified purity.....99.89 ± 0.03 wt%	30 g
NIST-910	Sodium pyruvate This standard is intended primarily for the use in the determination of pyruvate, lactic dehydrogenase, and glutamic-pyruvic transaminase. Sodium pyruvate98.7 ± 0.2 wt% Methanol (0.21) wt% Sodium parapyruvate.....0.9 ± 0.2 wt% Water-insoluble matter..... (0.004) wt% Moisture (0.28) wt%	25 g

Electrolytes, metabolites and substrates

Code	Product	Unit
NIST-912a	Urea This standard is intended primarily for calibrating apparatus and validating methods. Certified purity 99.9 ± 0.1 wt% Ash 0.001 ± 0.0007 wt% Moisture 0.02 ± 0.003 wt% Insoluble matter 0.0001 ± 0.00005 wt% Biuret 0.02 ± 0.02 wt%	25 g
NCS ZC76009	Urea Purity 99.9 %	6 g
NIST-913a	Uric acid This standard is intended primarily for uric acid determinations. Certified purity (mass fraction) 99.6 ± 0.1%	10 g
NCS ZC76010	Uric acid Purity 99.8 %	400 mg
NIST-925	4-Hydroxy-3-methoxy-DL-mandelic acid (VMA), clinical Certified purity 99.4 %	1 g

Amino acids

NIST-2389	Amino Acids Mixture This Standard Reference Material (SRM [®]) is a solution of 17 amino acids in a 0.1 mol/L aqueous solution of hydrochloric acid. It is intended primarily for the use in calibration of chromatographic instrumentation for the determination of amino acids. A unit of NIST-2389 consists of five 2 mL ampoules each containing approximately 1.2 mL of the solution. Amino acid concentration mmol/L Alanine 2.51 ± 0.09 Lysine 2.47 ± 0.10 Arginine 2.94 ± 0.14 Methionine 2.43 ± 0.09 Aspartic acid 2.50 ± 0.09 Phenylalanine 2.44 ± 0.08 Cystine 1.16 ± 0.04 Proline 2.44 ± 0.09 Glutamic acid 2.47 ± 0.08 Serine 2.43 ± 0.09 Glycine 2.45 ± 0.08 Threonine 2.39 ± 0.08 Histidine 2.83 ± 0.11 Tyrosine 2.47 ± 0.09 Isoleucine 2.39 ± 0.07 Valine 2.44 ± 0.08 Leucine 2.48 ± 0.09	set
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Carbohydrates

NIST-965a	Glucose in frozen human serum This standard is intended primarily for use in evaluating the accuracy of procedures for the determination of glucose in human serum and for use in validating working or secondary reference materials. A unit consists of eight flame sealed ampoules of frozen human serum, two ampoules at each of four different glucose concentration levels. level 1 level 2 level 3 level 4 Glucose (mmol/L) 1.918 4.357 6.777 16.240	unit
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Creatinine

NIST-914a	Creatinine This standard is intended primarily for use in the calibration and standardisation of procedures used for determination of creatinine. Certified purity 99.7 ± 0.3 %	10 g
New ERML-DA252	Creatinine in frozen human serum (low level) The material is intended for use in the validation and ongoing monitoring of methods of analysis for the determination of creatinine in human blood samples. Each units consists of 1 mL of human serum in a screw-cap plastic vial. Constituent certified value Creatinine 3.1 ± 0.2 mg/kg (Available in autumn 2006)	vial
New ERML-DA253	Creatinine in frozen human serum (high level) The material is intended for use in the validation and ongoing monitoring of methods of analysis for the determination of creatinine in human blood samples. Each units consists of 1 mL of human serum in a screw-cap plastic vial. Constituent certified value Creatinine 50 ± 1.4 mg/kg (Available in autumn 2006)	vial

Electrolytes, metabolites and substrates

Code	Product	Unit
New ERML-DA251	Frozen human serum (Creatinine and electrolytes in frozen human serum - low level) The material is intended for use in the validation and ongoing monitoring of methods of analysis for the determination of creatinine and electrolytes in human blood samples. Each units consists of 1 mL of human serum in a screw-cap plastic vial. Constituents certified value Creatinine 22 mg/kg Lithium.....4.5 ± 0.3 mg/kg Potassium 136 ± 5 mg/kg Calcium..... 71 ± 3 mg/kg Magnesium.....19 ± 3 mg/kg Sodium..... 2740 ± 110 mg/kg (Available in autumn 2006)	vial
New ERML-DA250	Frozen human serum (Creatinine and electrolytes in frozen human serum - high level) The material is intended for use in the validation and ongoing monitoring of methods of analysis for the determination of creatinine and electrolytes in human blood samples. Each units consists of 1 mL of human serum in a screw-cap plastic vial. Constituents certified value Creatinine 39 mg/kg Lithium.....6.6 ± 0.4 mg/kg Potassium 277 ± 13 mg/kg Calcium..... 123 ± 5 mg/kg Magnesium.....47 ± 3 mg/kg Sodium..... 3370 ± 100 mg/kg (Available in autumn 2006)	vial
BCR-573	Creatinine in human serum (low) Each sample is the lyophilised form of approximately 1 mL portion of serum, with no additives. The mass of the lyophilised material contained in the ampoule is about 0.09 g. Mass fraction (µmol/L) 68.7 ± 1.4	0.9 g
BCR-574	Creatinine in human serum (medium) Each sample is the lyophilised form of approximately 1 mL portion of serum, spiked with no further additives. The mass of the lyophilised material contained in the ampoule is about 0.09 g. Mass fraction (µmol/L) 105.0 ± 1.3	0.9 g
BCR-575	Creatinine in human serum (high) Each sample is the lyophilised form of approximately 1 mL portion of serum spiked with exogenous creatine, with no further additives. The mass of the lyophilised material contained in the ampoule is about 0.09 g. Mass fraction (µmol/L) 404.1 ± 7.1	0.9 g
BCR-573I	Set of creatinine interfering substances The set consists of three vials with lyophilised solutions. - 0.025 mg calcium dobesilate / 1.2 cefoxitin - 0.044 mg sodium pyruvate - 0.108 mg bilirubin ditaurate	3 vials
Erythrocyte protoporphyrine		
NCS ZC84008	Erythrocyte protoporphyrine (450 µg/L) Certified reference material Protoporphyrine 450 µg/L	1 mL
NCS ZC84009	Erythrocyte protoporphyrine (1000 µg/L) Certified reference material Protoporphyrine 1000 µg/L	1 mL
Ethylglucuronide		
ME 400002	Ethyl-β-D-6-glucuronide Reference substance	2 mg
ME 400010	Ethyl-β-D-6-glucuronide Reference substance	10 mg
ME 405002	Ethyl-β-D-6-glucuronide-D5 Reference substance	2 mg
ME 405010	Ethyl-β-D-6-glucuronide-D5 Reference substance	10 mg
ME 41055	Ethylglucuronide in human serum, certified serum control (Medidrug ETG 1/05-A S-plus) Lyophilised serum control prepared from human serum for accuracy and precision monitoring of ethylglucuronide determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) certified value mg/L Ethylglucuronide 1.7	10 x 2.5 mL

Asbestos

Code	Product	Unit
New ME 41056	<p>Ethylglucuronide in human serum, certified serum control (Medidrug ETG 2/05-A S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of ethylglucuronide determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry)</p> <p>certified value mg/L</p> <p>Ethylglucuronide 0.91</p>	10 x 2.5 mL
New ME 41075	<p>Ethylglucuronide in human urine, certified serum control (Medidrug ETG 1/05-B U-plus)</p> <p>Lyophilised urine control prepared from human urine for accuracy and precision monitoring of ethylglucuronide determinations in urine. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry)</p> <p>certified value mg/L</p> <p>Ethylglucuronide 2.70</p>	10 x 2.5 mL
New ME 41076	<p>Ethylglucuronide in human urine, certified serum control (Medidrug ETG 2/05-B U-plus)</p> <p>Lyophilised urine control prepared from human urine for accuracy and precision monitoring of ethylglucuronide determinations in urine. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry)</p> <p>certified value mg/L</p> <p>Ethylglucuronide 4.71</p>	10 x 2.5 mL

Asbestos

Code	Product	Unit						
BCR-665	<p>Asbestos fibres in human lung</p> <p>The sample consists of at least 100 mg of homogenised and sterilised (gamma irradiated at 25 kGy) human lung tissue.</p> <table> <tr> <td>Type of fibre</td> <td>number of fibres*</td> </tr> <tr> <td>Amosite + crocidolite.....</td> <td>49</td> </tr> <tr> <td>Anthophyllite</td> <td>1.8</td> </tr> </table> <p>* (of more than 1 µm in length) in million per g dry tissue</p>	Type of fibre	number of fibres*	Amosite + crocidolite.....	49	Anthophyllite	1.8	100 mg
Type of fibre	number of fibres*							
Amosite + crocidolite.....	49							
Anthophyllite	1.8							
BCR-666	<p>Asbestos fibres in lung tissue</p> <p>The sample consists of at least 100 mg of homogenised and sterilised (gamma irradiated at 25 kGy) human lung tissue.</p> <table> <tr> <td>Type of fibre</td> <td>number of fibres *</td> </tr> <tr> <td>Amosite + crocidolite.....</td> <td>2.3</td> </tr> <tr> <td>Anthophyllite</td> <td>5.1</td> </tr> </table> <p>* (of more than 1 µm in length) in million per g dry tissue</p>	Type of fibre	number of fibres *	Amosite + crocidolite.....	2.3	Anthophyllite	5.1	100 mg
Type of fibre	number of fibres *							
Amosite + crocidolite.....	2.3							
Anthophyllite	5.1							

Organic contaminants

PCBs in serum

Code	Product	Unit
NIST-1589a	PCBs, pesticides and dioxins/furans in human serum	set
	This standard is intended for use in evaluating analytical methods for the determination of selected polychlorinated biphenyl (PCB) congeners, chlorinated pesticides and total cholesterol in human serum and similar matrices. Reference values are also provided for selected polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). All of the constituents for which certified and reference values are provided are naturally present in the freeze-dried human serum. A unit consists of five bottles of freeze-dried human serum.	
	Analyte	ng/kg
	PCB 99	121 ± 10
	PCB 101	34 ± 9
	PCB 105	29 ± 4
	PCB 118	119 ± 9
	PCB 138	483 ± 39
	PCB 163	--
	PCB 164	--
	PCB 149	56 ± 8
	PCB 151	28 ± 4
	PCB 153	672 ± 35
	PCB 156	66 ± 4
	PCB 180	483 ± 29
	PCB 183	65 ± 5
	PCB 187	172 ± 25
	PCB 182	--
	PCB 194	98 ± 14
	PCB 195	22 ± 4
	PCB 206	40 ± 6
	PCB 209	25 ± 4
	beta-HCH	56 ± 13
	trans-Nonachlor	169 ± 29
	Heptachlor epoxide	75 ± 9
	Oxychlorodane	157 ± 14
	4,4'-DDE	6600 ± 1000

Trace elements

Trace elements in serum

Code	Product	Unit
SERO201405	Trace elements in serum, level 1	6 x 3 mL
	This reference material is produced from serum collected from thoroughly controlled voluntary blood donors of a Scandinavian blood bank. Each unit is separately controlled and found negative for HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. Contains all normal constituents which ensure the control and test samples to be analysed under the same conditions.	
	Certified values after reconstitution	
	Al.....	36.4 µg/L
	Ca	105 mg/L
	Cr	0.70 µg/L
	Co	0.23 µg/L
	Cu	1060 µg/L
	F.....	75 µg/L
	Au	487 µg/L
	Fe	1.3 mg/L
	Li.....	5.46 mg/L
	Mn	8.3 µg/L
	Mg	20 mg/L
	Hg.....	0.9 µg/L
	Ni.....	5.9 µg/L
	P.....	85 mg/L
	K	155 mg/L
	Se	72.8 µg/L
	S	1092 mg/L
	Na	3256 mg/L
	Zn.....	845 µg/L
SERO203105	Trace elements in serum, level 2	6 x 3 mL
	This reference material is produced from serum collected from thoroughly controlled voluntary blood donors of a Scandinavian blood bank. Each unit is separately controlled and found negative for HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. Contains all normal constituents which ensure the control and test samples to be analysed under the same conditions.	
	Certified values after reconstitution	
	Al.....	111 µg/L
	Ca	117 mg/L
	Cr	5.2 µg/L
	Co	3.2 µg/L
	Cu	2.6 mg/L
	F.....	200 µg/L
	Au	1956 µg/L
	Fe	1.91 mg/L
	Li.....	10.6 mg/L
	Mn	19.1 µg/L
	Mg	28.9 mg/L
	Hg.....	1.86 µg/L
	Ni.....	10.7 µg/L
	P.....	42 mg/L
	K	236 mg/L
	Se	136 µg/L
	S	1330 mg/L
	Na	3783 mg/L
	Zn.....	0.92 mg/L
ME 28341	Metals in human serum, level 1 (low) (Medisafe® Metals S)	6 x 5 mL
	Lyophilised human serum control for quality control and calibration of trace element determinations from serum. The real assay values have been determined by independent laboratories of forensic medicine.	
	Analyte	level 1
	Al.....	24 µg/L
	As.....	100 µg/L
	Ba	16 µg/L
	Cd	8 µg/L
	Cr	14 µg/L
	Co.....	5.5 µg/L
	Cu.....	1000 µg/L
	F	200 µg/L
	Fe	1690 µg/L
	Hg.....	13 µg/L
	Mn	20 µg/L
	Ni.....	51 µg/L
	Pb	180 µg/L
	Pd	6 µg/L
	Se	50 µg/L
	Sn	5 µg/L
	Zn.....	520 µg/L
ME 28342	Metals in human serum, level 2 (high) (Medisafe® Metals S)	6 x 5 mL
	Lyophilised human serum control for quality control and calibration of trace element determinations from serum. The real assay values have been determined by independent laboratories of forensic medicine.	
	Analyte	level 2
	Al.....	40 µg/L
	As.....	250 µg/L
	Ba	44 µg/L
	Cd	17 µg/L
	Cr	14 µg/L
	Co.....	12 µg/L
	Cu.....	1500 µg/L
	F	400 µg/L
	Fe	1690 µg/L
	Hg.....	50 µg/L
	Mn	20 µg/L
	Ni.....	51 µg/L
	Pb	293 µg/L
	Pd	55 µg/L
	Se	90 µg/L
	Sn	50 µg/L
	Zn.....	520 µg/L

Trace elements

Code	Product	Unit																								
ME 28343	<p>Metals in human serum level 1 (Medisafe® Metals S-4A)</p> <p>Human serum control with assayed values, lyophilised, for quality control of determination of metals in serum</p> <p>Analytes assayed values</p> <p>Fe..... 1131.40 µg/L Se..... 49.36 µg/L</p> <p>Cu..... 1156.58 µg/L Zn..... 280.04 µg/L</p>	6 x 5 mL																								
ME 28344	<p>Metals in human serum level 2 (Medisafe® Metals S-4A)</p> <p>Human serum control with assayed values, lyophilised, for quality control of determination of metals in serum</p> <p>Analytes assayed values</p> <p>Fe..... 1965.71 µg/L Se..... 236.12 µg/L</p> <p>Cu..... 1944.00 µg/L Zn..... 1486.48 µg/L</p>	6 x 5 mL																								
NIST-956b	<p>Electrolytes in frozen human serum</p> <p>This standard is primarily intended for use in the calibration and validation of procedures and methods employed in clinical analysis for the determination of electrolytes in either diluted or undiluted human serum or plasma. This SRM can be used for calibrating direct-reading ion-selective electrode analyzers [1] and for validating secondary reference materials. A unit consists of six sealed ampoules of frozen human serum, two ampoules each of three different concentration levels. Each ampoule contains approximately 2.0 mL of human serum.</p> <p>Certified values for elements at three levels.</p> <table border="1"> <thead> <tr> <th></th> <th>level 1 mmol/L</th> <th>level 2 mmol/L</th> <th>level 3 mmol/L</th> </tr> </thead> <tbody> <tr> <td>Ca</td> <td>2.949</td> <td>2.456</td> <td>1.974</td> </tr> <tr> <td>Li</td> <td>1.920</td> <td>1.207</td> <td>0.486</td> </tr> <tr> <td>Mg</td> <td>1.522</td> <td>0.994</td> <td>0.458</td> </tr> <tr> <td>K.....</td> <td>5.973</td> <td>3.983</td> <td>1.987</td> </tr> <tr> <td>Na</td> <td>120.1</td> <td>141.0</td> <td>160.7</td> </tr> </tbody> </table>		level 1 mmol/L	level 2 mmol/L	level 3 mmol/L	Ca	2.949	2.456	1.974	Li	1.920	1.207	0.486	Mg	1.522	0.994	0.458	K.....	5.973	3.983	1.987	Na	120.1	141.0	160.7	set (6)
	level 1 mmol/L	level 2 mmol/L	level 3 mmol/L																							
Ca	2.949	2.456	1.974																							
Li	1.920	1.207	0.486																							
Mg	1.522	0.994	0.458																							
K.....	5.973	3.983	1.987																							
Na	120.1	141.0	160.7																							
BCR-304	<p>Calcium, Magnesium and Lithium in human serum</p> <p>Element concentration in the reconstituted material</p> <p>Ca (mmol/L)..... 2.201 ± 0.019</p> <p>Mg (mmol/L)..... 1.85 ± 0.03</p> <p>Li (mmol/L)..... 0.985 ± 0.029</p> <p>Each sample is in lyophilised form equivalent to about 5.3 mL of human serum kept under vacuum in rubber stoppered vials.</p>	vial																								
BCR-637	<p>Trace elements in human serum (Al, Se, Zn)</p> <p>The CRM is supplied in frozen form in white plastic vials. The serum was sterile filtered prior to filling and no preservatives were added. The content of a vial is approximately 4.5 mL serum. This serum material was produced from blood from healthy Danish blood donors. Each portion of blood was tested negative for Anti-HIV-1&2, Anti-HCV and Anti-HTLV-I&II.</p> <p>Element mass concentration</p> <p>Al..... 12.5 µg/L</p> <p>Se..... 81 µg/L</p> <p>Zn..... 1.11 mg/L</p>	vial																								
BCR-638	<p>Trace elements in human serum (Al, Se, Zn)</p> <p>The CRM is supplied in frozen form in white plastic vials. The serum was sterile filtered prior to filling and no preservatives were added. The content of a vial is approximately 4.5 mL serum. This serum material was produced from blood from healthy Danish blood donors. Each portion of blood was tested negative for Anti-HIV-1&2, Anti-HCV and Anti-HTLV-I&II.</p> <p>Element mass concentration</p> <p>Al..... 55 µg/L</p> <p>Se..... 104 µg/L</p> <p>Zn..... 1.43 mg/L</p>	vial																								
BCR-639	<p>Trace elements in human serum (Al, Se, Zn)</p> <p>The CRM is supplied in frozen form in white plastic vials. The serum was sterile filtered prior to filling and no preservatives were added. The content of a vial is approximately 4.5 mL serum. This serum material was produced from blood from healthy Danish blood donors. Each portion of blood was tested negative for Anti-HIV-1&2, Anti-HCV and Anti-HTLV-I&II.</p> <p>Element mass concentration</p> <p>Al..... 194 µg/L</p> <p>Se..... 133 µg/L</p> <p>Zn..... 2.36 mg/L</p>	vial																								

Code	Product	Unit
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Trace elements in blood

SERO201505	Trace elements in whole blood, level 1	10 x 5 mL
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This reference material is produced from blood collected from thoroughly controlled voluntary blood donors of a Scandinavian blood bank. Each unit is separately controlled and found negative for HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. It contains all normal constituents which ensures the control and test samples to be analysed under the same conditions.

Certified values after reconstitution

Al.....	17.1 µg/L	I.....	12.0 µg/L	Sc.....	15 ng/L
Sb.....	1.6 µg/L	Ir.....	< 0.5 ng/L	Se.....	79.8 µg/L
As.....	1.8 µg/L	Fe.....	432 mg/L	Si.....	0.52 mg/L
Ba.....	52.6 µg/L	La.....	0.04 µg/L	Ag.....	0.13 µg/L
Be.....	< 0.01 µg/L	Pb.....	27.6 µg/L	Na.....	1313 mg/L
Bi.....	< 0.01 µg/L	Li.....	4.9 µg/L	Sr.....	27.8 µg/L
B.....	26.3 µg/L	Lu.....	0.8 ng/L	S.....	1223 mg/L
Br.....	1.1 mg/L	Mg.....	19.6 mg/L	Ta.....	18 ng/L
Cd.....	0.74 µg/L	Mn.....	10.6 µg/L	Te.....	0.03 µg/L
Ca.....	14.2 mg/L	Hg.....	2.28 µg/L	Tb.....	1.2 ng/L
Ce.....	0.05 µg/L	Mo.....	0.5 µg/L	Tl.....	< 0.01 µg/L
Cs.....	2.3 µg/L	Nd.....	0.04 µg/L	Th.....	< 0.01 µg/L
Co.....	0.15 µg/L	Ni.....	1.6 µg/L	Tm.....	1.0 ng/L
Cr.....	0.6 µg/L	Nb.....	0.05 µg/L	Sn.....	0.34 µg/L
Cu.....	564 µg/L	Pd.....	< 10 ng/L	Ti.....	2.3 µg/L
Dy.....	4.8 ng/L	P.....	239 mg/L	W.....	0.06 µg/L
Er.....	2.9 ng/L	Pt.....	< 1 ng/L	U.....	0.17 µg/L
Eu.....	2.7 ng/L	K.....	1101 mg/L	V.....	0.32 µg/L
Gd.....	50 ng/L	Pr.....	< 0.01 µg/L	Yb.....	2.3 ng/L
Ga.....	46 ng/L	Re.....	1.7 ng/L	Y.....	0.05 µg/L
Ge.....	< 0.1 µg/L	Rh.....	< 0.01 µg/L	Zn.....	5.5 mg/L
Au.....	< 0.01 µg/L	Rb.....	1278 mg/L	Zr.....	0.28 µg/L
Hf.....	4.0 ng/L	Ru.....	< 0.02 µg/L		
Ho.....	1.1 ng/L	Sm.....	< 0.01 µg/L		

SERO201605	Trace elements in whole blood, level 2	10 x 5 mL
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This reference material is produced from blood collected from thoroughly controlled voluntary blood donors of a Scandinavian blood bank. Each unit is separately controlled and found negative for HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. It contains all normal constituents which ensures the control and test samples to be analysed under the same conditions.

Certified values after reconstitution

Al.....	58.9 µg/L	I.....	27 µg/L	Sc.....	49 ng/L
Sb.....	29.1 µg/L	Ir.....	< 0.5 ng/L	Se.....	123 µg/L
As.....	13.2 µg/L	Fe.....	433 mg/L	Si.....	655 mg/L
Ba.....	64.5 µg/L	La.....	61 µg/L	Ag.....	134 µg/L
Be.....	5.9 µg/L	Pb.....	393 µg/L	Na.....	1329 mg/L
Bi.....	5.1 µg/L	Li.....	1.9 µg/L	Sr.....	31.4 µg/L
B.....	91 µg/L	Lu.....	1.1 ng/L	S.....	1213 mg/L
Br.....	574 mg/L	Mg.....	20.1 mg/L	Ta.....	6.4 ng/L
Cd.....	5.1 µg/L	Mn.....	13.3 µg/L	Te.....	30 µg/L
Ca.....	16.7 mg/L	Hg.....	7.8 µg/L	Tb.....	0.8 ng/L
Ce.....	56 µg/L	Mo.....	6.2 µg/L	Tl.....	5.2 µg/L
Cs.....	2.1 µg/L	Nd.....	42 µg/L	Th.....	8 µg/L
Co.....	6.1 µg/L	Ni.....	5.3 µg/L	Tm.....	0.6 ng/L
Cr.....	6.3 µg/L	Nb.....	19 µg/L	Sn.....	0.35 µg/L
Cu.....	666 µg/L	Pd.....	< 20 ng/L	Ti.....	1.7 µg/L
Dy.....	7 ng/L	P.....	243 mg/L	W.....	95 µg/L
Er.....	3.8 ng/L	Pt.....	1.4 ng/L	U.....	180 µg/L
Eu.....	2.6 ng/L	K.....	1060 mg/L	V.....	4.3 µg/L
Gd.....	36 ng/L	Pr.....	12 µg/L	Yb.....	3.0 ng/L
Ga.....	28 ng/L	Re.....	1.5 ng/L	Y.....	40 µg/L
Ge.....	- µg/L	Rh.....	< 1 µg/L	Zn.....	5038 mg/L
Au.....	22 µg/L	Rb.....	1282 mg/L	Zr.....	136 µg/L
Hf.....	2.3 ng/L	Ru.....	< 15 µg/L		
Ho.....	1.9 ng/L	Sm.....	10 µg/L		

Trace elements

Code	Product	Unit																																																																								
SERO102405	Trace elements in whole blood, level 3 These reference materials are produced from blood collected from thoroughly controlled voluntary blood donors of a Scandinavian blood bank. Each unit is separately controlled and found negative for HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. It contains all normal constituents which ensures the control and test samples to be analysed under the same conditions. Certified values after reconstitution	10 x 5 mL																																																																								
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AMIB-1701	Toxic metals in human blood, level 1 The concentrations of toxic metals were determined by graphite furnace atomic absorption spectroscopy. Certified values after reconstitution	3 mL																																																																								
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AMIB-1702	Toxic metals in human blood, level 2 The concentrations of toxic metals were determined by graphite furnace atomic absorption spectroscopy. Certified values after reconstitution	3 mL																																																																								
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BCR-634	Human Blood (Pb and Cd) The CRM is supplied in lyophilised form in brown glass vials. Sodium-EDTA was used as anticoagulant. No other preservatives were added. The content of a vial is approximately 0.6 g dry matter with residual moisture content less than 2 % and equivalent to 3.0 mL of fresh whole blood. This material was produced from blood from healthy Danish blood donors. Each portion of blood was tested negative for Anti-HIV-1&2, Anti-HCV and Anti-HTLV-I&II. However, as all biological material of human origin the blood should be treated as contagious material.	vial																																																																								
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Code	Product	Unit												
NIST-966	<p>Toxic metals in blood</p> <p>This standard is intended for use in evaluating the accuracy of lead, cadmium and total mercury concentration determinations in whole blood. It can also be used for validating analytical methods and for providing traceability to working or secondary blood reference materials containing these constituents. It contains frozen whole bovine blood with below mentioned components at two concentration levels.</p> <table> <thead> <tr> <th></th> <th>level 1</th> <th>level 2</th> </tr> </thead> <tbody> <tr> <td>Pb</td> <td>1.56.....</td> <td>25.27 µg/dL</td> </tr> <tr> <td>Cd</td> <td>(0.032).....</td> <td>5.22 µg/L</td> </tr> <tr> <td>Hg (total)</td> <td>(0.0445).....</td> <td>31.4 µg/L</td> </tr> </tbody> </table>		level 1	level 2	Pb	1.56.....	25.27 µg/dL	Cd	(0.032).....	5.22 µg/L	Hg (total)	(0.0445).....	31.4 µg/L	unit
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Pb	1.56.....	25.27 µg/dL												
Cd	(0.032).....	5.22 µg/L												
Hg (total)	(0.0445).....	31.4 µg/L												
ERMI-CE194	<p>Lead and cadmium in bovine blood, low level</p> <p>Each sample is in lyophilised form equivalent to about 5.75 mL of bovine blood with additives, kept under nitrogen in rubber stoppered vials.</p> <p>Mass concentration in the reconstituted material</p> <table> <tbody> <tr> <td>Pb (µg/L)</td> <td>126 ± 4</td> </tr> <tr> <td>Cd (µg/L)</td> <td>0.20 ± 0.05</td> </tr> </tbody> </table>	Pb (µg/L)	126 ± 4	Cd (µg/L)	0.20 ± 0.05	amp.								
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ERMI-CE195	<p>Lead and cadmium in bovine blood, medium level</p> <p>Each sample is in lyophilised form equivalent to about 5.75 mL of bovine blood with additives, kept under nitrogen in rubber stoppered vials.</p> <p>Mass concentration in the reconstituted material</p> <table> <tbody> <tr> <td>Pb (µg/L)</td> <td>416 ± 9</td> </tr> <tr> <td>Cd (µg/L)</td> <td>5.06 ± 0.15</td> </tr> </tbody> </table>	Pb (µg/L)	416 ± 9	Cd (µg/L)	5.06 ± 0.15	amp.								
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ERMI-CE196	<p>Lead and cadmium in bovine blood, high level</p> <p>Each sample is in lyophilised form equivalent to about 5.75 mL of bovine blood with additives, kept under nitrogen in rubber stoppered vials.</p> <p>Mass concentration in the reconstituted material</p> <table> <tbody> <tr> <td>Pb (µg/L)</td> <td>772 ± 11</td> </tr> <tr> <td>Cd (µg/L)</td> <td>12.33 ± 0.20</td> </tr> </tbody> </table>	Pb (µg/L)	772 ± 11	Cd (µg/L)	12.33 ± 0.20	amp.								
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NIST-955b	<p>Lead in bovine blood (4 x 2 mL)</p> <p>This Standard Reference Material (SRM) 955b is intended primarily for use in evaluating the accuracy of lead concentration determinations in blood and for use in validating working or secondary reference materials for lead in blood analysis. A unit of SRM 955 consists of four vials of frozen bovine blood, one each of four different lead concentrations. Each vial contains approximately 2 mL of whole blood.</p> <p>This item is currently not available. To be notified about changes in the status of this item, please proceed through the ordering process. This will place you on the notification list without committing to the purchase.</p>	set (4)												

Trace elements in urine

Code	Product	Unit																																																																																																															
SERO201305	<p>Trace elements in urine, level 1</p> <p>This reference material is produced from human urine from thoroughly controlled voluntary Norwegian donors. Each unit is controlled by official authorities and found negative for presence of HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. It contains all normal constituents which ensure the control and test samples to be analysed under the same conditions.</p> <p>Certified values after reconstitution</p> <table> <thead> <tr> <th>Analyte</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Ag</td> <td>10 ng/L</td> <td>Fe</td> <td>8.3 µg/L</td> <td>Si</td> <td>3.11 mg/L</td> </tr> <tr> <td>Al</td> <td>5.1 µg/L</td> <td>Hg</td> <td>0.22 µg/L</td> <td>Sn</td> <td>3.2 µg/L</td> </tr> <tr> <td>As</td> <td>85 µg/L</td> <td>I</td> <td>139 µg/L</td> <td>Sr</td> <td>122 µg/L</td> </tr> <tr> <td>Au</td> <td>38 ng/L</td> <td>K</td> <td>2349 mg/L</td> <td>Te</td> <td>0.38 µg/L</td> </tr> <tr> <td>B</td> <td>1294 µg/L</td> <td>La</td> <td>14.5 ng/L</td> <td>Ti</td> <td>4.6 µg/L</td> </tr> <tr> <td>Ba</td> <td>17.5 µg/L</td> <td>Li</td> <td>15.8 µg/L</td> <td>Tl</td> <td>0.21 µg/L</td> </tr> <tr> <td>Be</td> <td>< 0.005 µg/L</td> <td>Mg</td> <td>89 mg/L</td> <td>U</td> <td>37 ng/L</td> </tr> <tr> <td>Bi</td> <td>2.0 µg/L</td> <td>Mn</td> <td>1.2 µg/L</td> <td>V</td> <td>0.53 µg/L</td> </tr> <tr> <td>Br</td> <td>3.2 mg/L</td> <td>Mo</td> <td>61.4 µg/L</td> <td>W</td> <td>0.14 µg/L</td> </tr> <tr> <td>Ca</td> <td>116 mg/L</td> <td>Na</td> <td>2487 mg/L</td> <td>Zn</td> <td>393 µg/L</td> </tr> <tr> <td>Cd</td> <td>0.31 µg/L</td> <td>Ni</td> <td>2.4 µg/L</td> <td>Zr</td> <td>53 µg/L</td> </tr> <tr> <td>Ce</td> <td>28 ng/L</td> <td>P</td> <td>872 mg/L</td> <td>Creatinine</td> <td>-- µmol/L</td> </tr> <tr> <td>Cl</td> <td>4396 mg/L</td> <td>Pb</td> <td>0.75 µg/L</td> <td>1-Hydroxypyrene</td> <td>55 µg/L</td> </tr> <tr> <td>Co</td> <td>0.28 µg/L</td> <td>Rb</td> <td>1.8 mg/L</td> <td>Formic acid</td> <td>-- mg/L</td> </tr> <tr> <td>Cu</td> <td>18.6 µg/L</td> <td>Re</td> <td>94 ng/L</td> <td>Phenol</td> <td>-- mg/L</td> </tr> <tr> <td>Cr</td> <td>0.56 µg/L</td> <td>S</td> <td>706 mg/L</td> <td>Mandelic acid</td> <td>-- µg/L</td> </tr> <tr> <td>Cs</td> <td>7.8 µg/L</td> <td>Sb</td> <td>19.4 µg/L</td> <td>Tetrachloroethylene</td> <td>-- µg/L</td> </tr> <tr> <td>F</td> <td>-- mg/L</td> <td>Se</td> <td>21.7 µg/L</td> <td>Trichloroacetic acid (TCA)</td> <td>-- mg/L</td> </tr> </tbody> </table>	Analyte			Ag	10 ng/L	Fe	8.3 µg/L	Si	3.11 mg/L	Al	5.1 µg/L	Hg	0.22 µg/L	Sn	3.2 µg/L	As	85 µg/L	I	139 µg/L	Sr	122 µg/L	Au	38 ng/L	K	2349 mg/L	Te	0.38 µg/L	B	1294 µg/L	La	14.5 ng/L	Ti	4.6 µg/L	Ba	17.5 µg/L	Li	15.8 µg/L	Tl	0.21 µg/L	Be	< 0.005 µg/L	Mg	89 mg/L	U	37 ng/L	Bi	2.0 µg/L	Mn	1.2 µg/L	V	0.53 µg/L	Br	3.2 mg/L	Mo	61.4 µg/L	W	0.14 µg/L	Ca	116 mg/L	Na	2487 mg/L	Zn	393 µg/L	Cd	0.31 µg/L	Ni	2.4 µg/L	Zr	53 µg/L	Ce	28 ng/L	P	872 mg/L	Creatinine	-- µmol/L	Cl	4396 mg/L	Pb	0.75 µg/L	1-Hydroxypyrene	55 µg/L	Co	0.28 µg/L	Rb	1.8 mg/L	Formic acid	-- mg/L	Cu	18.6 µg/L	Re	94 ng/L	Phenol	-- mg/L	Cr	0.56 µg/L	S	706 mg/L	Mandelic acid	-- µg/L	Cs	7.8 µg/L	Sb	19.4 µg/L	Tetrachloroethylene	-- µg/L	F	-- mg/L	Se	21.7 µg/L	Trichloroacetic acid (TCA)	-- mg/L	10 x 5 mL
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Trace elements

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SERO201205	Trace elements in urine, level 2 This reference material is produced from human urine from thoroughly controlled voluntary Norwegian donors. Each unit is controlled by official authorities and found negative for presence of HBS antigen and HIV I, II and hepatitis C antibodies. No preservatives are added to the samples. It contains all normal constituents which ensure the control and test samples to be analysed under the same conditions. Certified values after reconstitution Analyte Ag..... 12 ng/L Fe14.4 µg/L Si..... 10.2 mg/L Al..... 105 µg/L Hg.....40.3 µg/L Sn..... 31 µg/L As..... 184 µg/L I.....282 µg/L Sr..... 91.3 µg/L Au..... 29 ng/L K.....2005 mg/L Te..... 24.7 µg/L B..... 691 µg/L La..... 14 ng/L Ti..... 4.9 µg/L Ba..... 9 µg/L Li.....7.94 µg/L Tl..... 9.69 µg/L Be..... 5.02 µg/L Mg.....54 mg/L U..... 25 ng/L Bi..... 20.9 µg/L Mn.....11.1 µg/L V..... 25.1 µg/L Br..... 2.22 mg/L Mo.....42.3 µg/L W..... 0.26 µg/L Ca..... 108 mg/L Na.....2555 mg/L Zn.....261 µg/L Cd..... 5.06 µg/L Ni.....41.5 µg/L Zr..... 0.11 µg/L Ce..... 62 ng/L P.....590 mg/L Creatinine..... 7202 µmol/L Cl..... 4408 mg/L Pb.....91.1 µg/L 1-Hydroxypyrene..... 55 µg/L Co..... 10.1 µg/L Rb.....1.51 mg/L Formic acid..... 10.8 mg/L Cu..... 16.1 µg/L Re.....71 ng/L Phenol.....300 mg/L Cr..... 20.1 µg/L S.....545 mg/L Mandelic acid..... 490 µg/L Cs..... 6.79 µg/L Sb.....102 µg/L Tetrachloroethylene ... 1000 µg/L F..... 4.00 mg/L Se.....66.9 µg/L Trichloroacetic acid (TCA)57 mg/L	10 x 5 mL
NIST-2670a	Toxic elements in urine (freeze-dried) (4 x 20 mL) This Standard Reference Material (SRM) is primarily intended for use in evaluating the accuracy of clinical methods and for the calibration of apparatus used to determine the concentration of toxic metals and other elements in human urine or similar matrices. It can also be used to validate working or secondary reference materials. It consists of four bottles of freeze-dried urine, two bottles each at the low and high levels. The low level urine was prepared from human urine that was lyophilised after pooling and centrifugation. The high level urine was prepared by spiking an aliquot of the pooled and homogenized low-level urine with selected metals, followed by lyophilisation. Due to the centrifugation (which improved sample homogeneity), neither level represents a fresh urine pool from a normal human population. Element low level elevated level Antimony..... 0.971 0.824 µg/L Cadmium..... 0.0591 4.862 µg/L Cesium..... 1.075 1.085 µg/L Cobalt..... 0.166..... 51.2 µg/L Iodine..... 88.2 88.2 µg/L Lead..... 0.49 233.2 µg/L Mercury..... 0.0663..... 95.1 µg/L Manganese..... 99 µg/L Molybdenum..... 114.1 µg/L Platinum..... 51.5 µg/L Selenium..... 229.5 µg/L Thallium..... 0.0162..... 5.417 µg/L Thorium..... 0.0053..... 0.01606 µg/L Uranium..... 0.1020 4.997 µg/L	set
ME 28351	Metals in human urine, level 1 (low) (Medisafe Metals U) Lyophilised human urine control in two different concentrations for quality control and calibration of trace element determinations from urine. The real assay values have been determined by independent laboratories of forensic medicine. Analyte level 1 Al..... 80 µg/L Cu.....50 µg/L Pb..... 130 µg/L As..... 50 µg/L F.....10 mg/L Pd..... 5 µg/L Ba..... 21 µg/L Fe.....700 µg/L Se..... 20 µg/L Cd..... 13 µg/L Hg.....50 µg/L Sn..... 5 µg/L Cr..... 10 µg/L Mn.....25 µg/L Zn..... 1.7 mg/L Co..... 3 µg/L Ni.....25 µg/L	6 x 5 mL
ME 28352	Metals in human urine, level 2 (high) (Medisafe Metals U) Lyophilised human urine control in two different concentrations for quality control and calibration of trace element determinations from urine. The real assay values have been determined by independent laboratories of forensic medicine. Analyte level 2 Al..... 400 µg/L Cu.....250 µg/L Pb..... 80 µg/L As..... 250 µg/L F.....6 mg/L Pd..... 50 µg/L Ba..... 50 µg/L Fe.....200 µg/L Se..... 200 µg/L Cd..... 8 µg/L Hg.....10 µg/L Sn..... 50 µg/L Cr..... 2 µg/L Mn.....15 µg/L Zn..... 0.8 mg/L Co..... 18 µg/L Ni.....15 µg/L	6 x 5 mL

Code	Product	Unit
BCR-640	Trace elements (As, Cr) and 1-Hydroxypyrene in lyophilised human urine The CRM is supplied in lyophilised form in white plastic vials. No other preservatives are added. The content of a vial is approximately 0.3 g dry matter with residual moisture content less than 3 % and equivalent to 10.0 mL of fresh urine. This urine material was collected from healthy British donors. Based on the available information and knowledge, any infection danger resulting from an exposure to the material can be excluded, because of the treatment process applied. Compound concentration Arsenic..... 23 µg/L Chromium 1.5 µg/L 1-Hydroxypyrene0.62 nmol/L This product is currently under recertification - not available at the moment	vial
BCR-641	Trace elements (As, Cd, Cr, Co) and 1-Hydroxypyrene in lyophilised human urine The CRM is supplied in lyophilised form in white plastic vials. No other preservatives are added. The content of a vial is approximately 0.3 g dry matter with residual moisture content less than 3 % and equivalent to 10.0 mL of fresh urine. This urine material was collected from healthy British donors. Based on the available information and knowledge, any infection danger resulting from an exposure to the material can be excluded, because of the treatment process applied. Compound concentration Arsenic..... 76 µg/L Cadmium 5.2 µg/L Chromium 6.4 µg/L Cobalt 10.4 µg/L 1-Hydroxypyrene5.8 nmol/L This product is currently under recertification - not available at the moment	vial
BCR-642	Trace elements (As, Cd, Cr, Co) and 1-Hydroxypyrene in lyophilised human urine The CRM is supplied in lyophilised form in white plastic vials. No other preservatives are added. The content of a vial is approximately 0.3 g dry matter with residual moisture content less than 3 % and equivalent to 10.0 mL of fresh urine. This urine material was collected from healthy British donors. Based on the available information and knowledge, any infection danger resulting from an exposure to the material can be excluded, because of the treatment process applied. Compound concentration Arsenic..... 157 µg/L Cadmium 10.1 µg/L Chromium 21.0 µg/L Cobalt 61 µg/L 1-Hydroxypyrene21 nmol/L This product is currently under recertification - not available at the moment	vial
NCS ZC93002	I in freeze-dried human urine (low) (packing: 2 mL before freeze dry) I..... 52.5 ± 8.0 µg/L	2 mL
NCS ZC93003	I in freeze-dried human urine (medium) (packing: 2 mL before freeze dry) I..... 87.4 ± 9.0 µg/L	2 mL
NCS ZC93004	I in freeze-dried human urine (high) (packing: 2 mL before freeze dry) I..... 258 ± 10 µg/L	2 mL
NIST-2671a	Fluoride in urine This standard is intended primarily for use as an analytical standard for the determination of fluoride in urine. It consists of four bottles of freeze-dried urine, two bottles each at low and elevated levels of fluoride. Certified values after reconstitution low level elevated level F..... 0.55.....5.7 mg/L	set (4)
NIST-2672a	Mercury in urine This standard is intended primarily for use as an analytical standard for the determination of mercury in urine. It consists of four bottles of freeze-dried urine containing mercury, two bottles each at low and elevated levels. Certified values after reconstitution low level elevated level Hg (0.002).....0.105 mg/L	set (4)

Trace elements

Code	Product	Unit																																																																		
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NCSZC81002b	Trace elements in human hair (Certified reference material)	7 g																																																																		
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BCR-397	Trace elements in human hair The material consists of 3 g of human hair powder in glass bottles provided with a polyethylene insert and a screw cap.	3 g																																																																		
	<p>Mass fraction of dry mass basis (µg/g)</p> <table border="0"> <tbody> <tr> <td>Cd.....</td> <td>0.521 ± 0.024</td> <td>Se.....</td> <td>2.00 ± 0.08</td> <td>Cu.....</td> <td>(110)</td> </tr> <tr> <td>Hg.....</td> <td>12.3 ± 0.5</td> <td>Zn.....</td> <td>199 ± 5</td> <td>Ni.....</td> <td>(46.0)</td> </tr> <tr> <td>Pb.....</td> <td>33.0 ± 1.2</td> <td>As.....</td> <td>(0.31)</td> <td></td> <td></td> </tr> </tbody> </table> <p>Values in brackets are not certified</p>	Cd.....	0.521 ± 0.024	Se.....	2.00 ± 0.08	Cu.....	(110)	Hg.....	12.3 ± 0.5	Zn.....	199 ± 5	Ni.....	(46.0)	Pb.....	33.0 ± 1.2	As.....	(0.31)																																																			
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NIST-1486	Trace elements in bone meal This standard is intended primarily for use in evaluating analytical methods for the determination of selected major, minor and trace elements in bone and in material of similar matrix. It consists of steamed bone meal that was sieved and blended to a high degree of homogeneity.	50 g																																																																		
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Blood cell size reference material

The spheres are suspended in an aqueous solution of stabilisers. In each sample the spheres have a very narrow distribution (99% of the spheres within $\pm 2\%$ of the certified diameter). These BCRs can be used for the calibration of many instruments for particle size measurements and, in particular, for blood cell sizing instruments. The sizes of the spheres have been selected to correspond approximately to the volume of platelets (thrombocytes), red blood cells (erythrocytes) and white blood cells (leukocytes) respectively. In haematological applications, precautions must be taken, as red blood cells are not rigid spheres and cannot therefore be directly compared to latex spheres. The user should first establish the correlation between the red cell volume determined by the standard manual method ¹⁾ and his automated sizing instrument.

¹⁾ J.Clin.Path. 33 (1980), 1 & Clin.Lab. Haemat. 5 (1983), 83.

Latex spheres of certified size

Code	Product	Unit
BCR-165	Latex spheres, nominal 2 μ Average particle diameter..... 2.223 \pm 0.013 μ m Each vial contains 2 mL of an aqueous suspension of latex spheres at a mass concentration of about 0.2 g/L About 0.5% of the particles are agglomerated doublets..	vial
BCR-166	Latex spheres, nominal 4.8 μ Each vial contains 2 mL of an aqueous suspension of latex spheres at a mass concentration of about 0.2 g/L. About 0.5% of the particles are agglomerated doublets. Average particle diameter 4.821 \pm 0.019 μ m	vial
BCR-167	Latex spheres, nominal 9.6 μ Each vial contains 2 mL of an aqueous suspension of latex spheres at a mass concentration of about 1.4 g/L. About 0.5% of the particles are agglomerated doublets. Average particle diameter..... 9.475 \pm 0.018 μ m	vial

Molecular biology

DNA profiling

Code	Product	Unit
NIST-2390	DNA profiling standard Standard Reference Material (SRM) 2390 is intended for (1) standardization of forensic and paternity quality assurance procedures for Restriction Fragment Length Polymorphisms (RFLP) testing using HaeIII restriction enzymes, and (2) instructional law enforcement or nonclinical research purposes. It is not intended for any human/animal clinical diagnostic use. This new certificate of the material updates the band size values of the original SRM 2390 certification to reflect the evolution of forensic practice from 1991 to 1998. Each SRM 2390 unit consists of 20 components. Quantitative allelic band sizes are provided for human DNA from two sources: (1) the female cell line K562, and (2) the male source "TAW." Three different forms of material from the two sources are provided: (1) cell pellet, (2) extracted genomic DNA, and (3) a HaeIII restriction digest "pre-cut" DNA. The remaining components are well-characterized consumable materials required for qualitative evaluation of the HaeIII RFLP measurement process. These components include standards for quantifying extracted DNA by use of yield gels, a DNA ladder for band size determination, materials for labeling the DNA size ladder, a viral DNA marker for assessment of electrophoretic separation, and agarose that is compatible with all DNA components.	set
NIST-2391b	PCR based DNA profiling This Standard Reference Material (SRM) is intended primarily for use in the standardization of forensic and paternity quality assurance procedures for Polymerase Chain Reaction (PCR)-based genetic testing and for instructional law enforcement or non-clinical research purposes. This SRM can also be used for quality assurance when assigning values to in-house control materials. It is not intended for any human or animal clinical diagnostic use. Note that SRM 2391b is slightly modified from SRM 2391, in that there is more emphasis on Short Tandem Repeats (STRs) and less emphasis on D1S80 [1,2] reflecting the growing interest and utility of STRs. This SRM is composed of well-characterized human deoxyribonucleic acid (DNA) in two forms: genomic DNA and DNA to be extracted from cells spotted onto filter paper. A unit of the SRM is composed of 12 frozen components packaged in one box.	set (12)

DNA sequencing

NIST-2392-I	Mitochondrial DNA sequencing (Human HL-60 DNA) This Standard Reference Material (SRM) is intended to provide quality control when performing the polymerase chain reaction (PCR) and sequencing of human mitochondrial DNA (mtDNA) for forensic identification, medical diagnosis, or mutation detection. It may also serve as a control when amplifying (PCR) and sequencing any DNA. This SRM can also be used for quality assurance when assigning values to in-house control materials. It is certified for the sequences of the entire human mtDNA (16 569 base pairs) from a promyelocytic cell line (HL-60) prepared from the peripheral blood leukocytes from an individual with acute promyelocytic leukemia. A unit of SRM 2392-I consists of 65 μ L of extracted DNA from cell culture line HL-60 at a nominal concentration of 1.4 ng/ μ L, which is contained in a vial packaged in a protective plastic box. For details please ask for the data sheet.	box
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Molecular biology

Code	Product	Unit
New NIST-2394	<p>Heteroplasmic Mitochondrial DNA Mutation Detection Standard (set of 10 tubes)</p> <p>This Standard Reference Material (SRM) is composed of human mitochondrial DNA mixtures which simulate different levels of heteroplasmy. NIST- 2394 is intended to provide quality control benchmarks for forensic, medical, and DNA scientists to assess the detection sensitivity of low-frequency mutations, single nucleotide polymorphisms (SNPs) in either mitochondrial DNA (mtDNA) or in pooled nuclear DNA samples, or heteroplasmic sites in mtDNA.</p> <p>The product is packaged in a single protective plastic box containing ten tubes: one tube containing the 100 % (by mass) polymorphic DNA, one tube containing the 100 % (by mass) CRS DNA, and eight tubes containing different mass percentages of the polymorphic/CRS mtDNA mixtures (mass % polymorphic levels are 1 %, 2.5 %, 5 %, 10 %, 20 %, 30 %, 40 % and 50 %). Each vial contains 25 µL of DNA at a concentration of 8 ng/µL in 10 mM Tris-HCl, pH 8.5.</p>	set (10)
NIST-2395	<p>Human Y-Chromosome DNA Profiling Standard</p> <p>This Standard Reference Material is intended primarily for use in the standardization of forensic and paternity quality assurance procedures for Polymerase Chain Reaction (PCR)-based genetic testing and for instructional law enforcement or non-clinical research purposes that involve the human Y-chromosome. This SRM can also be used for quality assurance when assigning values to in-house control materials. It is not intended for any human or animal clinical diagnostic use.</p> <p>This SRM is composed of well-characterized human genomic deoxyribonucleic acid (DNA) in liquid form. A unit of the SRM is composed of 6 frozen components packaged in one box. There are five male samples and one female sample in this SRM.</p>	box
New NIST-2396	<p>Oxidative DNA Damage Mass Spectrometry Standard (set of 12 vials)</p> <p>This Standard Reference Material (SRM) is intended for use in the measurement of oxidative DNA damage by gas chromatography/mass spectrometry (GC/MS), and liquid chromatography/mass spectrometry (LC/MS), using the isotope-dilution technique for quantification in both cases. NIST-2396 is a set of twelve stable isotope-labeled components (ten analogues of oxidatively modified DNA bases, one analog of an oxidatively modified nucleoside and one analog of a normal DNA nucleoside) contained in a protective plastic box. Each vial of contains 0.2 mL of a designated component at a specified concentration.</p>	set (12)
New NIST-2399	<p>Fragile X Human DNA Triplet Repeat Standard</p> <p>This Standard Reference Material (SRM) is intended to provide quality control by serving as a positive control to clinical laboratories that test human samples for Fragile X and who need to determine the number of CGG trinucleotide repeats present in samples. It is composed of human deoxyribonucleic acid (DNA) from fragile X cell lines or patient samples that have been amplified using polymerase chain reaction (PCR) techniques. This SRM consists of a single box containing 9 vials, designated A through I. Each vial contains 20 µL of a frozen PCR product with a different number of CGG repeats suspended in a buffer (10 mM Tris-Cl pH 8.5).</p> <p>The American College of Medical Genetics Guidelines requires a positive control for all genetic testing. In addition to medical diagnoses, the ability to detect the correct number of triplet repeats will help in genetic counseling and genetic research in the area of triplet repeats. NIST-2399 will also help to ensure the accuracy and comparability of results from different laboratories.</p>	set (9)



Reference materials for forensic science analysis



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(*Cynara cardunculus*)

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(*Camellia sinensis*)

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(*Rhodiola rosea*)

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(*Rosmarinus officinalis*)

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(*Tribulus terrestris*)

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Forensic science analysis

Ethanol and alcohol congeners in water

Ethanol in water

Aqueous ethanol standards (Medidrug® Ethanol W)

Aqueous ethanol standards in different concentrations for calibration of alcohol determinations. The concentrations have been controlled by independent laboratories of forensic medicine.

Code	Product	Unit
ME 20030-10	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20030	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20032	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20033	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20050-10	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20050	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20052	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20053	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20080-10	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20080	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20082	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20083	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20100-10	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20100	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20102	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20103	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20110-10	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20110	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20112	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20113	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20130-10	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20130	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20132	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20133	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20150-10	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20150	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	10 x 1.1 mL

Forensic science analysis

Code	Product	Unit
ME 20152	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20153	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20200-10	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20200	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20202	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20203	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20300-10	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20300	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20302	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20303	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20400-10	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20400	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20402	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	10 x 1.5 mL
ME 20403	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ERML-AC409a	Aqueous ethanol - 20 mg/100 mL Ethanol content..... 19.9 mg / 100 mL	50 mL
ERML-AC401a	Aqueous ethanol - 80 mg / 100 mL Ethanol content..... 79.7 mg / 100 mL	50 mL
ERML-AC402a	Aqueous ethanol - 107 mg / 100 mL Ethanol content..... 106.9 mg / 100 mL	50 mL
ERML-AC403b	Aqueous ethanol - 200 mg / 100 mL Ethanol content..... 200.1 mg / 100 mL	25 mL
CERE-040	Ethanol-10 10 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-042	Ethanol-15 15 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-043	Ethanol-20 20 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-035	Ethanol-25 25 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-045	Ethanol-40 40 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-029	Ethanol-50 50 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-030	Ethanol-80 80 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-037	Ethanol-80 80 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-031	Ethanol-100 100 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-038	Ethanol-100 100 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-041	Ethanol-150 150 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-032	Ethanol-200 200 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL

Forensic science analysis

Code	Product	Unit
CERE-039	Ethanol-200 200 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-033	Ethanol-300 300 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-036	Ethanol-400 400 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-044	Ethanol-400 400 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-034	Ethanol calibration kit 2 ampoules of each of the individual standards. Ethanol at stated concentration (mg/dL), 1.2 mL/ampoule, 10 ampoules per kit Ethanol-50 mg/dL CERE-029 Ethanol-80 mg/dL CERE-030 Ethanol-100 mg/dL CERE-031 Ethanol-200 mg/dL CERE-032 Ethanol-300 mg/dL CERE-033	10 x 1.2 mL
NIST-2891	Ethanol-water solution (nominal 0.02 % by mass) This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 0.02 % by mass. NIST-2891 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified concentration value Ethanol0.01951 % ± 0.00018 % by mass	unit (5)
NIST-2892	Ethanol-water solution (nominal 0.04 % by mass) This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 0.04 % by mass. NIST-2892 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified concentration value Ethanol0.03900 % ± 0.00046 % by mass	unit (5)
NIST-2893	Ethanol-water solution (nominal 0.08 % by mass) This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 0.08 % by mass. NIST-2893 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified concentration value Ethanol.....0.08023 % ± 0.00074 % by mass	unit (5)
NIST-2894	Ethanol-water solution (nominal 0.1 % by mass) This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 0.1 % by mass. NIST-2894 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified concentration value Ethanol0.10084 % ± 0.00083 % by mass	unit (5)
NIST-2895	Ethanol-water solution (nominal 0.2 % by mass) This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 0.2 % by mass. NIST-2895 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified concentration value Ethanol.....0.1701 % ± 0.0014 % by mass	unit (5)
NIST-2896	Ethanol-water solution (nominal 0.3 % by mass) This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 0.3 % by mass. NIST-2896 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified concentration value Ethanol.....0.2980 % ± 0.0030 % by mass	unit (5)

Forensic science analysis

Code	Product	Unit								
NIST-2897	<p>Ethanol-water solution (nominal 2 % by mass)</p> <p>This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 2 % by mass. NIST-2897 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified concentration value</p> <p>Ethanol..... 1.554. % ± 0.0016 % by mass</p>	unit (5)								
NIST-2898	<p>Ethanol-water solution (nominal 6 % by mass)</p> <p>This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 6 % by mass. NIST-2898 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution</p> <p>Certified concentration value</p> <p>Ethanol..... 6.040 % ± 0.043 % by mass</p>	unit (5)								
NIST-2899	<p>Ethanol-water solution (nominal 25 % by mass)</p> <p>This Standard Reference Material (SRM) is a solution of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water at a nominal concentration of 25 % by mass. NIST-2899 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified concentration value</p> <p>Ethanol..... 25.21 % ± 0.22 % by mass</p>	unit (5)								
NIST-1847	<p>Ethanol-Water Solutions (Breath-alcohol testing: three levels)</p> <p>This Standard Reference Material (SRM) is a set of three levels of ethanol (ethyl alcohol: Chemical Abstracts Service [CAS] Registry Number 64-17-5) in water. NIST-1847 is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of six 10 mL ampoules (two ampoules each of the nominal concentrations of 2 %, 6 %, and 25 % by mass), each containing approximately 10 mL of solution.</p> <table border="0"> <thead> <tr> <th>Nominal concentration level</th> <th>certificed concentration (% by mass)</th> </tr> </thead> <tbody> <tr> <td>2 %.....</td> <td>1.554 ± 0.016</td> </tr> <tr> <td>6 %.....</td> <td>6.040 ± 0.043</td> </tr> <tr> <td>25 %.....</td> <td>25.21 ± 0.22</td> </tr> </tbody> </table>	Nominal concentration level	certificed concentration (% by mass)	2 %.....	1.554 ± 0.016	6 %.....	6.040 ± 0.043	25 %.....	25.21 ± 0.22	unit (6)
Nominal concentration level	certificed concentration (% by mass)									
2 %.....	1.554 ± 0.016									
6 %.....	6.040 ± 0.043									
25 %.....	25.21 ± 0.22									

Alcohol congeners in water

<p>Aqueous congener alcohol standards (Medidrug® BGS W)</p> <p>Aqueous standard of different congener alcohols in three significant concentration levels for calibration of congener alcohols determinations. The concentration values have been determined by independent laboratories of forensic medicine.</p>																						
ME 90311	<p>Aqueous congener alcohols standard level 1 (low) (Medidrug® BGS W)</p> <p>Aqueous standard of different congener alcohols for calibration of congener alcohols determinations. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="0"> <tbody> <tr> <td>Acetone.....</td> <td>2.5 mg/L</td> <td>Isobutanol.....</td> <td>0.5 mg/L</td> </tr> <tr> <td>Methanol.....</td> <td>4 mg/L</td> <td>2-Methyl-1-butanol.....</td> <td>0.5 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol).....</td> <td>0.5 mg/L</td> <td>3-Methyl-1-butanol.....</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>0.5 mg/L</td> <td>1-Propanol (n-Propyl alcohol).....</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone).....</td> <td>0.5 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> </tbody> </table>	Acetone.....	2.5 mg/L	Isobutanol.....	0.5 mg/L	Methanol.....	4 mg/L	2-Methyl-1-butanol.....	0.5 mg/L	1-Butanol (n-Butyl alcohol).....	0.5 mg/L	3-Methyl-1-butanol.....	0.5 mg/L	2-Butanol (sec.-Butyl alcohol).....	0.5 mg/L	1-Propanol (n-Propyl alcohol).....	0.5 mg/L	2-Butanon (Methyl ethyl ketone).....	0.5 mg/L	Ethanol.....	1.5 g/L	10 x 1.2 mL
Acetone.....	2.5 mg/L	Isobutanol.....	0.5 mg/L																			
Methanol.....	4 mg/L	2-Methyl-1-butanol.....	0.5 mg/L																			
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2-Butanol (sec.-Butyl alcohol).....	0.5 mg/L	1-Propanol (n-Propyl alcohol).....	0.5 mg/L																			
2-Butanon (Methyl ethyl ketone).....	0.5 mg/L	Ethanol.....	1.5 g/L																			
ME 90321	<p>Aqueous congener alcohols standard, level 2 (medium) (Medidrug® BGS W)</p> <p>Aqueous standard of different congener alcohols for calibration of congener alcohols determinations. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="0"> <tbody> <tr> <td>Acetone.....</td> <td>5.0 mg/L</td> <td>Isobutanol.....</td> <td>1.00 mg/L</td> </tr> <tr> <td>Methanol.....</td> <td>8.0 mg/L</td> <td>2-Methyl-1-butanol.....</td> <td>1.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol).....</td> <td>1.0 mg/L</td> <td>3-Methyl-1-butanol.....</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>1.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol).....</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone).....</td> <td>1.0 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> </tbody> </table>	Acetone.....	5.0 mg/L	Isobutanol.....	1.00 mg/L	Methanol.....	8.0 mg/L	2-Methyl-1-butanol.....	1.0 mg/L	1-Butanol (n-Butyl alcohol).....	1.0 mg/L	3-Methyl-1-butanol.....	1.0 mg/L	2-Butanol (sec.-Butyl alcohol).....	1.0 mg/L	1-Propanol (n-Propyl alcohol).....	1.0 mg/L	2-Butanon (Methyl ethyl ketone).....	1.0 mg/L	Ethanol.....	1.5 g/L	10 x 1.2 mL
Acetone.....	5.0 mg/L	Isobutanol.....	1.00 mg/L																			
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1-Butanol (n-Butyl alcohol).....	1.0 mg/L	3-Methyl-1-butanol.....	1.0 mg/L																			
2-Butanol (sec.-Butyl alcohol).....	1.0 mg/L	1-Propanol (n-Propyl alcohol).....	1.0 mg/L																			
2-Butanon (Methyl ethyl ketone).....	1.0 mg/L	Ethanol.....	1.5 g/L																			
ME 90331	<p>Aqueous congener alcohols standard, level 3 (high) (Medidrug® BGS W)</p> <p>Aqueous standard of different congener alcohols for calibration of congener alcohols determinations. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="0"> <tbody> <tr> <td>Acetone.....</td> <td>10.0 mg/L</td> <td>Isobutanol.....</td> <td>2.0 mg/L</td> </tr> <tr> <td>Methanol.....</td> <td>16.0 mg/L</td> <td>2-Methyl-1-butanol.....</td> <td>2.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol).....</td> <td>2.0 mg/L</td> <td>3-Methyl-1-butanol.....</td> <td>2.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>2.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol).....</td> <td>2.0 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone).....</td> <td>2.0 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> </tbody> </table>	Acetone.....	10.0 mg/L	Isobutanol.....	2.0 mg/L	Methanol.....	16.0 mg/L	2-Methyl-1-butanol.....	2.0 mg/L	1-Butanol (n-Butyl alcohol).....	2.0 mg/L	3-Methyl-1-butanol.....	2.0 mg/L	2-Butanol (sec.-Butyl alcohol).....	2.0 mg/L	1-Propanol (n-Propyl alcohol).....	2.0 mg/L	2-Butanon (Methyl ethyl ketone).....	2.0 mg/L	Ethanol.....	1.5 g/L	10 x 1.2 mL
Acetone.....	10.0 mg/L	Isobutanol.....	2.0 mg/L																			
Methanol.....	16.0 mg/L	2-Methyl-1-butanol.....	2.0 mg/L																			
1-Butanol (n-Butyl alcohol).....	2.0 mg/L	3-Methyl-1-butanol.....	2.0 mg/L																			
2-Butanol (sec.-Butyl alcohol).....	2.0 mg/L	1-Propanol (n-Propyl alcohol).....	2.0 mg/L																			
2-Butanon (Methyl ethyl ketone).....	2.0 mg/L	Ethanol.....	1.5 g/L																			

Ethanol and alcohol congeners in serum

Ethanol in serum

Ethanol in human serum, certified reference controls (Medidrug® Ethanol S-plus)

The reference values range given in this insert were established by independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh and released by the supervisor of the interlaboratory tests of the GTFCh.

Code	Product	Unit
New ME 11020	Ethanol in human serum with reference values (0.2 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
New ME 11022	Ethanol in human serum with reference values (0.2 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
New ME 11023	Ethanol in human serum with reference values (0.2 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11030	Ethanol in human serum with reference values (0.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11032	Ethanol in human serum with reference values (0.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11033	Ethanol in human serum with reference values (0.3 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11050	Ethanol in human serum with reference values (0.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11052	Ethanol in human serum with reference values (0.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11053	Ethanol in human serum with reference values (0.5 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11080	Ethanol in human serum with reference values (0.8 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11082	Ethanol in human serum with reference values (0.8 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11083	Ethanol in human serum with reference values (0.8 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11100	Ethanol in human serum with reference values (1.0 g/L) (Medidrug Ethanol S)	10 x 1.1 mL
ME 11102	Ethanol in human serum with reference values (1.0 g/L) (Medidrug Ethanol S)	10 x 1.5 mL
ME 11103	Ethanol in human serum with reference values (1.0 g/L) (Medidrug Ethanol S)	10 x 3 mL
ME 11110	Ethanol in human serum with reference values (1.1 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11112	Ethanol in human serum with reference values (1.1 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11113	Ethanol in human serum with reference values (1.1 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11130	Ethanol in human serum with reference values (1.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11132	Ethanol in human serum with reference values (1.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11133	Ethanol in human serum with reference values (1.3 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11150	Ethanol in human serum with reference values (1.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11152	Ethanol in human serum with reference values (1.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11153	Ethanol in human serum with reference values (1.5 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11200	Ethanol in human serum with reference values (2.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11202	Ethanol in human serum with reference values (2.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL

Ethanol and alcohol congeners in serum

Code	Product	Unit
ME 11203	Ethanol in human serum with reference values (2.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11300	Ethanol in human serum with reference values (3.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11302	Ethanol in human serum with reference values (3.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11303	Ethanol in human serum with reference values (3.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11400	Ethanol in human serum with reference values (4.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11402	Ethanol in human serum with reference values (4.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11403	Ethanol in human serum with reference values (4.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
	Ethanol in human serum, precision control (Medidrug® Ethanol S-X) Human serum control in three significant concentration levels for precision control of blood alcohol determinations from serum.	
ME 12012	Ethanol in human serum, precision control, X1 (0.5 - 0.6 g/L) (Medidrug Ethanol S-X)	10 x 1.5 mL
ME 12013	Ethanol in human serum, precision control, X1 (0.5 - 0.6 g/L) (Medidrug Ethanol S-X)	10 x 3 mL
ME 12022	Ethanol in human serum, precision control, X2 (0.8 - 1.1 g/L) (Medidrug Ethanol S-X)	10 x 1.5 mL
ME 12023	Ethanol in human serum, precision control, X2 (0.8 - 1.1 g/L) (Medidrug Ethanol S-X)	10 x 3 mL
ME 12032	Ethanol in human serum, precision control, X3 (2.0 - 3.0 g/L) (Medidrug Ethanol S-X)	10 x 1.5 mL
ME 12033	Ethanol in human serum, precision control, X3 (2.0 - 3.0 g/L) (Medidrug Ethanol S-X)	10 x 3 mL

Alcohol congeners in serum

ME 90111	<p>Congener alcohols in human serum, level 1 (low) (Medidrug® BGS S)</p> <p>Human serum control of different congener alcohols for quality control of congener alcohols determinations from serum. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Acetone..... 2.5 mg/L</td> <td style="width: 50%;">Isobutanol (Isobutyl alcohol)..... 0.5 mg/L</td> </tr> <tr> <td>Methanol 4.0 mg/L</td> <td>2-Methyl-1-butanol 0.5 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)..... 0.5 mg/L</td> <td>3-Methyl-1-butanol (Isopentyl alcohol) 0.5 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol) 0.5 mg/L</td> <td>1-Propanol (n-Propyl alcohol) 0.5 mg/L</td> </tr> <tr> <td>2-Butanon(Methyl ethyl ketone) 0.5 mg/L</td> <td>Ethanol 1.5 g/L</td> </tr> </table>	Acetone..... 2.5 mg/L	Isobutanol (Isobutyl alcohol)..... 0.5 mg/L	Methanol 4.0 mg/L	2-Methyl-1-butanol 0.5 mg/L	1-Butanol (n-Butyl alcohol)..... 0.5 mg/L	3-Methyl-1-butanol (Isopentyl alcohol) 0.5 mg/L	2-Butanol (sec.-Butyl alcohol) 0.5 mg/L	1-Propanol (n-Propyl alcohol) 0.5 mg/L	2-Butanon(Methyl ethyl ketone) 0.5 mg/L	Ethanol 1.5 g/L	10 x 1.2 mL
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2-Butanon(Methyl ethyl ketone) 0.5 mg/L	Ethanol 1.5 g/L											
ME 90121	<p>Congener alcohols in human serum, level 2 (medium) (Medidrug® BGS S)</p> <p>Human serum control of different congener alcohols for quality control of congener alcohols determinations from serum. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Acetone..... 5.0 mg/L</td> <td style="width: 50%;">Isobutanol (Isobutyl alcohol)..... 1.0 mg/L</td> </tr> <tr> <td>Methanol 8.0 mg/L</td> <td>2-Methyl-1-butanol 1.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)..... 1.0 mg/L</td> <td>3-Methyl-1-butanol (Isopentyl alcohol) 1.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol) 1.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol) 1.0 mg/L</td> </tr> <tr> <td>2-Butanon(Methyl ethyl ketone) 1.0 mg/L</td> <td>Ethanol 1.5 g/L</td> </tr> </table>	Acetone..... 5.0 mg/L	Isobutanol (Isobutyl alcohol)..... 1.0 mg/L	Methanol 8.0 mg/L	2-Methyl-1-butanol 1.0 mg/L	1-Butanol (n-Butyl alcohol)..... 1.0 mg/L	3-Methyl-1-butanol (Isopentyl alcohol) 1.0 mg/L	2-Butanol (sec.-Butyl alcohol) 1.0 mg/L	1-Propanol (n-Propyl alcohol) 1.0 mg/L	2-Butanon(Methyl ethyl ketone) 1.0 mg/L	Ethanol 1.5 g/L	10 x 1.2 mL
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ME 90131	<p>Congener alcohols in human serum, level 3 (high) (Medidrug® BGS S)</p> <p>Human serum control of different congener alcohols for quality control of congener alcohols determinations from serum. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Acetone..... 10.0 mg/L</td> <td style="width: 50%;">Isobutanol (Isobutyl alcohol)..... 2.0 mg/L</td> </tr> <tr> <td>Methanol 16.0 mg/L</td> <td>2-Methyl-1-butanol 2.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)..... 2.0 mg/L</td> <td>3-Methyl-1-butanol (Isopentyl alcohol) 2.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.- Butyl alcohol) 2.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol) 2.0 mg/L</td> </tr> <tr> <td>2-Butanon(Methyl ethyl ketone) 2.0 mg/L</td> <td>Ethanol 1.5 g/L</td> </tr> </table>	Acetone..... 10.0 mg/L	Isobutanol (Isobutyl alcohol)..... 2.0 mg/L	Methanol 16.0 mg/L	2-Methyl-1-butanol 2.0 mg/L	1-Butanol (n-Butyl alcohol)..... 2.0 mg/L	3-Methyl-1-butanol (Isopentyl alcohol) 2.0 mg/L	2-Butanol (sec.- Butyl alcohol) 2.0 mg/L	1-Propanol (n-Propyl alcohol) 2.0 mg/L	2-Butanon(Methyl ethyl ketone) 2.0 mg/L	Ethanol 1.5 g/L	10 x 1.2 mL
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ME 90705	<p>Congener alcohols, human serum control with certified values (GTFCh) (Medidrug® BGS 2/05 S-plus)</p> <p>Analytes</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">certified value</td> </tr> <tr> <td>Methanol 9.47 mg/L</td> <td>Isobutanol (2-Methyl-1-propanol) 0.75 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)..... 0.46 mg/L</td> <td>Methylbutanol (total)..... 0.60 mg/L</td> </tr> <tr> <td>2-Butanol (sec.- Butyl alcohol) 0.49 mg/L</td> <td>1-Propanol (n-Propyl alcohol)..... 0.79 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone) 0.66 mg/L</td> <td>Ethanol 1.19 g/L</td> </tr> </table>		certified value	Methanol 9.47 mg/L	Isobutanol (2-Methyl-1-propanol) 0.75 mg/L	1-Butanol (n-Butyl alcohol)..... 0.46 mg/L	Methylbutanol (total)..... 0.60 mg/L	2-Butanol (sec.- Butyl alcohol) 0.49 mg/L	1-Propanol (n-Propyl alcohol)..... 0.79 mg/L	2-Butanon (Methyl ethyl ketone) 0.66 mg/L	Ethanol 1.19 g/L	10 x 1.2 mL
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2-Butanon (Methyl ethyl ketone) 0.66 mg/L	Ethanol 1.19 g/L											

Ethanol and alcohol congeners in blood

Ethanol in blood

Ethanol in human whole blood (Medidrug® Ethanol VB-plus)

Human whole blood control in three different concentration levels for quality control of ethanol determinations from whole blood. The concentrations have been determined by independent laboratories of forensic medicine

Code	Product	Unit
ME 61050	Ethanol in human whole blood, 0.5 g/L (Medidrug Ethanol VB-plus)	10 x 1.1 mL
ME 61052	Ethanol in human whole blood, 0.5 g/L (Medidrug Ethanol VB-plus)	10 x 1.5 mL
ME 61053	Ethanol in human whole blood, 0.5 g/L (Medidrug Ethanol VB-plus)	10 x 3 mL
ME 61080	Ethanol in human whole blood, 0.8 g/L (Medidrug Ethanol VB-plus)	10 x 1.1 mL
ME 61082	Ethanol in human whole blood, 0.8 g/L (Medidrug Ethanol VB-plus)	10 x 1.5 mL
ME 61083	Ethanol in human whole blood, 0.8 g/L (Medidrug Ethanol VB-plus)	10 x 3 mL
ME 61110	Ethanol in human whole blood, 1.1 g/L (Medidrug Ethanol VB-plus)	10 x 1.1 mL
ME 61112	Ethanol in human whole blood, 1.1 g/L (Medidrug Ethanol VB-plus)	10 x 1.5 mL
ME 61113	Ethanol in human whole blood, 1.1 g/L (Medidrug Ethanol VB-plus)	10 x 3 mL
ME 90511	Congener alcohols in human whole blood, level 1 (low) (Medidrug® BGS VB) Human whole blood control of different congener alcohols for quality control of congener alcohols determinations from whole blood. The concentration values have been determined by independent laboratories of forensic medicine. Analytes Acetone..... 2.5 mg/L Isobutanol (Isobutyl alcohol)..... 0.5 mg/L Methanol 4.0 mg/L 2-Methyl-1-butanol 0.5 mg/L 1-Butanol (n-Butyl alcohol)..... 0.5 mg/L 3-Methyl-1-butanol (Isopentyl alcohol) 0.5 mg/L 2-Butanol (sec.-Butyl alcohol) 0.5 mg/L 1-Propanol (n-Propyl alcohol)..... 0.5 mg/L 2-Butanon(Methyl ethyl ketone) 0.5 mg/L Ethanol 1.5 g/L	10 x 1.2 mL
ME 90521	Congener alcohols in human whole blood, level 2 (medium) (Medidrug® BGS VB) Human whole blood control of different congener alcohols for quality control of congener alcohols determinations from whole blood. The concentration values have been determined by independent laboratories of forensic medicine. Analytes Acetone..... 5.0 mg/L Isobutanol (Isobutyl alcohol)..... 1.0 mg/L Methanol 8.0 mg/L 2-Methyl-1-butanol 1.0 mg/L 1-Butanol (n-Butyl alcohol)..... 1.0 mg/L 3-Methyl-1-butanol (Isopentyl alcohol) 1.0 mg/L 2-Butanol (sec.-Butyl alcohol) 1.0 mg/L 1-Propanol (n-Propyl alcohol)..... 1.0 mg/L 2-Butanon(Methyl ethyl ketone) 1.0 mg/L Ethanol 1.5 g/L	10 x 1.2 mL
ME 90531	Congener alcohols in human whole blood, level 3 (high) (Medidrug® BGS VB) Human whole blood control of different congener alcohols for quality control of congener alcohols determinations from whole blood. The concentration values have been determined by independent laboratories of forensic medicine. Analytes Acetone..... 10.0 mg/L Isobutanol (Isobutyl alcohol)..... 2.0 mg/L Methanol 16.0 mg/L 2-Methyl-1-butanol 2.0 mg/L 1-Butanol (n-Butyl alcohol)..... 2.0 mg/L 3-Methyl-1-butanol (Isopentyl alcohol) 2.0 mg/L 2-Butanol (sec.-Butyl alcohol) 2.0 mg/L 1-Propanol (n-Propyl alcohol)..... 2.0 mg/L 2-Butanon(Methyl ethyl ketone) 2.0 mg/L Ethanol 1.5 g/L	10 x 1.2 mL

Drugs of abuse and therapeutic drugs in serum

Amiodarone

Code	Product	Unit
ME 44201	Medidrug Amiodarone 2/04-A S-plus (low) Amiodarone in human serum, certified reference control (Medidrug® ADM Series S-plus). Lyophilised human serum control in two different concentrations with values certified by proficiency testing for accuracy control of amiodarone determinations from serum. Each control lot has been produced especially for the external quality controls organised by the GTFCh. Their nominal values have been determined by an interlaboratory test. Analytes concentration range µg/L Amiodarone 0.2 - 4.0 Desethylamiodarone 0.1 - 2.0	10 x 2.5 mL
ME 44202	Medidrug Amiodarone 2/04-B S-plus (high) Amiodarone in human serum, certified reference control (Medidrug® ADM Series S-plus). Lyophilised human serum control in two different concentrations with values certified by proficiency testing for accuracy control of amiodarone determinations from serum. Each control lot has been produced especially for the external quality controls organised by the GTFCh. Their nominal values have been determined by an interlaboratory test. Analytes concentration range µg/L Amiodarone 0.2 - 4.0 Desethylamiodarone 0.1 - 2.0	10 x 2.5 mL

Anticonvulsant drugs

NIST-1599	Anticonvulsant drug level assay standard (4 x 5 mL) This standard is certified for concentrations of two anticonvulsant drugs (valproic acid and carbamazepine) in processed human serum base. It is intended for use in the calibration and standardisation of procedures employed in clinical laboratories for the determination of these drugs in serum. It can also be used for critical evaluation of working or secondary reference solutions prepared either in-house or supplied commercially. This material is supplied as a set of four different freeze-dried preparations, three different concentrations and a blank. low medium high Valproic acid 14.5 69.1 142.5 µg/mL Carbamazepine 2.8 8.8 19.4 µg/mL	set
NIST-900	Antiepilepsy drug (4) level (Antiepilepsy drug level assay standard) (4 x 5 mL) This standard is certified for concentrations of four antiepilepsy drugs (phenytoin, ethosuximide, phenobarbital and primidone) in a processed human serum base. It is intended for use in the calibration and standardisation of procedures employed in clinical laboratories for the determination of these drugs in serum, and for the critical evaluation of working or secondary reference solutions prepared either in-house or supplied commercially. One set contains four bottles with freeze-dried human serum, including a blank and three different concentration levels. toxic therapeutic sub-therapeutic µg/mL µg/mL µg/mL Phenytonin 60.7 16.7 4.2 Ethosuximide 174.7 75.9 11.8 Phenobarbital 103.6 21.6 5.3 Primidone 18.6 8.1 3.6	set

Benzodiazepines

New ME 41217	Benzodiazepines in human serum, control with certified values (Medidrug BZF 1/06 A S-plus) Lyophilised control serum prepared from human serum for accuracy and precision monitoring of benzodiazepines determinations from human serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) Analytes µg/L Bromazepam 110.70 Diazepam 462.50 lonazepam 71.30 Nordiazepam 204.50	10 x 2.5 mL
New ME 41218	Benzodiazepines in human serum, control with certified values (Medidrug BZF 1/06 B S-plus) Lyophilised control serum prepared from human serum for accuracy and precision monitoring of benzodiazepines determinations from human serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) Analytes µg/L 7-Aminoflunitrazepam 23.60 Midazolam 183.00 Oxazepam 419.80 Flunitrazepam 36.00 Norflunitrazepam 52.20	10 x 2.5 mL

Drugs of abuse and therapeutic drugs in serum

Code	Product	Unit
Meprobamate		
ME 43301	<p>Meprobamate in human serum, level I, (lyo.) (Medidrug MEP SF4/03 S-plus)</p> <p>çHuman whole blood control with certified values by proficiency testing for accuracy control of meprobamate determination from whole blood. Each control lot has been produced especially for the proficiency testings organised by the SFTA (Société Française de Toxicologie Analytique). The nominal values have been determined by an interlaboratory test.</p> <p>Analyte level I Meprobamate..... 20.5 µg/mL</p>	2 x 2.5 mL
ME 43302	<p>Meprobamate in human serum, level II, (lyo.) (Medidrug MEP SF4/03 S-plus),</p> <p>Human whole blood control with certified values by proficiency testing for accuracy control of meprobamate determination from whole blood. Each control lot has been produced especially for the proficiency testings organised by the SFTA (Société Française de Toxicologie Analytique). The nominal values have been determined by an interlaboratory test.</p> <p>Analyte level II Meprobamate..... 121µg/mL</p>	2 x 2.5 mL
Opiates		
ME 40801	<p>Opiates in human serum, level 1 (low) (Medidrug Opiate S)</p> <p>Lyophilised human serum control in two different concentrations for accuracy or precision control of opiates determinations in serum. The mean values have been controlled by independent reference laboratories of forensic medicine.</p> <p>Analytes µg/L Codeine 50 Morphine-3-glucuronide 100 orphine 20 Morphine-6-glucuronide 50</p>	10 x 2.5 mL
ME 40802	<p>Opiates in human serum, level 2 (high) (Medidrug Opiate S)</p> <p>Lyophilised human serum control in two different concentrations for accuracy or precision control of opiates determinations in serum. The mean values have been controlled by independent reference laboratories of forensic medicine.</p> <p>Analytes µg/L Codeine 200 Morphine-3-glucuronide 300 Morphine 100 Morphine-6-glucuronide 100</p>	10 x 2.5 mL
Replacement drugs		
New ME 44502	<p>Replacement drugs in human serum, certified reference control (Medidrug STM 1/05 A S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of replacement drug determinations in serum. The detected values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes detected values µg/L Buprenorphine 3.0 EDDP 22.90 Norbuprenorphine 6.20 Methadone 107.50</p>	2 x 2.5 mL
New ME 44503	<p>Replacement drugs in human serum, certified reference control (Medidrug STM 1/06 A S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of replacement drug determinations in serum. The detected values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes detected values µg/L Buprenorphine 2.10 EDDP 126.20 Norbuprenorphine 25.60 Methadone 64.40</p>	2 x 2.5 mL
Therapeutic drug monitoring		
ME 41401	<p>Therapeutic drug monitoring, human serum control, with certified values (Medidrug TDMA 3/02-A S-plus)</p> <p>Lyophilised human serum control with certified values for accuracy and precision control for therapeutic drug monitoring in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L Clozapine 64.90 N-Desmethylclozapine 160.30 Clozapine-N-Oxide 77.10 Olanzapine 15.10</p>	10 x 2.5 mL

Drugs of abuse and therapeutic drugs in serum

Code	Product	Unit
ME 41402	Therapeutic drug monitoring, human serum control, with certified values (Medidrug TDMA 3/02-B S-plus) Lyophilised human serum control with certified values for accuracy and precision control for therapeutic drug monitoring in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh Analytes $\mu\text{g/L}$ Clozapine 740.10 N-Desmethylclozapine..... 429.00 Clozapine-N-Oxide..... 211.00 Olanzapine 72.80	10 x 2.5 mL
ME 41403	Therapeutic drug monitoring, human serum control, with certified values GTFCh (Medidrug TDMA 1/03-A S-plus) Lyophilised human serum control with certified values for accuracy and precision control for therapeutic drug monitoring in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh Analytes $\mu\text{g/L}$ Clozapine 314.80 Olanzapine 13.60 non-certified value Clozapine-N-Oxide..... (91.20) Perazine 75.90 N-Desmethylclozapine 230.10 Quetiapine 56.00	10 x 2.5 mL
ME 41404	Therapeutic drug monitoring, human serum control, with certified values GTFCh (Medidrug TDMA 1/03-B S-plus) Lyophilised human serum control with certified values for accuracy and precision control for therapeutic drug monitoring in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh Analytes $\mu\text{g/L}$ Clozapine 601.30 Olanzapine 55.00 non-certified value Clozapine-N-Oxide..... (185.00) Perazine 429.90 N-Desmethylclozapine 520.10 Quetiapine 273.20	10 x 2.5 mL
New ME 41405	Therapeutic drug monitoring, human serum control, with certified values GTFCh (Medidrug TDMA 1/04-A S-plus) Lyophilised human serum control with certified values for accuracy and precision control for therapeutic drug monitoring in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh Analytes $\mu\text{g/L}$ Clozapine 274.70 Olanzapine 21.10 Quetiapine..... 58.30 N-Desmethylclozapine 168.10 Perazine 92.80	10 x 2.5 mL
ME 41406	Therapeutic drug monitoring, human serum control, with certified values GTFCh (Medidrug TDMA 1/04-B S-plus) Lyophilised human serum control with certified values for accuracy and precision control for therapeutic drug monitoring in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh Analytes $\mu\text{g/L}$ Clozapine 793.50 Olanzapine 50.00 Quetiapine..... 326.20 N-Desmethylclozapine 370.70 Perazine 273.90	10 x 2.5 mL
Tricyclic antidepressants		
New ME 41901	Tricyclic antidepressants in human serum, level 1 (low) (Medidrug TCA S) Lyophilised human serum control with six tricyclic antidepressants in three different concentrations for calibration and quality monitoring of tricyclic antidepressants determinations in serum. The concentration values have been determined by independent laboratories of forensic medicine. Analytes $\mu\text{g/L}$ Amitriptyline 100 Doxepine 100 Nordoxepine..... 100 esipramine 60 Imipramine..... 50 Nortriptyline..... 100	10 x 2.5 mL
New ME 41902	Tricyclic antidepressants in human serum, level 2 (medium) (Medidrug TCA S) Lyophilised human serum control with six tricyclic antidepressants in three different concentrations for calibration and quality monitoring of tricyclic antidepressants determinations in serum. The concentration values have been determined by independent laboratories of forensic medicine. Analytes $\mu\text{g/L}$ Amitriptyline 200 Doxepine 250 Nordoxepine..... 250 Desipramine..... 120 Imipramine..... 150 Nortriptyline 250	10 x 2.5 mL
ME 41903	Tricyclic antidepressants in human serum, level 3 (high) (Medidrug TCA S) Lyophilised human serum control with six tricyclic antidepressants in three different concentrations for calibration and quality monitoring of tricyclic antidepressants determinations in serum. The concentration values have been determined by independent laboratories of forensic medicine. Analytes $\mu\text{g/L}$ Amitriptyline 425.80 Doxepine 373.27 Nordoxepine..... 372.07 Desipramine..... 245.53 Imipramine..... 446.17 Nortriptyline 441.67	10 x 2.5 mL

Drugs of abuse and therapeutic drugs in serum

Code	Product	Unit								
ME 42913	<p>Tricyclic antidepressants in serum, certified reference control (Medidrug TCA 1/05-C S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of tricyclic antidepressant determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Clomipramine.....</td> <td>60.2</td> <td>Imipramine.....</td> <td>107.6</td> </tr> <tr> <td>Desipramine.....</td> <td>91.8</td> <td>Norclomipramine</td> <td>83.0</td> </tr> </table>	Clomipramine.....	60.2	Imipramine.....	107.6	Desipramine.....	91.8	Norclomipramine	83.0	10 x 2.5 mL
Clomipramine.....	60.2	Imipramine.....	107.6							
Desipramine.....	91.8	Norclomipramine	83.0							
ME 42914	<p>Tricyclic antidepressants in serum, certified reference control (Medidrug TCA 1/05-D S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of tricyclic antidepressant determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Clomipramine.....</td> <td>182.2</td> <td>Imipramine.....</td> <td>202.0</td> </tr> <tr> <td>Desipramine</td> <td>204.5</td> <td>Norclomipramine</td> <td>189.4</td> </tr> </table>	Clomipramine.....	182.2	Imipramine.....	202.0	Desipramine	204.5	Norclomipramine	189.4	10 x 2.5 mL
Clomipramine.....	182.2	Imipramine.....	202.0							
Desipramine	204.5	Norclomipramine	189.4							
New ME 42915	<p>Tricyclic antidepressants in serum, certified reference control (Medidrug TCA 1/06-A S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of tricyclic antidepressant determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Amitriptyline</td> <td>90.40</td> <td>Nordoxepine</td> <td>86.90</td> </tr> <tr> <td>Doxepine.....</td> <td>129.40</td> <td>Nortriptyline</td> <td>77.60</td> </tr> </table>	Amitriptyline	90.40	Nordoxepine	86.90	Doxepine.....	129.40	Nortriptyline	77.60	10 x 2.5 mL
Amitriptyline	90.40	Nordoxepine	86.90							
Doxepine.....	129.40	Nortriptyline	77.60							
New ME 42916	<p>Tricyclic antidepressants in serum, certified reference control (Medidrug TCA 1/06-B S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of tricyclic antidepressant determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Amitriptyline</td> <td>354.30</td> <td>Nordoxepine</td> <td>306.90</td> </tr> <tr> <td>Doxepine.....</td> <td>368.80</td> <td>Nortriptyline</td> <td>213.60</td> </tr> </table>	Amitriptyline	354.30	Nordoxepine	306.90	Doxepine.....	368.80	Nortriptyline	213.60	10 x 2.5 mL
Amitriptyline	354.30	Nordoxepine	306.90							
Doxepine.....	368.80	Nortriptyline	213.60							
New ME 42917	<p>Tricyclic antidepressants in serum, certified reference control (Medidrug TCA 1/06-C S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of tricyclic antidepressant determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Clomipramine.....</td> <td>63.10</td> <td>Imipramine.....</td> <td>149.50</td> </tr> <tr> <td>Desipramine.....</td> <td>136.00</td> <td>Norclomipramine</td> <td>77.70</td> </tr> </table>	Clomipramine.....	63.10	Imipramine.....	149.50	Desipramine.....	136.00	Norclomipramine	77.70	10 x 2.5 mL
Clomipramine.....	63.10	Imipramine.....	149.50							
Desipramine.....	136.00	Norclomipramine	77.70							
New ME 42918	<p>Tricyclic antidepressants in serum, certified reference control (Medidrug TCA 1/06-D S-plus)</p> <p>Lyophilised serum control prepared from human serum for accuracy and precision monitoring of tricyclic antidepressant determinations in serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Clomipramine.....</td> <td>136.70</td> <td>Imipramine.....</td> <td>357.80</td> </tr> <tr> <td>Desipramine.....</td> <td>412.80</td> <td>Norclomipramine</td> <td>202.90</td> </tr> </table>	Clomipramine.....	136.70	Imipramine.....	357.80	Desipramine.....	412.80	Norclomipramine	202.90	10 x 2.5 mL
Clomipramine.....	136.70	Imipramine.....	357.80							
Desipramine.....	412.80	Norclomipramine	202.90							

Various drugs of abuse

ME 41639	<p>Drugs of abuse in human serum, certified reference control (Medidrug BTMF 1/03-C S-plus)</p> <p>Lyophilised serum control prepared from human serum with constituents of human origin and narcotics. With certified reference values (GTFCh), for accuracy and precision monitoring of narcotic determinations from serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh.</p> <p>Analytes µg/L</p> <table style="width: 100%; border: none;"> <tr> <td>Amphetamine.....</td> <td>25.60</td> <td>MDE (MDEA).....</td> <td>27.80</td> <td>Morphine.....</td> <td>11.10</td> </tr> <tr> <td>Benzoyllecgonine.....</td> <td>67.80</td> <td>MDMA (Ecstasy).....</td> <td>27.50</td> <td>Δ⁹THC.....</td> <td>0.90</td> </tr> <tr> <td>Ecgoninmethylester</td> <td>26.60</td> <td>Methamphetamine.....</td> <td>26.40</td> <td>THC-Δ⁸COOH</td> <td>24.20</td> </tr> </table>	Amphetamine.....	25.60	MDE (MDEA).....	27.80	Morphine.....	11.10	Benzoyllecgonine.....	67.80	MDMA (Ecstasy).....	27.50	Δ ⁹ THC.....	0.90	Ecgoninmethylester	26.60	Methamphetamine.....	26.40	THC-Δ ⁸ COOH	24.20	10 x 2.5 mL
Amphetamine.....	25.60	MDE (MDEA).....	27.80	Morphine.....	11.10															
Benzoyllecgonine.....	67.80	MDMA (Ecstasy).....	27.50	Δ ⁹ THC.....	0.90															
Ecgoninmethylester	26.60	Methamphetamine.....	26.40	THC-Δ ⁸ COOH	24.20															

Drugs of abuse and therapeutic drugs in serum

Code	Product	Unit															
New ME 41643	<p>Drugs of abuse in human serum, certified reference control Medidrug BTMF 2/05-A S-plus</p> <p>Lyophilised serum control prepared from human serum with constituents of human origin and narcotics. With certified reference values (GTFCh), for accuracy and precision monitoring of narcotic determinations from serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh.</p> <p>Analytes µg/L</p> <table> <tr> <td>Amphetamine..... 24.10</td> <td>Ecgoninmethylester.....34.40</td> <td>Methamphetamine..... 62.90</td> </tr> <tr> <td>Benzoyllecgonine..... 49.10</td> <td>MBDB.....61.60</td> <td>Morphine..... 13.20</td> </tr> <tr> <td>Cocaine..... 9.40</td> <td>MDA.....36.60</td> <td>11-Hydroxy-Δ⁹THC..... 4.80</td> </tr> <tr> <td>Codeine..... 54.20</td> <td>MDE (MDEA).....83.20</td> <td>Δ⁹THC..... 6.50</td> </tr> <tr> <td>Dihydrocodeine..... 127.50</td> <td>MDMA (Ecstasy).....80.50</td> <td>THC-Δ⁹COOH..... 62.50</td> </tr> </table>	Amphetamine..... 24.10	Ecgoninmethylester.....34.40	Methamphetamine..... 62.90	Benzoyllecgonine..... 49.10	MBDB.....61.60	Morphine..... 13.20	Cocaine..... 9.40	MDA.....36.60	11-Hydroxy-Δ ⁹ THC..... 4.80	Codeine..... 54.20	MDE (MDEA).....83.20	Δ ⁹ THC..... 6.50	Dihydrocodeine..... 127.50	MDMA (Ecstasy).....80.50	THC-Δ ⁹ COOH..... 62.50	10 x 2.5 mL
Amphetamine..... 24.10	Ecgoninmethylester.....34.40	Methamphetamine..... 62.90															
Benzoyllecgonine..... 49.10	MBDB.....61.60	Morphine..... 13.20															
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Codeine..... 54.20	MDE (MDEA).....83.20	Δ ⁹ THC..... 6.50															
Dihydrocodeine..... 127.50	MDMA (Ecstasy).....80.50	THC-Δ ⁹ COOH..... 62.50															
New ME 41644	<p>Drugs of abuse in bovine serum, certified reference control Medidrug BTMF 1/06-A RS-plus</p> <p>Lyophilised serum control prepared from bovine serum and constituents of drugs of abuse. The reference values range given in this insert were established by independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh and released by the supervisor of the interlaboratory tests of the GtFCh.</p> <p>Analytes µg/L</p> <table> <tr> <td>Amphetamine..... 94.4</td> <td>MBDB.....77.2</td> <td>Morphine..... 49.2</td> </tr> <tr> <td>Benzoyllecgonine..... 204.0</td> <td>MDA.....58.0</td> <td>11-Hydroxy-Δ⁹THC..... 2.7</td> </tr> <tr> <td>Cocaine..... 67.7</td> <td>MDE (MDEA).....69.8</td> <td>Δ⁹THC..... 2.0</td> </tr> <tr> <td>Codeine..... 119.7</td> <td>MDMA (Ecstasy).....102.8</td> <td>THC-Δ⁹COOH..... 26.1</td> </tr> <tr> <td>Ecgoninmethylester..... 40.1</td> <td>Methamphetamine.....85.3</td> <td></td> </tr> </table>	Amphetamine..... 94.4	MBDB.....77.2	Morphine..... 49.2	Benzoyllecgonine..... 204.0	MDA.....58.0	11-Hydroxy-Δ ⁹ THC..... 2.7	Cocaine..... 67.7	MDE (MDEA).....69.8	Δ ⁹ THC..... 2.0	Codeine..... 119.7	MDMA (Ecstasy).....102.8	THC-Δ ⁹ COOH..... 26.1	Ecgoninmethylester..... 40.1	Methamphetamine.....85.3		10 x 2.5mL
Amphetamine..... 94.4	MBDB.....77.2	Morphine..... 49.2															
Benzoyllecgonine..... 204.0	MDA.....58.0	11-Hydroxy-Δ ⁹ THC..... 2.7															
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Codeine..... 119.7	MDMA (Ecstasy).....102.8	THC-Δ ⁹ COOH..... 26.1															
Ecgoninmethylester..... 40.1	Methamphetamine.....85.3																
ME 43602	<p>Drugs of abuse in human serum, certified reference control (Medidrug BTM SF3/03-A S-plus)</p> <p>Lyophilised serum control prepared from human serum with constituents of human origin and drugs of abuse. With certified reference values (SFTA), for accuracy and precision monitoring of drugs of abuse determinations from serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the SFTA.</p> <p>Analytes µg/L</p> <table> <tr> <td>Amphetamine..... 7.5</td> <td>Morphine.....14.0</td> <td>Δ⁹THC..... 6.1</td> </tr> <tr> <td>Benzoyllecgonine..... 22.5</td> <td>11-Hydroxy-Δ⁹THC.....0.6</td> <td>THC-Δ⁹COOH..... 0.65</td> </tr> </table>	Amphetamine..... 7.5	Morphine.....14.0	Δ ⁹ THC..... 6.1	Benzoyllecgonine..... 22.5	11-Hydroxy-Δ ⁹ THC.....0.6	THC-Δ ⁹ COOH..... 0.65	10 x 2.5 mL									
Amphetamine..... 7.5	Morphine.....14.0	Δ ⁹ THC..... 6.1															
Benzoyllecgonine..... 22.5	11-Hydroxy-Δ ⁹ THC.....0.6	THC-Δ ⁹ COOH..... 0.65															
ME 43603	<p>Drugs of abuse in human serum, certified reference control (Medidrug BTM SF1/04 S-plus)</p> <p>Lyophilised serum control prepared from human serum with constituents of human origin and drugs of abuse. With certified reference values (SFTA), for accuracy and precision monitoring of drugs of abuse determinations from serum. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the SFTA.</p> <p>Analytes µg/L</p> <table> <tr> <td>Benzoyllecgonine..... 50.0</td> <td>Morphine.....31.5</td> <td>11-Hydroxy-Δ⁹THC..... 16.5</td> </tr> <tr> <td>Codeine..... 17.0</td> <td>MDMA (Ecstasy).....43</td> <td>Δ⁹THC..... 45.5</td> </tr> </table>	Benzoyllecgonine..... 50.0	Morphine.....31.5	11-Hydroxy-Δ ⁹ THC..... 16.5	Codeine..... 17.0	MDMA (Ecstasy).....43	Δ ⁹ THC..... 45.5	10 x 2.5 mL									
Benzoyllecgonine..... 50.0	Morphine.....31.5	11-Hydroxy-Δ ⁹ THC..... 16.5															
Codeine..... 17.0	MDMA (Ecstasy).....43	Δ ⁹ THC..... 45.5															

Drugs of abuse and therapeutic drugs in urine

Benzoyllecgonine

Code	Product	Unit								
NIST-1508a	Benzoyllecgonine (cocaine metabolite) in freeze-dried urine (4 x 10 mL) This standard is intended primarily for the determination of benzoyllecgonine (cocaine metabolite) in human urine. It consists of four bottles of freeze dried urine, one bottle each of three different levels of benzoyllecgonine plus one bottle of blank freeze dried urine.	set								
	<table border="0"> <tr> <td></td> <td style="text-align: center;">low</td> <td style="text-align: center;">medium</td> <td style="text-align: center;">high</td> </tr> <tr> <td></td> <td style="text-align: center;">ng/mL</td> <td style="text-align: center;">ng/mL</td> <td style="text-align: center;">ng/mL</td> </tr> </table>		low	medium	high		ng/mL	ng/mL	ng/mL	
	low	medium	high							
	ng/mL	ng/mL	ng/mL							
	Benzoyllecgonine.....	78.1 161 315 ng/mL								

Buprenorphines

Buprenorphine urine calibrators (human) (Medidrug® BUP U-cal)		
Liquid ready to use urine calibrators prepared from human urine in six levels for calibration of buprenorphine determinations. The assayed values have been determined by independent laboratories by LC/MS and HPLC-Tandem-MS.		
ME 40051	Buprenorphine in human urine cal 1 (1 ng/mL) (Medidrug BUP U-cal) Assayed value..... 1.03 ng/mL	2 x 2.5 mL
ME 40052	Buprenorphine in human urine cal 2 (5 ng/L) (Medidrug BUP U-cal) Assayed value..... 5.47 ng/mL	2 x 2.5 mL
New ME 40053	Buprenorphine in human urine cal 3 (10 ng/L) (Medidrug BUP U-cal) Assayed value..... 10.69 ng/mL	2 x 2.5 mL
New ME 40054	Buprenorphine in human urine cal 4 (20 ng/L) (Medidrug BUP U-cal) Assayed value..... 22.53 ng/mL	2 x 2.5 mL
New ME 40055	Buprenorphine in human urine 5 (80 ng/L) (Medidrug BUP U-cal) Assayed value..... 83.52 ng/mL	2 x 2.5 mL
New ME 40056	Buprenorphine in human urine cal 6 (200 ng/L) (Medidrug BUP U-cal) Assayed value..... 223.74 ng/mL	2 x 2.5 mL
ME 40131	Buprenorphines in human urine, level 1 (Medidrug BUP U) Lyophilised human urine control in two different concentrations for accuracy control of Buprenorphine determinations from urine. The concentration values have been determined by independent laboratories of forensic medicine. Analytes ng/mL Buprenorphine 2 Norbuprenorphine 2,5	2 x 2.5 mL
ME 40132	Buprenorphines in human urine, level 2 (Medidrug BUP U) Lyophilised human urine control in two different concentrations for accuracy control of Buprenorphine determinations from urine. The concentration values have been determined by independent laboratories of forensic medicine. Analytes ng/mL Buprenorphine 18.99 Norbuprenorphine 78.17	2 x 2.5 mL

Cannabinoids

NIST-1507b	THC-COOH in freeze dried urine This standard is intended primarily for verifying the accuracy of methods used for the determination of 11-nor-delta-9-tetrahydrocannabinol-9-carboxylic acid (THC-9-COOH) in human urine. It consists of three bottles of freeze-dried urine: two bottles, each containing a different certified concentration of THC-9-COOH and one bottle of a urine blank (X _b : <1). The contents of each bottle must be reconstituted with 20.0 mL of organic-free or HPLC-grade water.	set (4)						
	<table border="0"> <tr> <td></td> <td style="text-align: center;">low</td> <td style="text-align: center;">medium</td> </tr> <tr> <td></td> <td style="text-align: center;">ng/mL</td> <td style="text-align: center;">ng/mL</td> </tr> </table>		low	medium		ng/mL	ng/mL	
	low	medium						
	ng/mL	ng/mL						
	THC-9-COOH.....	11.7 24.1						

Cotinine

NIST-RM 8444	Cotinine in human urine This standard is intended primarily for use in validating methods for the determination of Cotinine in human urine. One set consists of four vials, each containing Cotinine in 5 mL human urine, which has been freeze dried. Two vials are "blank" concentration levels, typical for non-smokers without exposure to cigarette smoke; one vial is a "low" concentration level corresponding to non-smokers with passive exposure to side-stream smoke; and one vial is a "high" level, typical of smokers.	4 x 5 mL								
	<table border="0"> <tr> <td></td> <td style="text-align: center;">blank</td> <td style="text-align: center;">low</td> <td style="text-align: center;">high</td> </tr> <tr> <td></td> <td style="text-align: center;">ng/mL</td> <td style="text-align: center;">ng/mL</td> <td style="text-align: center;">ng/mL</td> </tr> </table>		blank	low	high		ng/mL	ng/mL	ng/mL	
	blank	low	high							
	ng/mL	ng/mL	ng/mL							
	Cotinine.....	0.8 54 488								

Drugs of abuse and therapeutic drugs in urine

Code	Product	Unit
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Ecstasy

LGC8022	Ecstasy (Methylenedioxymetamphetamine) in freeze dried urine Assessed value Ecstasy 634 ng/mL	10 x 10 mL
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Opiates

ME 40301	Opiates in human urine, level 1 (Medidrug Opiate U) Lyophilised human urine control in two different concentrations for accuracy or precision control of opiates determinations in urine. The concentration values have been controlled by independent reference laboratories of forensic medicine. Analytes µg/L Codeine..... 200 Morphine 100 Morphine-3-glucuronide 500	10 x 2.5 mL
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ME 40302	Opiates in human urine, level 2 Lyophilised human urine control in two different concentrations for accuracy or precision control of opiates determinations in urine. The concentration values have been controlled by independent reference laboratories of forensic medicine. Analytes µg/L Codeine..... 1000 Morphine 500 Morphine-3-glucuronide 1500	10 x 2.5 mL
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NIST-2381	Morphine and codeine in urine (set of 4 bottles) This standard is intended primarily for verifying the accuracy of methods used for the determination of morphine and codeine in human urine. One set consists of four bottles of freeze-dried urine: one bottle each of three different analyte levels plus one bottle of blank urine ($X_D < 1$). Analytes low medium high ng/mL ng/mL ng/mL Morphine 134 295 580 Codeine..... 130 282 560	set
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NIST-2382	Morphine glucuronide in urine (set of 4 bottles) This standard is intended primarily for verifying the accuracy of methods used for the determination of morphine that is present as a glucuronide in human urine. One set consists of four bottles of freeze-dried urine: one bottle each of three different analyte levels plus one bottle of blank urine. The certified concentrations for morphine glucuronide in the reconstituted urine are given below as free morphine. Analytes low medium high ng/mL ng/mL ng/mL Morphine 209 437 853	set
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Replacement drugs

ME 44102	Replacement drugs in human urine, certified reference control (Medidrug STM 1/05-B U-plus) Lyophilised human urine control with values certified by proficiency testing for accuracy and precision monitoring of replacement drugs determinations in urine. Each control lot has been produced especially for the external quality controls organised by the GFTCh. The nominal values have been determined by interlaboratory test. Analytes detected value µg/L Buprenorphine 11.80 EDDP 431.40 Norbuprenorphine 27.50 Methadon..... 190.40	2 x 2.5 mL
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New ME 44103	Replacement drugs in human urine, certified reference control (Medidrug STM 1/06-B U-plus) Lyophilised human urine control with values certified by proficiency testing for accuracy and precision monitoring of replacement drugs determinations in urine. Each control lot has been produced especially for the external quality controls organised by the GFTCh. The nominal values have been determined by interlaboratory test. Analytes detected value µg/L Buprenorphine 11.20 EDDP 199.50 Norbuprenorphine 25.90 Methadon..... 263.80	2 x 2.5 mL
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Various drugs of abuse

ME 40501	Drugs of abuse in human urine, level 1 (Medidrug BTMS U-plus) Lyophilised human urine control with drugs of abuse in two different concentrations for accuracy or precision control of narcotic determinations in urine. The concentration values have been controlled by independent reference laboratories of forensic medicine. Analytes mg/L Amphetamine..... 0.1 Morphine..... 0.1 Secobarbital 0.1 Benzoylcegonine..... 0.1 Phencyclidine 0.1 THC-COOH 0.05 Metamphetamine 0.1 Oxazepam 0.1	9 x 5 mL
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Drugs of abuse and therapeutic drugs in urine

Code	Product	Unit
ME 40502	Drugs of abuse in human urine, level 2 (Medidrug BTM U) Lyophilised human urine control with drugs of abuse in two different concentrations for accuracy or precision control of narcotic determinations in urine. The concentration values have been controlled by independent reference laboratories of forensic medicine. Analytes mg/L Amphetamine..... 0.6 Morphine0.6 Secobarbital 0.6 Benzoyllecgonine..... 0.6 Phencyclidine0.6 THC-COOH 0.15 Metamphetamine 0.6 Oxazepam0.6	9 x 5 mL
ME 40521	Urine screening control (human) drugs of abuse (Medidrug U-Screen, level 1) Lyophilised urine control prepared from human urine with constituents defined and weighed in, for determinations of drugs of abuse in urine by immunological methods. The target values printed in this insert were controlled by numerous independent institutions of forensic medicine / laboratories. Analytes ng/mL d-Methamphetamine..... 750.0 Oxazepam225.0 Methadone 225.0 Benzoyllecgonine..... 225.0 Secobarbital 150.0 EDDP 75.0 Morphine 225.0 THC-COOH37.5 Methaqualone 225.0 Phencyclidine..... 19.0 LSD0.3 Propoxyphene 225.0	9 x 5 mL
ME 40522	Urine screening control (human) drugs of abuse (Medidrug U-Screen, level 2) Lyophilised urine control prepared from human urine with constituents defined and weighed in, for determinations of drugs of abuse in urine by immunological methods. The target values printed in this insert were controlled by numerous independent institutions of forensic medicine / laboratories. Analytes ng/mL d-Methamphetamine..... 1250.0 Oxazepam375.0 Methadone 375.0 Benzoyllecgonine..... 375.0 Secobarbital375.0 EDDP 125.0 Morphine 375.0 THC-COOH65.5 Methaqualone 375.0 Phencyclidine..... 31.0 LSD0.7 Propoxyphene 375.0	9 x 5 mL
ME 40523	Urine screening control (human) drugs of abuse (Medidrug U-Screen, level 3) Lyophilised urine control prepared from human urine with constituents defined and weighed in, for determinations of drugs of abuse in urine by immunological methods. The target values printed in this insert were controlled by numerous independent institutions of forensic medicine / laboratories. Analytes ng/mL d-Methamphetamine..... 2000 Oxazepam1000 Methadone 750 Benzoyllecgonine..... 1000 Secobarbital1000 EDDP 300 Morphine 750 THC-COOH 150 Methaqualone 750 Phencyclidine..... 100 LSD2 Propoxyphene 750	9 x 5 mL
NIST-1511	Multi-drugs of abuse in freeze-dried urine This standard is intended primarily for verifying the accuracy of methods used for the determination of morphine, codeine, cocaine, (benzoyllecgonine), and marijuana metabolite (THC-9-COOH) and phencyclidine in human urine. One set consists of three bottles of freeze-dried urine with all of the analytes included in each bottle. There is no blank urine with this set. Analytes ng/mL Morphine 309 Benzoyllecgonine 162 Phencyclidine 23.8 Codeine 288 THC-9-COOH 14.1	3 x 25 mL

Drugs of abuse and therapeutic drugs in blood

Buprenorphines

Code	Product	Unit
New ME 43103	<p>Buprenorphines in human whole blood, certified reference control (Medidrug BUP SF3/04-C VB-plus)</p> <p>Lyophilised whole blood control prepared from human blood with constituents of human origin and buprenorphine for accuracy and precision monitoring of buprenorphine determinations in whole blood. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the SFTA (Société Française de Toxicologie Analytique).</p> <p>Analytes Buprenorphine 5.9 ng/mL Norbuprenorphine.....10.4 ng/mL</p>	2 x 2.5 mL
New ME 43153	<p>Buprenorphines human urine, certified reference control (Medidrug BUP SF3/04-B U-plus)</p> <p>Lyophilised urine control prepared from human urine for accuracy and precision monitoring of buprenorphine determinations in urine. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the SFTA (Société Française de Toxicologie Analytique).</p> <p>Analytes Buprenorphine23.7 ng/mL Norbuprenorphine..... 33.1 ng/mL</p>	2 x 2.5 mL

Meprobamate

ME 43004	<p>Meprobamat in human whole blood, level I (liquid) (Medidrug MEP SF4/03 VB-plus)</p> <p>Liquid human whole blood control with certified values by proficiency testing for accuracy control of meprobamate determination from whole blood. Each control lot has been produced especially for the proficiency testings organised by the SFTA (Société Française de Toxicologie Analytique). Their nominal values have been determined by an interlaboratory test.</p> <p>Meprobamate..... 124.0 µg/mL</p>	2 x 2.5 mL
ME 43005	<p>Meprobamat in human whole blood, level II (liquid) (Medidrug MEP SF4/03 VB-plus)</p> <p>Liquid human whole blood control with certified values by proficiency testing for accuracy control of meprobamate determination from whole blood. Each control lot has been produced especially for the proficiency testings organised by the SFTA (Société Française de Toxicologie Analytique). Their nominal values have been determined by an interlaboratory test.</p> <p>Meprobamate..... 194.8 µg/mL</p>	2 x 2.5 mL

Drugs of abuse and therapeutic drugs in hair

Various drugs of abuse

Code	Product	Unit														
	<p>Drugs of abuse in human hair DHF 1/06-A H-plus</p> <p>Powdered drug-free hair to which drugs of abuse have been incorporated with values certified by proficiency testing for narcotic determinations. Each control lot has been produced especially for the external quality controls organised by the GTFCh. The nominal values have been determined by an interlaboratory test.</p> <p><u>Analytes:</u> THC Amphetamin Methamphetamin MDMA MDA MDE Cocain Benzoylcegonin Morphin MAM</p> <p>new product - available in August 2006 - please ask for the values</p>															
NIST-2379	<p>Drugs of abuse in human hair I</p> <p>This Standard Reference Material (SRM) is intended primarily for use in validating methods for determining cocaine (COC), benzoylcegonine (BZE), cocaethylene (CE), amphetamine (AMP), methamphetamine (MAMP), and phencyclidine (PCP) in human hair and similar materials. This SRM can also be used for quality assurance when assigning values to in-house control materials. The SRM is a drug-free human hair material, to which drugs of abuse have been incorporated. A unit of SRM 2379 consists of one bottle containing approximately 100 mg of hair segments.</p> <p>Certified Concentrations</p> <table> <thead> <tr> <th>Analytes</th> <th>mass fraction (ng/mg)</th> </tr> </thead> <tbody> <tr> <td>Amphetamine.....</td> <td>6.00 ± 0.32</td> </tr> <tr> <td>Benzoylcegonine.....</td> <td>4.01 ± 0.31</td> </tr> <tr> <td>Cocaethylene.....</td> <td>2.67 ± 0.24</td> </tr> <tr> <td>Cocaine.....</td> <td>7.45 ± 0.40</td> </tr> <tr> <td>Methamphetamine.....</td> <td>5.20 ± 0.27</td> </tr> <tr> <td>Phencyclidine.....</td> <td>6.24 ± 0.42</td> </tr> </tbody> </table>	Analytes	mass fraction (ng/mg)	Amphetamine.....	6.00 ± 0.32	Benzoylcegonine.....	4.01 ± 0.31	Cocaethylene.....	2.67 ± 0.24	Cocaine.....	7.45 ± 0.40	Methamphetamine.....	5.20 ± 0.27	Phencyclidine.....	6.24 ± 0.42	100 mg
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NIST-2380	<p>Drugs of abuse in human hair II</p> <p>This standard reference material is intended primarily for use in validating methods for determining morphine (MOR), codeine (COD), 6-monoacetylmorphine (MAM), and tetrahydrocannabinol (THC) in human hair and similar materials. This material can also be used for quality assurance when assigning values to in-house control materials. The standard is a drug-free human hair material, to which drugs of abuse have been incorporated. A unit of NIST-2380 consists of one bottle containing approximately 100 mg of hair segments.</p> <p>Certified concentrations</p> <table> <thead> <tr> <th>Analyte</th> <th>mass fraction (ng/mg)</th> </tr> </thead> <tbody> <tr> <td>Codeine</td> <td>9.82 ± 0.70</td> </tr> <tr> <td>Morphine.....</td> <td>10.54 ± 0.68</td> </tr> <tr> <td>6-Monoacetylmorphine</td> <td>2.71 ± 0.30</td> </tr> <tr> <td>Tetrahydrocannabinol</td> <td>0.99 ± 0.10</td> </tr> </tbody> </table>	Analyte	mass fraction (ng/mg)	Codeine	9.82 ± 0.70	Morphine.....	10.54 ± 0.68	6-Monoacetylmorphine	2.71 ± 0.30	Tetrahydrocannabinol	0.99 ± 0.10	100 mg				
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Drugs on diagnostics of brain death

Code	Product	Unit																				
ME 44301	<p>Toxicological analysis on diagnostic of brain death (Medidrug TAB 1/04-A S-plus)</p> <p>Lyophilised human serum control with values certified by proficiency testing for accuracy control of drugs on diagnostics of brain death determinations from serum. Each lot has been produced especially for the proficiency testing organised by the GFTCh. The detected values have been determined by an interlaboratory test.</p> <table> <thead> <tr> <th>Analytes</th> <th colspan="3">detected value</th> </tr> </thead> <tbody> <tr> <td>Diazepam.....</td> <td>189.70 µg/L</td> <td>Nordiazepam.....</td> <td>215.80 µg/L</td> </tr> <tr> <td>Methohexital.....</td> <td>1.11 mg/L</td> <td>Pentobarbital.....</td> <td>2.09 mg/L</td> </tr> <tr> <td>Midazolam.....</td> <td>166.40 µg/L</td> <td>Phenobarbital.....</td> <td>13.56 mg/L</td> </tr> <tr> <td></td> <td></td> <td>Thiopental</td> <td>(1.40) mg/L non-certif. value</td> </tr> </tbody> </table>	Analytes	detected value			Diazepam.....	189.70 µg/L	Nordiazepam.....	215.80 µg/L	Methohexital.....	1.11 mg/L	Pentobarbital.....	2.09 mg/L	Midazolam.....	166.40 µg/L	Phenobarbital.....	13.56 mg/L			Thiopental	(1.40) mg/L non-certif. value	10 x 2.5 mL
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New ME 44302	<p>Toxicological analysis on diagnostic of brain death (Medidrug TAB 1/05-A S-plus)</p> <p>Lyophilised human serum control with values certified by proficiency testing for accuracy control of drugs on diagnostics of brain death determinations from serum. Each lot has been produced especially for the proficiency testing organised by the GFTCh. The detected values have been determined by an interlaboratory test.</p> <table> <thead> <tr> <th>Analytes</th> <th colspan="3">detected value</th> </tr> </thead> <tbody> <tr> <td>Diazepam.....</td> <td>439.6 µg/L</td> <td>Nordiazepam.....</td> <td>303.4 µg/L</td> </tr> <tr> <td>Methohexital.....</td> <td>1.65 mg/L</td> <td>Pentobarbital.....</td> <td>2.45 mg/L</td> </tr> <tr> <td>Midazolam.....</td> <td>121.5 µg/L</td> <td>Phenobarbital.....</td> <td>7.66 mg/L</td> </tr> <tr> <td></td> <td></td> <td>Thiopental</td> <td>0.81 mg/L</td> </tr> </tbody> </table>	Analytes	detected value			Diazepam.....	439.6 µg/L	Nordiazepam.....	303.4 µg/L	Methohexital.....	1.65 mg/L	Pentobarbital.....	2.45 mg/L	Midazolam.....	121.5 µg/L	Phenobarbital.....	7.66 mg/L			Thiopental	0.81 mg/L	10 x 2.5 mL
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Contract Manufacturing

Contract manufacturing of control materials and standards in liquid and lyophilised form, after customer and laboratory specifications, while also complying to EU standards.

Product range:

Therapeutic drug monitoring controls / standards:

- forensic chemistry controls /standards
- doping controls /standards
- ethanol controls / standard
- and others

Matrices:

- human serum
- human whole blood
- human urine
- aqueous
- hair
- and others

Please ask for further information.



Certified reference materials for sports drugs and forensic drugs



France • Germany • India • Italy • Poland • Spain • Sweden • UK

Reference materials for food, industry and occupational hygiene



Genetically modified crops

Mycotoxin standards

Food colours and lipids

Trace elements in foods

Nutritional properties

Oil-based standards

Raw materials

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Single and multi-element standards

LGC Promochem, in partnership with the world's leading reference materials producers - IRMM, NIST, BCR, LGC, ULTRA Scientific and Cerilliant - now offers you over **1000** products intended for analysis in the areas of food safety and quality control, industrial materials and occupational hygiene. Food analysts will find a new range of mycotoxin standards in addition to the established selection of standards such as food colours and lipids. The industrial product range has also been extended and now includes Conostan[®] oil-based standards for lubricant analysis and condition monitoring.

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Certified reference materials for sports drugs and forensic drugs

LGC Promochem and the National Measurement Institute of Australia

We are proud to present in this new catalogue the range of certified reference materials from our new partner, the National Measurement Institute of Australia, NMIA. Like NIST, IRMM and LGC the NMIA is a national metrology institute (NMI) and is issuing CRMs for a variety of analytical purposes.

NMIA complies with ISO Guide 34 (2000) "*General Requirements for the Competence of Reference Material Producers*" and is certified by NATA for the production of certified reference materials, and reference materials of pure substance organic solids.

Through its chemical synthesis and analytical capabilities, NMIA produces an extensive range of some 300 CRMs for the fields of sports drugs (such as anabolic steroids, growth promotants and their metabolites), forensic drugs, and agricultural and veterinary chemicals. NMIA reference materials are of the highest quality and are supplied with extensive supporting information. This includes certified and - where applicable - isotopic composition values with associated uncertainty statements, and a substantial analysis report. Before their release onto the market, all reference materials are reviewed by a panel of external experts. NMIA has third party accreditation as a reference materials producer.

This section of the catalogue contains the CRMs for the sports drugs and forensic drugs analysis. The CRMs for the analysis of agricultural and veterinary chemicals can be found in other catalogues of LGC Promochem. Please contact your LGC Promochem office for further information on the agricultural and veterinary products.

Ordering of certified reference materials for sports drugs analysis

Because of its partnership, as a government laboratory, with the regulatory bodies (e.g. WADA - World Anti Doping Agency) controlling the use of performance-enhancing materials in sport, NMIA places restrictions on the distribution of all NMIA products relating to this area.

To receive these NMIA products, LGC Promochem is obligated to ask you to supply us with a statement affirming that the products will not be used by your laboratory for purposes related to sports drugs analysis and will not be provided to any other laboratory engaged in such analysis. This statement will have to be made once and once only, after which you will be able to order NMIA products from us without further restriction.

In case that your laboratory wants to use these products for sports drugs analysis, your laboratory must be part of the WADA system of accredited laboratories, or must be in the process of becoming so. Please provide us with a statement on this membership of the WADA system, in case that you are ordering these reference materials from LGC Promochem for the first time.

Please contact the LGC Promochem office responsible for your country with this statement on letterhead paper. Please consult the list below to find the contact information of your LGC Promochem sales office. Once we have received your statement, we will proceed with the processing of your order as rapidly as possible.

In case that your laboratory wants to use these materials for sports drugs analysis, but is not part of the WADA system described above, please contact us as well. Under special circumstances, NMIA is granting accreditation to those laboratories to work with their sports drugs materials too.

Controlled substances

A number of the forensic reference substances described in this section of the catalogue are controlled substances. Also, anabolic steroids are considered as controlled substances in certain countries as well. The purchase, possession and use of controlled substances are subject to national and international regulations designed to limit their abuse. It is the responsibility of the customer to obtain any authorisation necessary to both possess and purchase controlled substances, complying with the laws of the importing country, before ordering.

The complex administration associated with the supply and possession of these materials makes it necessary for LGC Promochem companies to ensure all customers requiring controlled substances are aware of all the relevant national requirements, the associated charges and consequential delivery times.

Customers wishing to obtain controlled substances must contact their LGC Promochem sales office before ordering, and clarify with the sales specialists at LGC Promochem the procedure to be followed, and the exact cost. All orders for controlled substances must be provided in writing and signed by an authorised person and must be accompanied with the original import permit and/or possession permit. Please send the order and all related documents to the LGC Promochem sales office that is responsible for your country. Please consult the list below to find the contact information of your LGC Promochem sales office.

All reference substances and standards in this catalogue are for laboratory analytical use only and not for use in humans.

LGC Promochem offices

Please consult below list to find the contact information of your LGC Promochem sales office.

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United Kingdom
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Fax +44 (0)20 8943 2767
Email uksales@lgcpromochem.com

France and continental Europe if not otherwise specified, Near and Middle East, Africa

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Fax + 33 (0)3 88 04 82 90
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Germany

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Scandinavia, Latvia and Estonia

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Salvador Espriu 59, 2nd floor
08005 Barcelona
Spain

Tel +34 (0)93 308 4181
Fax +34 (0)93 307 3612
Email es@lgcpromochem.com

Certificate of analysis (example)

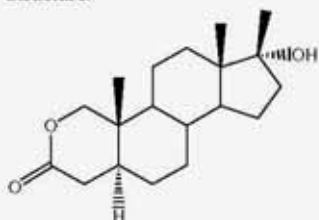


Australian Government
National Measurement Institute

REFERENCE MATERIAL ANALYSIS REPORT

Compound Name: **17-Epioxandrolone**
Collection No. D620
Chemical Formula: $C_{19}H_{30}O_3$
CAS Registry No: 26624-15-7
Structure:

Description: White crystals
Batch No: 99-S-25
Molecular Weight: 306.4
Batch production completed: September 1999
Metabolite of oxandrolone



Synonym: 17 α -Hydroxy-17 β -methyl-2-oxa-5 α -androstan-3-one

Purity (mass fraction): 98.9 \pm 0.4% (95% confidence interval)

Purity estimate obtained by subtraction from 100% of total impurities by GC-FID, TGA and 1H NMR.

GC-FID: Instrument: HP5890
Column: J&W DB-5MS Capillary, 30 m \times 0.32 mm I.D. \times 0.25 μ m or ZB-1 Capillary, 30 m \times 0.32 mm I.D. \times 0.25 μ m
Program: 180 $^{\circ}C$ (1 min), 10 $^{\circ}C$ /min to 220 $^{\circ}C$, 20 $^{\circ}C$ /min to 300 $^{\circ}C$, hold.
Injector: 250 $^{\circ}C$ Detector Temp: 320 $^{\circ}C$
Carrier: Helium Split ratio: 20/1
Relative peak area response of main component:
Initial analysis: 98.3%, $s = 0.06$ (10 subsamples, November 1999)
Current re-analysis: 98.8%, $s = 0.06$ (8 subsamples in duplicate, June 2006)

GC-MS: Parent compound:
Instrument: HP6890 / 5973
Columns: HP Ultra 2, 17 m \times 0.22 mm I.D. \times 0.11 μ m
Program: 140 $^{\circ}C$ (1 min), 8 $^{\circ}C$ /min to 250 $^{\circ}C$, 30 $^{\circ}C$ /min to 300 $^{\circ}C$, hold.
Injector: 280 $^{\circ}C$ Transfer line temp: 300 $^{\circ}C$
Carrier: Helium Splitless injection

Mono-TMS derivative:
Instrument: HP 6890/5973
Column: HP Ultra 1, 17 m \times 0.22 mm I.D. \times 0.11 μ m
Program: 170 $^{\circ}C$ (0.5 min), 3 $^{\circ}C$ /min to 234 $^{\circ}C$, 10 $^{\circ}C$ /min to 265 $^{\circ}C$, hold.
Injector: 280 $^{\circ}C$ Transfer line temp: 300 $^{\circ}C$
Carrier: Helium, 1.0 ml/min Split inj. (15/1)

The retention time of the parent compound and its mono-TMS derivative are reported with the major peaks in the mass spectra. The latter are reported in a.m.u. and (in brackets) as a percentage relative to the base peak.

Parent (13.7 min): 306 (M^+ , 13), 291 (92), 273 (100), 248 (65), 93 (55) a.m.u.
Mono-TMS (11.0 min): 378 (M^+ , 4), 363 (16), 321 (11), 308 (19), 143 (100) a.m.u.

HPLC: Peak area percentage of total: 99.6% (mean of 3 samples)
Column: Waters Novapak C18, 5 μ m (3.9 mm \times 150 mm)
Mobile Phase: Acetonitrile/ water (40:60)
Flow Rate: 1.0 ml/min
Detector: U.V. detection at 205 nm
Retention time: 5.6 min

Certificate of analysis (example)

TLC: Conditions: Kieselgel 60F₂₅₄, Ethyl acetate/dichloromethane (50:50)
Single spot observed, R_f = 0.44 (5 samples)

IR: Instrument: FT-IR, Biorad WIN FTS40.
Range: 4000-400 cm⁻¹, KBr pellet.
Peaks: 3487, 2866, 1712, 1372, 1234, 1208, 1145, 1082 cm⁻¹

¹H NMR: Instrument: Bruker ARX-500
Field strength: 500 MHz Solvent: CDCl₃
Key spectral data: δ 0.66 (3H, s), 0.98 (3H, s), 1.17 (3H, s), 2.20 (1H, dd),
2.49 (1H, dd), 3.90 (1H, dd), 4.22 (1H, d) ppm

¹³C NMR: Instrument: Bruker ARX-500
Field strength: 126 MHz Solvent: CDCl₃
Spectral data: δ 10.1, 15.7, 20.8, 22.6, 23.8, 27.1, 29.4, 31.1, 33.7, 34.6, 35.1, 38.1, 40.3,
46.4, 49.3, 49.4, 81.0, 82.0, 170.6 ppm.

Melting point: 197-199 °C (Lit. = 198-200 °C)

Microanalysis: Found: C = 74.6%, H = 9.9%; Calc: C = 74.5%, H = 9.9%

Thermogravimetric analysis: Volatile content < 0.1% and non-volatile residue < 0.2% mass fraction
(Jan 2000 and June 2006).

Expiration of certification: The certified values are valid till 20th June 2009, i.e. three years from the date
of re-certification, provided the material is handled and stored in accordance
with the recommendations below.
The long-term stability of the compound in solution has not been examined.

Recommended storage:
closed When not in use this material should be stored at or below 4 °C, in a
container.

Intended Use: For *in vitro* laboratory analysis only.

CAUTION: **Treat as hazardous substance.**
**Use appropriate work practices when handling to avoid skin or eye
contact, ingestion or inhalation of dust.**

Legal Notice: Neither NMI nor any person acting on NMI's behalf assumes any liability
with respect to the use of, or for damages resulting from the use of, this
reference material or the information contained in this certificate.

Authorised by: 
Dr Laurie Besley
Director Chemical Reference Materials
Dated: 22 June, 2006

Report ID: D620.2006.01
Characterisation data and certified property values specified in this report
supersede that in all reports issued prior to 22nd June 2006.



Accredited Reference Material Producer
Number: 14221

NATA endorsed reference material report
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Reference material for sports drug analysis

1-Androstendione

Code	Product	Unit
NMIAD845	1-Androstendione (5alpha-Androst-1-en-3,17-dione)	1 mg

Bolasterone metabolites

NMIAD614	7alpha,17alpha-Dimethyl-5beta-androstane-3alpha,17beta-diol	1 mg
NMIAD628	7alpha,17alpha-Dimethyl-5beta-androstane-3alpha,17beta-diol glucuronide	1 mg

Boldenone and metabolites

NMIAD564	5beta-Androst-1-en-17beta-ol-3-one	1 mg
NMIAD600	5beta-Androst-1-en-17beta-ol-3-one glucuronide	1 mg
NMIAD581b-1	d3-17beta-Boldenone	1 mg
NMIAD581b-10	d3-17beta-Boldenone	10 mg
NMIAD582	17-alpha-Boldenone (Epiboldenone)	1 mg
NMIAD862	17-beta-Boldenone glucuronide potassium salt	1 mg
NMIAD794	17-beta-Boldenone sulfate	5 mg
NMIAD811	d3-17beta-Boldenone sulfate	1 mg

Calusterone and metabolites

NMIAD618	Calusterone	1 mg
NMIAD624	7beta,17alpha-Dimethyl-5beta-androstane-3alpha,17beta-diol	1 mg
NMIAD629	7beta,17alpha-Dimethyl-5beta-androstane-3alpha,17beta-diol glucuronide	1 mg

Clostebol metabolite

NMIAD563	4-Chloro-4-androsten-3alpha-ol-17-one	1 mg
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Drostanolone metabolites

NMIAD567	2alpha-Methyl-5alpha-androstan-3alpha-ol-17-one	1 mg
NMIAD601	2alpha-Methyl-5alpha-androstan-3alpha-ol-17-one glucuronide	1 mg

Fluoxymesterone metabolites

NMIAD571	9alpha-Fluoro-17,17-dimethyl-18-nor-androstan-4,13-diene-11beta-ol-3-one	1 mg
NMIAD616	9alpha-Fluoro-17alpha-methyl-4-androsten-3alpha,6beta,11beta,17beta-tetra-ol	1 mg
NMIAD617	6beta-Hydroxyfluoxymesterone	1 mg

Formebolone metabolite

NMIAD622	2-Hydroxymethyl-17alpha-methylandrosteradiene-diol-3-one	1 mg
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Furazabol metabolite

NMIAD602	16beta-Hydroxyfurazabol	1 mg
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4-Hydroxysteroids

NMIAD852	4-Hydroxyandrostendione (Formestane)	1 mg
NMIAD853	4-Hydroxynandrolone (Oxabolone)	1 mg
NMIAD851	4-Hydroxytestosterone	1 mg

Mesterolone metabolites

NMIAD556	1alpha-Methyl-5alpha-androstan-3alpha,17beta-diol	1 mg
NMIAD599	1alpha-Methyl-5alpha-androstan-3alpha,17beta-diol glucuronide	1 mg
NMIAD557	1alpha-Methyl-5alpha-androstan-3alpha-ol-17-one	1 mg
NMIAD598	1alpha-Methyl-5alpha-androstan-3alpha-ol-17-one glucuronide	1 mg

Metenolone metabolites

NMIAD619	1-Methylene-5alpha-androstan-3alpha-ol-17-one	1 mg
NMIAD597	1-Methylene-5alpha-androstan-3alpha-ol-17-one glucuronide	1 mg

Certified reference materials for sports drugs and forensic drugs

Code	Product	Unit
Methandienone metabolites		
NMIAD639	17,17-Dimethyl-18-norandrosta-1,13-diene-3alpha-ol	1 mg
NMIAD576	17,17-Dimethyl-18-norandrosta-1,4,13-trien-3-one	5 mg
NMIAD638	Epimetendiol	1 mg
NMIAD562	17-Epimethandienone	1 mg
NMIAD565	6beta-Hydroxymethandienone	1 mg
NMIAD630	Methandienone	10 mg
Methyltestosterone and metabolites		
New NMIAD904	17alpha-Methyl-1-testosterone (in progress)	1 mg
NMIAD560	17alpha-Methyl-5alpha-androstane-3alpha,17beta-diol	1 mg
NMIAD561	17alpha-Methyl-5beta-androstane-3alpha,17beta-diol	1 mg
Nandrolone metabolites		
NMIAD722	17-alpha-Nandrolone (Epinandrolone)	5 mg
NMIAD783	17alpha-Nandrolone (Epi-nandrolone) sulfate	5 mg
NMIAD583	d3-17beta-Nandrolone	5 mg
NMIAD679	13C2-17beta-Nandrolone	5 mg
NMIAD684	17beta-Nandrolone decanoate	10 mg
NMIAD861	17-beta-Nandrolone glucuronide potassium salt	1 mg
NMIAD793	17beta-Nandrolone sulfate (in progress)	unit
NMIAD782	d3-17beta-Nandrolone sulfate	5 mg
NMIAD555a	19-Norandrosterone	1 mg
NMIAD584a	d4-19-Norandrosterone	1 mg
NMIAD596a	19-Norandrosterone glucuronide	1 mg
New NMIAD898	d4-19-Norandrosterone glucuronide (Na+ salt)	1 mg
NMIAD841	19-Norandrosterone sulfate	2 mg
NMIAD554	19-Noretiocholanolone	1 mg
NMIAD742	d4-19-Noretiocholanolone	1 mg
NMIAD595a	19-Noretiocholanolone glucuronide	1 mg
New NMIAD849	19-Noretiocholanolone sulfate (in progress)	1 mg
Norbolethone and metabolites		
NMIAD825	Norbolethone (13beta,17alpha-Diethyl-gonan-4-ene-17beta-ol-3-one)	5 mg
NMIAD818	13beta,17alpha-Diethyl-5beta-gonane-3alpha,17beta-diol (major metabolite)	1 mg
NMIAD820	13beta,17alpha-Diethyl-5alpha-gonane-3alpha,17beta-diol (minor metabolite)	1 mg
Norethandrolone metabolites		
NMIAD558	17alpha-Ethyl-5alpha-estrane-3alpha,17beta-diol	1 mg
NMIAD559	17alpha-Ethyl-5beta-estrane-3alpha,17beta-diol	1 mg
Oral turinabol and metabolites (dehydrochloromethyltestosterone)		
NMIAD615	6beta-Hydroxy-oral turinabol	1 mg
NMIAD613	Oral turinabol	1 mg
Oxandrolone metabolite		
NMIAD620	17-Epioxandrolone	1 mg
Stanozolol and metabolites		
NMIAD577	3-Hydroxystanozolol	1 mg
NMIAD642	4alpha-Hydroxystanozolol	1 mg
NMIAD641	4beta-Hydroxystanozolol	1 mg
NMIAD621	16beta-Hydroxystanozolol	1 mg
NMIAD640	3'-Hydroxystanozolol glucuronide	1 mg
NMIAD646	Stanozolol	10 mg

Certified reference materials for sports drugs and forensic drugs

	Code	Product	Unit
	1-Testosterone		
New	NMIAD871	5alpha-Androst-1-ene-3beta-17beta-dio	1 mg
New	NMIAD767b	1-Testosterone (5alpha-Andost-1-en-3-one-17beta-ol)	1 mg
	NMIAD832	5alpha-Androst-1-ene-3alpha-ol-17one	0.2 mg
	Tetrahydrogestrinone and precursors		
	NMIAD860	Gestrinone	10 mg
	NMIAD872	Tetrahydrogestrinone (THG)	5 mg
	Trenbolone metabolite		
	NMIAD708	17-alpha-Trenbolone	5 mg
	Endogenous steroids		
	NMIAD580	d5-5beta-Androstane-3alpha,17beta-diol	1 mg
	NMIAD593	d3-5alpha-Androstane-3alpha,17beta-diol	1 mg
	NMIAD634	5alpha-Androstane-3alpha,17beta-diol	10 mg
	NMIAD636	5beta-Androstane-3alpha,17beta-diol	10 mg
	NMIAD594	d3-5alpha-Androstane-3beta,17beta-diol	1 mg
	NMIAD626	d3-5beta-Androstane-3beta,17beta-diol	1 mg
	NMIAD635	5alpha-Androstane-3beta,17beta-diol	10 mg
	NMIAD637	5beta-Androstane-3beta,17beta-diol	10 mg
	NMIAD678	5alpha-Androstane-3beta,17beta-diol-3-glucuronide	1 mg
	NMIAD549	d4-Androsterone	1 mg
	NMIAD550	Androsterone	10 mg
	NMIAD572	Androsterone glucuronide	1 mg
	NMIAD829b	d4-Androsterone glucuronide (sodium salt)	1 mg
	NMIAD587	d4-Androsterone sulfate	1 mg
	NMIAD610	Androsterone sulfate	1 mg
	NMIAD552	d3-5alpha-Dihydrotestosterone	1 mg
	NMIAD680	5alpha-Dihydrotestosterone	10 mg
	NMIAD573	d3-5alpha-Dihydrotestosterone glucuronide	1 mg
	NMIAD574	5alpha-Dihydrotestosterone glucuronide	1 mg
	NMIAD590	d3-5alpha-Dihydrotestosterone sulfate	1 mg
	NMIAD609	5alpha-Dihydrotestosterone sulfate	1 mg
	NMIAD547	Epitestosterone	1 mg
	NMIAD548	d3-Epitestosterone	1 mg
	NMIAD603	Epitestosterone glucuronide	1 mg
	NMIAD604	d3-Epitestosterone glucuronide	1 mg
	NMIAD591	d3-Epitestosterone sulfate	1 mg
	NMIAD605	Epitestosterone sulfate	1 mg
	NMIAD528	d5-Etiocholanolone	1 mg
	NMIAD551	Etiocholanolone	10 mg
	NMIAD607	Etiocholanolone glucuronide	1 mg
	NMIAD606	d5-Etiocholanolone sulfate	1 mg
	NMIAD608	Etiocholanolone sulfate	1 mg
	NMIAD546	16,16,17-d3-Testosterone	1 mg
	NMIAD644	19-d3-Testosterone	1 mg
	NMIAD683	Testosterone decanoate	10 mg
	NMIAD505a	16,16,17-d3-Testosterone glucuronide	1 mg
	NMIAD507a	Testosterone glucuronide	1 mg
	NMIAD688	Testosterone isocaproate (4-methylpentanoate)	10 mg
	NMIAM914b	Testosterone	100 mg

Certified reference materials for sports drugs and forensic drugs

Code	Product	Unit
NMIAD506	16,16,17-d3-Testosterone sulfate	1 mg
NMIAD508	Testosterone sulfate	1 mg
Prohormones and metabolites		
NMIAD878	1,4-Androstadiene-3,17-dione (Boldendione)	1 mg
NMIAM955	Androstendione	10 mg
NMIAD645	19-d3-Androstendione	1 mg
NMIAD796	Dehydroepiandrosterone (DHEA)	100 mg
New NMIAD834	4beta-Hydroxy DHEA	1 mg
NMIAD875	7alpha-Hydroxy DHEA	1 mg
NMIAD865	7beta-Hydroxy DHEA	1 mg
NMIAD844	16beta-Hydroxy DHEA	1 mg
NMIAD833	7-Keto DHEA	10 mg
NMIAD873	3alpha-Hydroxy-4-estren-17-one	1 mg
NMIAD866	3beta-Hydroxy-4-estren-17-one	1 mg
NMIAD843	16alpha-Hydroxyandrosterone	1 mg
NMIAD886	6beta-Hydroxyandrosterone	1 mg
NMIAD867	6beta-Hydroxyetiocholanolone	1 mg
NMIAD721	19-Norandrostendione (Estrendione)	10 mg
Growth promotants and metabolites		
NMIAM954	Clenbuterol-D ₉	1 mg
NMIAP1787	Zearalenone	10 mg
NMIAP1801	alpha-Zearalanol	5 mg
NMIAP1795	alpha-Zearalenol	5 mg
NMIAP1802	beta-Zearalanol	5 mg
NMIAP1796	beta-Zearalenol	5 mg
Stimulants and metabolites		
NMIAD891	Carphedrone	10 mg
NMIAM450	Crotethamide	50 mg
New NMIAM451	Cropropamide	50 mg
New NMIAD893	Famprofazone	20 mg
NMIAM299	Heptaminol HCl	50 mg
NMIAD889	6-Hydroxybromantan	10 mg
New NMIAD895	(±)-4-Methylamphetamine hydrochloride	10 mg
NMIAM297	Norpseudoephedrine HCl (Cathine)	50 mg
NMIAD892	Oxilofrine HCl (in progress)	unit
NMIAD822	Selegiline HCl	50 mg
Commercial materials (not certified by NMI A)		
NMIAM558	Bupranolol HCl	20 mg
NMIAD529	Dextromoramide tartrate	50 mg
NMIAM642	Dipipanone HCl	20 mg
NMIAM880	Etilephrine HCl	50 mg
NMIAD543	Fenetylline HCl	20 mg
NMIAD500	Fenproporex	50 mg
NMIAD283	Mefenorex HCl	50 mg
NMIAM394	Propylhexedrine	50 mg
NMIAM904	Salmeterol hydroxynaphthoate	50 mg
NMIAM647	Terbutaline sulfate	20 mg
NMIAM605	Trimeperidine HCl	20 mg

Reference materials for forensic drugs analysis

Amphetamines and related compounds

	Code	Product	Unit
	NMIAD738	N-Acetyl-3,4-methylenedioxyamphetamine	50 mg
	NMIAD445	N-Acetylamphetamine	50 mg
	NMIAD736	Amphetamine HCl	50 mg
	NMIAD868	Benzyl methyl ketone (P2P)	10 mg
	NMIAD456	1-Benzyl-3-methylnaphthalene	50 mg
	NMIAD396	4-Bromo-2,5-dimethoxyamphetamine HCl (DOB) (Brolamfetamin)	20 mg
	NMIAD758	4-Bromo-2,5-dimethoxyphenethylamine HCl (Nexus)	20 mg
	NMIAD455	Bromosaffrole	50 mg
	NMIAD692	Clobenzorex HCl	20 mg
	NMIAD749	2,5-Dimethoxyamphetamine HCl	50 mg
New	NMIAD885	1,2-Dimethoxy-4-(2-propenyl)-benzene (in progress)	25 mg
	NMIAD453	3,4-Dimethoxyamphetamine HCl	50 mg
	NMIAD457	1,3-Dimethyl-2-phenylnaphthalene	5 mg
	NMIAD503	N,N-Dimethyl-3,4-methylenedioxy-amphetamine HCl	20 mg
	NMIAD693	N,N-Dimethylamphetamine HCl	20 mg
	NMIAD739	N-Ethyl-3,4-methylenedioxyamphetamine HCl (MDEA)	50 mg
	NMIAD753	N-Ethylamphetamine HCl	50 mg
	NMIAD456	1-Benzyl-3-methylnaphthalene	50 mg
	NMIAD526	N-Formyl-1-phenylethylamine	50 mg
	NMIAD498	N-Formyl-3,4-methylenedioxyamphetamine	50 mg
	NMIAD447	N-Formylamphetamine	50 mg
	NMIAD538	N-Formyl-N-methyl-3,4-methylenedioxyamphetamine	50 mg
	NMIAD502	N-Formyl-N-methylamphetamine	20 mg
	NMIAD824	4-Hydroxyamphetamine HCl (HMA)	20 mg
	NMIAD768	Mescaline hydrogen sulphate	10 mg
	NMIAD756	4-Methoxyamphetamine HCl (PMA)	50 mg
	NMIAD450a	N-Methyl-1-(3,4-methylenedioxyphenyl)-2-butylamine HCl (MBDB)	20 mg
	NMIAD525	N-Methyl-1-phenylethylamine HCl	50 mg
	NMIAD792	N-Methyl-3,4-methylenedioxyamphetamine HCl (MDMA)	50 mg
New	NMIAD895	(±)-4-Methylamphetamine hydrochloride	10 mg
New	NMIAD903	2-Methyl-3-(3,4-methylenedioxyphenyl)-methyl glycidate	50 mg
	NMIAD830	N-Methylamphetamine HCl	50 mg
	NMIAD842	3,4-Methylenedioxyamphetamine HCl (MDA)	50 mg
New	NMIAD890	3,4-Methylenedioxybenzyl methyl ketoximine	10 mg
	NMIAD669	1-(3,4-Methylenedioxyphenyl)-2-nitropropene	20 mg
	NMIAD880	1-(3,4-Methylenedioxyphenyl)-propan-2-ol (in progress)	unit
New	NMIAD896	bis-(1-(3,4-Methylenedioxyphenyl)-propan-2-yl)amine hydrochloride (1 diastereoisomer)	20 mg
	NMIAD810	3,4-Methylenedioxyphenylacetone (MDP2P)	20 mg
New	NMIAD883	N-Methylpiperonylamine HCl (in progress)	20 mg
	NMIAD687	4-Methylthioamphetamine HCl (MTA)	20 mg
New	NMIAD879	bis-(1-(3,4-Methylenedioxyphenyl)-propan-2-yl)amine hydrochloride (mix of isomers)	20 mg
	NMIAD869	1-Phenyl-2-nitropropene	100 mg
	NMIAD870	Piperonal	100 mg
New	NMIAD881	Piperonyl alcohol (in progress)	50 mg
	NMIAD882	Piperonyl chloride (in progress)	unit
	NMIAD495	N-Propyl-3,4-methylenedioxyamphetamine HCl	20 mg
	NMIAD822	Selegiline HCl	50 mg

Reference materials for forensic drugs analysis

Code	Product	Unit
NMIAD778	3,4,5-Trimethoxyamphetamine HCl (TMA)	20 mg
Cocaine, metabolites and related compounds		
NMIAD745	Benzoyllecgonine	50 mg
NMIAD468	trans-Cinnamoylcocaine	20 mg
NMIAD740	Cocaine base	50 mg
NMIAD747	Cocaine HCl	50 mg
NMIAD746	Ecgonine HCl	50 mg
NMIAD847	Methyl anhydroecgonine	50 mg
NMIAD452	Methyl ecgonine HCl	50 mg
Cocaine manufacture profiling and surrogates		
NMIAD854	p-Fluorococaine	20 mg
NMIAD857	N-Formylnorcocaine	10 mg
NMIAD856	Norcocaine HCl	10 mg
NMIAD864	trans-3,4,5-Trimethoxycinnamoyl cocaine HCl (in progress)	unit
NMIAD855	3,4,5-Trimethoxycocaine	20 mg
NMIAD858	3,4,5-Trimethoxytropacocaine HCl	10 mg
NMIAD846	Tropacocaine HCl	20 mg
Heroin and related compounds		
NMIAD821	Acetylcodeine base	50 mg
NMIAD673	d3-Codeine base	1 mg
New NMIAD671	Codeine base	50 mg
NMIAD694	Codeine glucuronide	0.1 mg
NMIAD695	d3-Codeine glucuronide	0.1 mg
NMIAD823	Dihydrocodeine hydrogen tartrate	50 mg
NMIAD752	Heroin base	50 mg
NMIAD766	3-Monoacetylmorphine sulfamate	20 mg
NMIAD777	6-Monoacetylmorphine base	50 mg
NMIAD408	Morphine base	50 mg
NMIAD709	d3-Morphine base	1 mg
NMIAD831	Noscapine (Narcotine) base	50 mg
NMIAD791	Noscapine (Narcotine) HCl	100 mg
NMIAD750	Papaverine HCl	100 mg
NMIAD676	Thebaine	50 mg
Heroin manufacture profiling and surrogates		
NMIAD697	N-Acetylnorlaudanosine	10 mg
NMIAD704	Acetylthebaol	5 mg
NMIAD699	Diacetylnorcodeine	5 mg
NMIAD698	Norcodeine	5 mg
NMIAD701	Normorphine	5 mg
NMIAD700	Morphine N-Oxide	10 mg
NMIAD743	Papaveraldine	20 mg
NMIAD859	N-Propylnorlaudanosine	10 mg
NMIAD734	Oripavine	50 mg
NMIAD863	Triacetylnormorphine	5 mg
New NMIAD894	d9-Triacetylnormorphine	5 mg
NMIAD715	Thebaol	5 mg
Ephedrine and related compounds		
NMIAD725	Cathinone HCl	20 mg
NMIAM723	Ephedrine base	100 mg

Reference materials for forensic drugs analysis

Code	Product	Unit
NMIAM924	Ephedrine HCl	100 mg
NMIAD724	Methcathinone HCl	20 mg
NMIAM243a	L-Methylephedrine HCl	20 mg
NMIAM296	Norephedrine HCl (Phenylpropanolamine)	100 mg
NMIAM297	Norpseudoephedrine HCl (Cathine)	50 mg
NMIAD397	Pseudoephedrine base	100 mg
NMIAD775	Pseudoephedrine HCl	100 mg

Miscellaneous

	NMIAM724	Caffeine	50 mg
	NMIAD512	Cannabidiol	50 mg
New	NMIAD905	Benzyl piperazine dihydrochloride (BZP) (in progress)	unit
	NMIAD674	N,N-Dimethyltryptamine	20 mg
	NMIAD675	N,N-Diethyltryptamine	20 mg
	NMIAD812	GHB (g-Hydroxybutyric acid sodium salt)	50 mg
	NMIAD884	Harmine (in progress)	10 mg
New	NMIAD899	5-Methoxy- α -methyltryptamine	10 mg
	NMIAD748	Phencyclidine HCl	50 mg

Other categories - commercial supplier

	NMIAD707	EDDP perchlorate	10 mg
	NMIAD785	Hydromorphone	5 mg
	NMIAD686	Ketamine HCl	100 mg
	NMIAD827	LSD (1 mg/mL acetonitrile solution)	1 ampoule
	NMIAD786	Methadone HCl	50 mg
	NMIAM937	Norphenylephrine	100 mg
	NMIAD784	Pethidine (Meperidine)	50 mg
	NMIAD781	Phentermine HCl	100 mg
	NMIAD726	Psilocyn	10 mg
	NMIAD727	Psilocybin	10 mg
	NMIAD873	3 α -Hydroxy-4-estren-17-one	1 mg

Materials for forensic toxicology



CERTAN®

The ampoule in a bottle



Unopened glass ampoules are ideal for storing volatile standards, but once opened they are no longer suitable for storage. The alternative use of screw cap bottles can result in evaporation through the thread. There is also a risk of contamination from the cap.

The CERTAN® bottle is a sample container with a capillary-opening. It has been specifically developed for use with organic reference solutions. Using the CERTAN® bottle makes the problems of storing volatile solutions a thing of the past.

Advantages of CERTAN®

- Minimal change in concentration, even when open
- Totally secure, free of losses
- Less risk of contamination
- Aliquots easily removed using a standard GC syringe
- Proven usability from -30°C to +50°C
- Easy serial filling with auto diluter
- Almost impossible to spill

For further information on these products or to receive any one of our catalogues, please contact your local office or visit our web site.

Applications for CERTAN®

Supply of standard solutions

Long term storage for solutions from ampoules

Storage of stock solution

Archiving of production samples

Holding difficult samples, such as BTEX aromatics

Transport and storage of ringtest samples

www.lgcpromochem.com

Forensic science standards

General

The products from Cerilliant are widely used and acknowledged in forensic analysis. The company is situated in Texas (USA) and is recognised worldwide as the premier provider of standards for drugs of abuse analysis. They offer the widest selection and highest quality isotope labelled and "native" standard solutions suitable for analytical purposes in drug testing of urine and other body fluids, therapeutic drug monitoring, pharmaceutical analysis, and other uses. They also offer alcohol standards, steroid standards and their metabolites, and derivatising reagents.

A quality assurance programme has been developed to ensure that every analytical standard is accurate and reliable and the procedures require the use of high purity chemicals as well as verification of concentration, homogeneity and stability.

A certificate of analysis, including traceability data, is provided free of charge with each product.

Controlled substances

A number of the forensic reference substances described in this section of the catalogue are controlled substances. Also, anabolic steroids are considered as controlled substances in certain countries as well. The purchase, possession and use of controlled substances are subject to national and international regulations designed to limit their abuse. It is the responsibility of the customer to obtain any authorisation necessary to both possess and purchase controlled substances, complying with the laws of the importing country, before ordering.

The complex administration associated with the supply and possession of these materials makes it necessary for LGC Promochem companies to ensure all customers requiring controlled substances are aware of all the relevant national requirements, the associated charges and consequential delivery times.

Customers wishing to obtain controlled substances must contact their LGC Promochem sales office before ordering, and clarify with the sales specialists at LGC Promochem the procedure to be followed, and the exact cost. All orders for controlled substances must be provided in writing and signed by an authorised person and must be accompanied with the original import permit and/or possession permit. Please send the order and all related documents to the LGC Promochem sales office that is responsible for your country. Please consult the list below to find the contact information of your LGC Promochem sales office.

All reference substances and standards in this catalogue are for laboratory analytical use only and not for use in humans.

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Forensic science standards

Code

Product

Forensic science standards reference guide

Metabolites are sorted with parent substances and indented under them

Antibiotics

Amoxicillin
Cephalexin
Doxycycline hyclate

Benzodiazepines and their metabolites

Alprazolam-D5	Lorazepam-D4	Lorazepam
α-Hydroxyalprazolam-D5		Lormetazepam
Alprazolam		Lorazepam
α-Hydroxyalprazolam		Midazolam
Bromazepam		α-Hydroxymidazolam
Chlordiazepoxide		Nitrazepam-D5
4'-Hydroxynordiazepam		Nitrazepam
Nordiazepam		7-Aminonitrazepam
Oxazepam		Nordiazepam-D5
Clobazam		Oxazepam-D5
Clonazepam-D4		Nordiazepam
7-Aminoclonazepam-D4		4'-Hydroxynordiazepam
Clonazepam		Oxazepam
7-Aminoclonazepam		Oxazepam-D5
Diazepam-D5		Oxazepam
Nordiazepam-D5		Prazepam-D5
Temazepam-D5		Nordiazepam-D5
Oxazepam-D5		Oxazepam-D5
Diazepam		Prazepam
4'-Hydroxynordiazepam		4'-Hydroxynordiazepam
Nordiazepam		Nordiazepam
Temazepam		Oxazepam
Oxazepam		Temazepam-D5
Estazolam-D5		Oxazepam-D5
Estazolam		Temazepam
Flunitrazepam-D7		Oxazepam
7-Aminoflunitrazepam-D7		Triazolam-D4
N-Desmethylflunitrazepam-D4		α-Hydroxytriazolam-D4
Flunitrazepam		Triazolam
7-Aminoflunitrazepam		α-Hydroxytriazolam
N-Desmethylflunitrazepam		
Flurazepam		
Desalkylflurazepam-D4		
2-Hydroxyethylflurazepam-D4		
2-Hydroxyethylflurazepam		

Cardiac drugs and anti-lipemic drugs

Atenolol	Metoprolol tartrate
Captopril	Propranolol HCl
Clonidine	Simvastatin
Diltiazem HCl	Verapamil HCl
Gemfibrozil	

Non-steroidal anti-inflammatory drugs (NSAIDs)

Diclofenac sodium	Naproxen
Ibuprofen	

Gastro-intestinal drugs

Cimetidine	Omeprazole
Lansoprazole	Ranitidine HCl

Depressants, sedatives, tranquilizers, muscle relaxants, and anti-seizure drugs

Carbamazepine	Melatonin-D7
Carisoprodol	Melatonin
Cyclobenzaprine HCl	Meprobamate
Fluphenazine 2 HCl	Methaqualone-D7
Gabapentin	Methaqualone
Haloperidol-D4	Zolpidem hemitartrate
Haloperidol	

Forensic science standards

Code

Product

Steroids and their metabolites

5α-Androstane	17α-Methyl-5α-androstane-3α,17β-diol
Dexamethasone	Methylprednisolone
Digoxin	17α-Methyltestosterone
Estradiol	17 α -Methyl-5 α -androstane-3 α ,17 β -diol
5α-Estran-3α-ol-17-one (nandrolone metabolite)	Norethandrolone
5α-Estran-3β-ol-17-one-D₃ (nandrolone metabolite)	17 α -Ethyl-5 β -estrane-3 α ,17 β -diol
5β-Estran-3α-ol-17-one-D₃ (nandrolone metabolite)	Oxymesterone
5β-Estran-3α-ol-17-one (nandrolone metabolite)	Prednisolone acetate
Fluoxymesterone	Stanozolol-D₃
6 β -Hydroxyfluoxymesterone	3'-Hydroxystanozolol-D ₃
9 α -Fluoro-18-nor-17,17-dimethyl-4,13-diene-11 β -ol-3-one	Stanozolol
9 α -Fluoro-17 α -methylandro-4-ene-3 α ,6 β ,11 β ,17 β -tetrol	3'-Hydroxystanozolol
Triamcinolone acetonide	16 β -Hydroxystanozolol
Medroxyprogesterone acetate	
Methandienone	
17 α -Methyl-5 β -androstane-3 α ,17 β -diol	
6 β -Hydroxymethandienone	
Methenolone	

Tricyclics and other antidepressants

Amitriptyline	Fluvoxamine maleate
Nortriptyline-D ₃ HCL	Imipramine-D₃
Nortriptyline	Desipramine-D ₃ HCl
Bupropion HCl	Imipramine
Chlorpromazine-D₃	Desipramine HCl
Chlorpromazine HCl	Maprotiline-D₃
Clomipramine-D₃	Maprotiline
Clomipramine	Mianserin-D₃
N-Desmethylclomipramine HCl	Mianserin
Dothiepin-D₃ (cis/trans)	Paroxetine-D₆ maleate
Dothiepin (cis/trans)	Paroxetine maleate
Doxepin-D₃ (cis/trans)	Protriptyline-D₃
Doxepin (cis/trans)	Protriptyline HCl
Desmethyldoxepin (cis/trans)	Sertraline
Fluoxetine-D₆ oxalate	Thioridazine
Norfluoxetine-D ₆ oxalate	Trazodone HCl
Fluoxetine HCl	Trimipramine-D₃
Norfluoxetine oxalate	Trimipramine
	N-Desmethyltrimipramine maleate

Cannabinoids and their metabolites

Cannabidiol	(-)-Δ^8-THC
Cannabinol	(-)-11-nor-9-Carboxy- Δ^8 -THC
(-)-Δ^8-THC	(\pm)-11-nor-9-Carboxy- Δ^8 -THC
(-)-Δ^8-THC-D₃	(\pm)-11-Hydroxy- Δ^8 -THC
(\pm)-11-nor-9-Carboxy- Δ^8 -THC-D ₉ , -D ₃	
(\pm)-11-Hydroxy- Δ^8 -THC-D ₃	

Other products

Aciclovir	Ketamine-D₄ HCL
Allopurinol	Norketamine-D ₄ HCl
1,4-Butanediol	Ketamine HCL
γ-Butyrolactone-D₆	Norketamine HCl
γ-Butyrolactone	(\pm)-Nicotine-D₄
GHB-D₆	(\pm)-Cotinine-D ₃
GHB	S(-)-Nicotine
Glipizide	Cotinine
Glyburide (Glybenclamide)	L-Thyroxine
	Warfarin

Diuretics

Furosemide	Theobromine
Hydrochlorothiazide	Triamterene

Code

Product

Opiates, their metabolites, and other analgesics

Acetaminophen	Dextromethorphan
Acetaminophen-D₄	Dihydrocodeine-D₆ HCl
6-Acetylcodeine	Dihydrocodeine HCl
Acetylsalicylic acid	Fentanyl-D₅
Buprenorphine-D₄	Norfentanyl-D ₅ oxalate
Norbuprenorphine-D ₃	Fentanyl
Buprenorphine	Norfentanyl oxalate
Norbuprenorphine	Heroin-D₉
Codeine-D₆, -D₃	6-Acetylmorphine-D ₆ , -D ₃
Hydrocodone-D ₃ , -D ₆	Morphine-D ₃ , -D ₆
Hydromorphone-D ₃	Heroin
Morphine-D ₃ , -D ₆	6-Acetylmorphine
Morphine-3 β -D-glucuronide-D ₃	Morphine
Morphine-6 β -D-glucuronide-D ₃	Hydrocodone-D₃, -D₆
Codeine	Hydromorphone-D ₃ , -D ₆
Hydrocodone	Hydrocodone
Hydromorphone	Hydromorphone
Morphine	LAAM
Morphine-3 β -D-glucuronide	(-)- α -Methadol HCl
Morphine-6 β -D-glucuronide	nor-LAAM HCl
Norcodeine	Levomethorphan
Normorphine	Meperidine-D₄
N-Desmethyl-cis-tramadol HCl	Normeperidine-D ₄
Meperidine	Oxycodone-D₆, -D₃
Normeperidine	Noroxycodone-D ₃
(\pm)-Methadone-D₉, -D₃	Oxymorphone-D ₃
EDDP-D ₃ perchlorate	Oxycodone
(\pm)-Methadone	Noroxycodone HCl
EDDP perchlorate	Noroxymorphone
EMDP [2-Ethyl-5-methyl-3,3-diphenylpyrrolidine]	Oxymorphone
Morphine-D₃, D₆	Oxymorphone-D₃
Morphine-3 β -D-glucuronide-D ₃	Oxymorphone
Morphine-6 β -D-glucuronide-D ₃	Noroxymorphone
Morphine	Pentazocine HCl
Morphine-3 β -D-glucuronide	Phenylbutazone
Morphine-6 β -D-glucuronide	(\pm)-Propoxyphene-D₅, D₁₁
Normorphine	Norpropoxyphene-D ₅ maleate
Nalorphine	(+)-Propoxyphene
Naloxone	Norpropoxyphene maleate
6β-Naltrexol	cis-Tramadol-¹³C, D₃ HCl
Naltrexone	cis-Tramadol HCl
Noroxymorphone	N-Desmethyl-cis-tramadol HCl

Cocaine analogs

Atropine	Cocaine (cont.)
Cocaine-D₃	Benzoyllecgonine isopropyl ester
Benzoyllecgonine-D ₈ , -D ₃	Cocaethylene
Cocaethylene-D ₈ , -D ₃	Ecgonine HCl
Ecgonine-D ₃ HCl	Ecgonine ethyl ester
Ecgonine methyl ester-D ₃	Ecgonine methyl ester
Norcocaine-D ₃ HCl	m-Hydroxybenzoyl-ecgonine
Cocaine	Norbenzoyllecgonine HCl
Anhydroecgonine HCl	Norcocaethylene HCl
Anhydroecgonine methyl ester	Norcocaine
Benzoyllecgonine	

Barbiturates

Amobarbital	Pentobarbital-D₅
Butabarbital	Pentobarbital
Butalbital-D₅	Phenobarbital-D₅ (ring)
Butalbital	Phenobarbital-D₅ (ethyl)
Glutethimide	Phenobarbital
Hexobarbital	Secobarbital-D₅
Methohexital-D₅	Secobarbital
Methohexital	

Forensic science standards

Code

Product

Stimulants, antihistamines, sympathomimetic agents, hallucinogens

Albuterol	(±)-MDMA-D ₅
Aminorex	(±)-MDA-D ₅
(±)-Amphetamine-D ₁₁ , -D ₁₀ , -D ₈ , -D ₆ , -D ₅	(±)-MDMA
(±)-Amphetamine	HMMA
R(-)-Amphetamine	(±)-MDA
S(+)-Amphetamine	Meclizine HCl
4-Bromo-2,5-dimethoxyphenethylamine HCl	Mescaline-D₉
Bufotenine	Messaline
Caffeine	cis-(±)-4-Methylaminorex
R(+)-Cathinone HCl	(±)-Methamphetamine-D ₁₄ , D ₁₁ , -D ₉ , -D ₈ , -D ₅
S(-)-Cathinone HCl	(±)-Amphetamine-D ₁₁ , -D ₁₀ , -D ₈ , -D ₆ , -D ₅
Chlorpheniramine maleate	(±)-Methamphetamine
Diphenhydramine-D ₃	(±)-Amphetamine
Diphenhydramine HCl	R(-)-Methamphetamine
1S,2R(+)-Ephedrine	Methamphetamine
1R,2S(-)-Ephedrine	R(+)-Methcathinone HCl
1S,2R(+)-Ephedrine-D ₃ HCl	S(-)-Cathinone HCl
R(-)-Epinephrine	S(-)-Methcathinone HCl
(±)-N-Ethylamphetamine	S(-)-Cathinone HCl
(±)-Amphetamine	Methylephedrine
(±)-Phenylpropanolamine HCl	Methylpseudoephedrine
Fenfluramine-D ₁₀ S(+)	Methylphenidate HCl
Fenfluramine	(+)-Norpseudoephedrine HCl
Ibogaine	PCP-D₅
LAMPA	PCP
2-Oxo-3-hydroxy-LAMPA	Pheniramine
Loratadine	Phentermine
LSD-D ₃	PMA HCl
LSD	PMMA HCl
iso-LSD, nor-iso-LSD	Promethazine-D₃ HCl
nor-LSD	Promethazine HCl
2-Oxo-3-hydroxy-LSD	S,S(+)-Pseudoephedrine
(±)-MBDB-D ₅	R,R(-)-Pseudoephedrine
(±)-MBDB HCl	Psilocin-D₁₀
(±)-BDB HCl	Psilocin
(±)-MDEA-D ₆ , -D ₅	Selegiline-D₈
(±)-MDA-D ₅	(±)-N-Desmethylselegiline-D ₁₁
(±)-MDEA	R(-)-Selegiline
(±)-MDA	(±)-N-Desmethylselegiline

Multicomponent forensic mixes

The development of these mixes was in response to requests from the analytical testing community. Cerilliant currently offers four mixes that may be used in a variety of applications.

Three of the mixes are grouped by drug class and may be used to monitor several analytes from a single drug group.

All of the mixes may also be used as test mixes to check chromatographic resolution and instrument performance.

The multi-component mixes offer convenience because preparation of working standards from mixing single analyte standards or weighing pure materials can be avoided. Laboratory variation in standard preparation is eliminated.

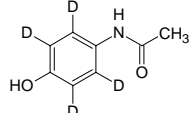
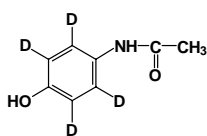
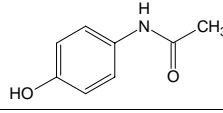
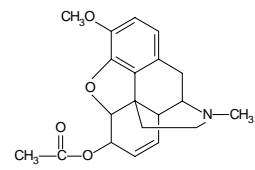
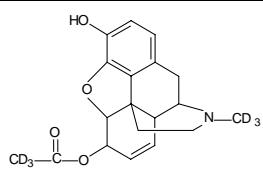
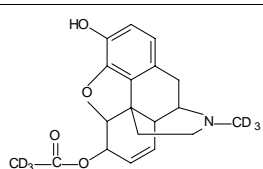
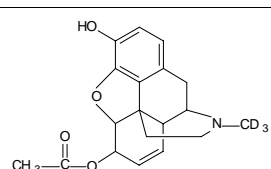
Since these standards go through the same rigorous preparation and testing procedures as all Cerilliant single-component standards, high quality products are guaranteed.

All products come in convenient flame-sealed ampoules.

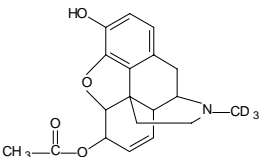
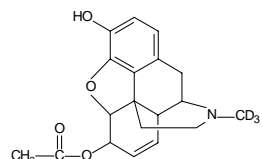
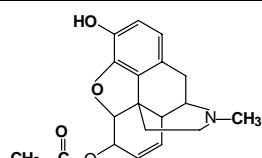
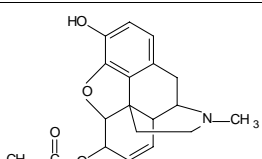
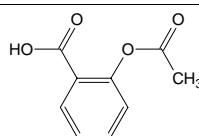
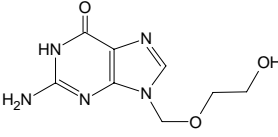
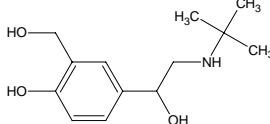
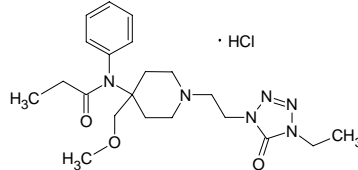
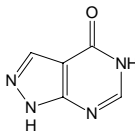
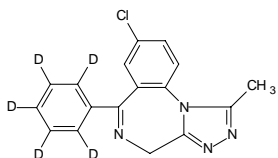
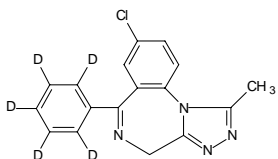
CERA-050	Amine mixture-6 (0.250 mg / component / mL) in Methanol	1 mL
	6 Components in Methanol 1 mL/Ampoule - 250 µg/mL of each component:	
	(±)-Amphetamine	
	MDA	
	MDMA	
	MDEA	
	(±)-Methamphetamine	
	Phentermine	

Code	Product	
CERB-033	Benzodiazepines multi-component mixture-8 (0.250 mg / component / mL) in Acetonitril 8 Components in Acetonitrile 1 mL/Ampoule - 0.250 mg/mL of each component: Alprazolam Diazepam Lorazepam Oxazepam Clonazepam Flunitrazepam Nitrazepam Temazepam	1 mL
CERM-025	Methamphetamine/Cocaine/Heroin Mix (0.250 mg / component / mL) in Acetonitrile 3 Components in Acetonitrile 1 mL/Ampoule - 250 µg/mL of each component: Cocaine Heroin Methamphetamine	1 mL
CERO-020	Opiate multi-component mixture-5 (0.250 mg / component / mL) in Methanol 5 Components in Methanol 1 mL/Ampoule - 250 µg/mL of each component: Codeine Hydrocodone Meperidine Metadone Oxycodone	1 mL

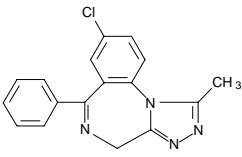
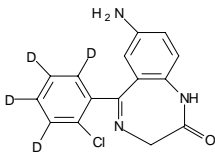
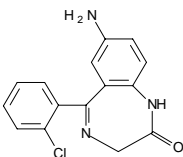
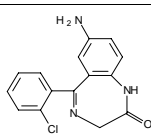
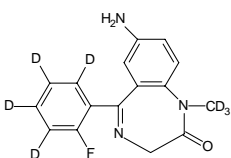
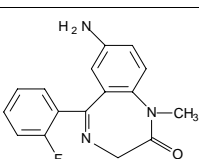
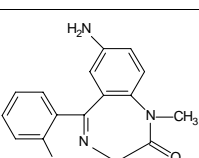
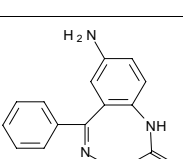
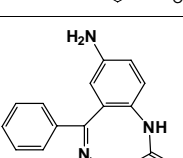
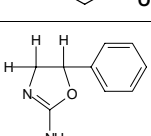
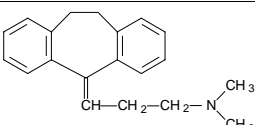
Forensic science standard solutions

CERP-917	Acetaminophen-D4 (1.0 mg/mL) in Methanol		1 mL
CERP-909	Paracetamol-D4 (0.1 mg/mL) in Methanol		1 mL
CERA-064	Acetaminophen (1.0 mg/mL) (Paracetamol) in Methanol		1 mL
CERA-053	6-Acetylcodeine (1.0 mg/mL) in Acetonitrile		1 mL
CERA-026	6-Acetylmorphine-D6 (0.1 mg/mL) in Acetonitrile		1 mL
CERA-027	6-Acetylmorphine-D6 (1.0 mg/mL) in Acetonitrile		1 mL
CERA-028	6-Acetylmorphine-D3 (10 µg/mL) in Acetonitrile		5 x 1 mL

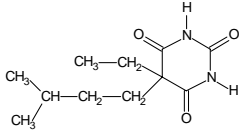
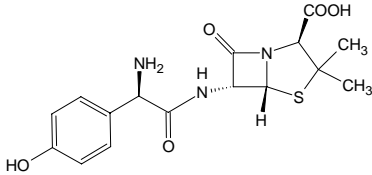
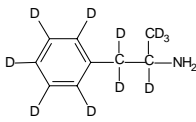
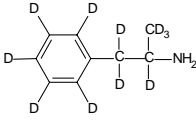
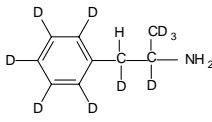
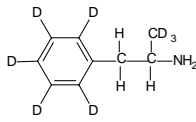
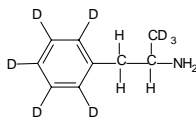
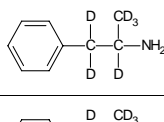
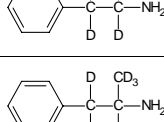
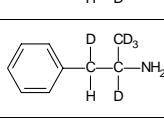
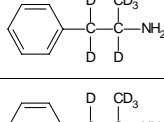
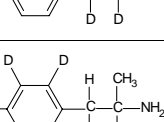
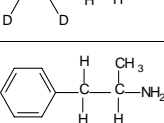
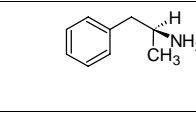

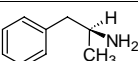
Forensic science standards

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CERA-010	6-Acetylmorphine-D3 (1.0 mg/mL) in Acetonitrile		1 mL
CERA-003	6-Acetylmorphine (0.1 mg/mL) in Acetonitrile		1 mL
CERA-009	6-Acetylmorphine (1.0 mg/mL) in Acetonitrile		1 mL
CERA-065	Acetylsalicylic acid		250 mg
CERA-066	Acyclovir		100 mg
CERA-067	Albuterol (1.0 mg/mL) in Methanol		1 mL
New CERA-071	Alfentanyl HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERA-068	Allopurinol		250 mg
CERA-902	Alprazolam-D5 (0.1 mg/mL) in Methanol		1 mL
CERA-910	Alprazolam-D5 (1.0 mg/mL) in Methanol		1 mL

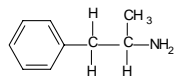
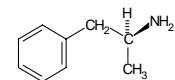
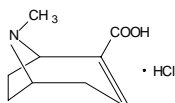
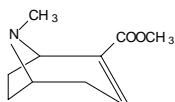
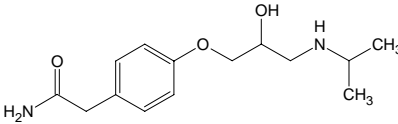
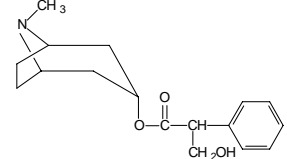
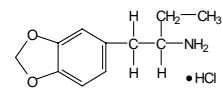
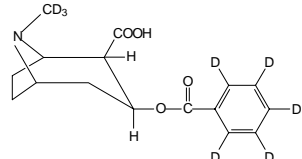
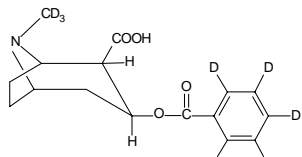
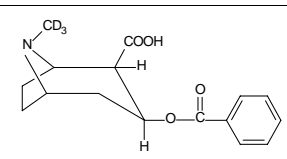
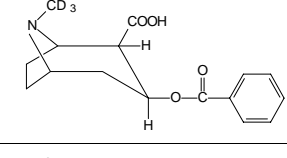
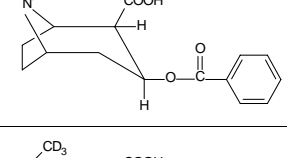
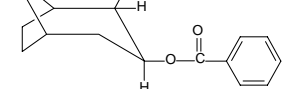
Forensic science standards

Code	Product		
CERA-903	Alprazolam (1.0 mg/mL) AZ in Methanol		1 mL
CERA-917	7-Aminoclonazepam-D4 (0.1 mg/mL) in Acetonitrile		1 mL
CERA-915	7-Aminoclonazepam (0.1 mg/mL) in Acetonitrile		1 mL
CERA-916	7-Aminoclonazepam (1.0 mg/mL) in Acetonitrile		1 mL
CERA-921	7-Aminoflunitrazepam-D7 (0.1 mg/mL) in Acetonitrile		1 mL
CERA-912	7-Aminoflunitrazepam (0.1 mg/mL) in Acetonitril		1 mL
CERA-911	7-Aminoflunitrazepam (1.0 mg/mL) in Acetonitril		1 mL
CERA-914	7-Aminonitrazepam (0.1 mg/mL) in Acetonitrile		1 mL
CERA-913	7-Aminonitrazepam (1.0 mg/mL) in Methanol		1 mL
CERA-040	Aminorex (1.0 mg/mL) in Acetonitrile		1 mL
CERA-906	Amitriptyline (1.0 mg/mL) in Methanol		1 mL

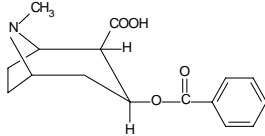
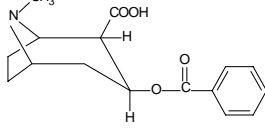
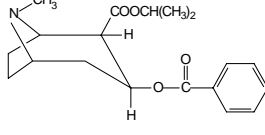
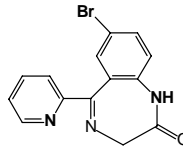
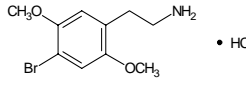
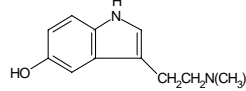
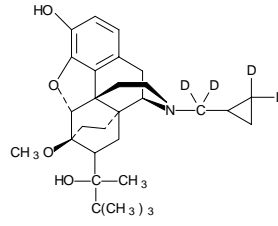
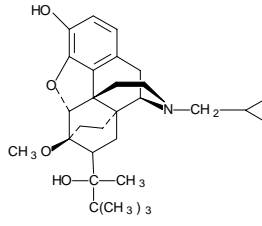
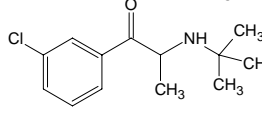
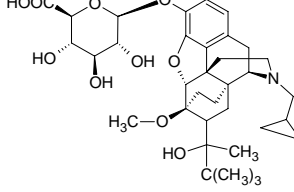
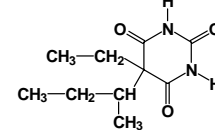
Forensic science standards

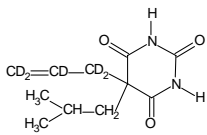
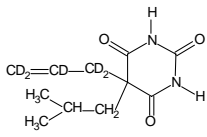
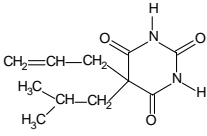
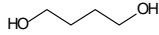
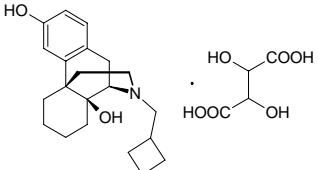
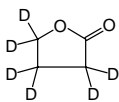
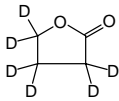

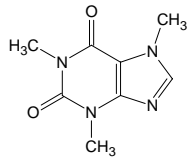
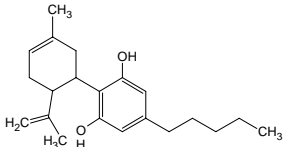
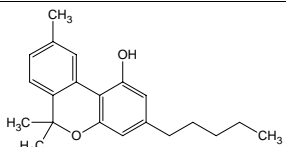
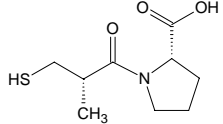
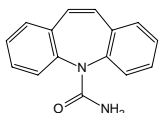
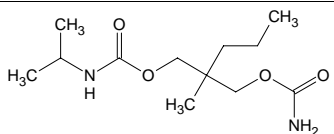
Code	Product		
CERA-020	Amobarbital (1.0 mg/mL) in Methanol		1 mL
CERA-069	Amoxicillin		250 mg
CERA-016	(±)-Amphetamine-D11 (0.1 mg/mL) in Methanol		1 mL
CERA-019	(±)-Amphetamine-D11 (1.0 mg/mL) in Methanol		1 mL
CERA-038	(±)-Amphetamine-D10 (0.1 mg/mL) in Methanol		1 mL
CERA-017	(±)-Amphetamine-D8 (0.1 mg/mL) in Methanol		1 mL
CERA-018	(±)-Amphetamine-D8 (1.0 mg/mL) in Methanol		1 mL
CERA-044	Amphetamine-D6 (0.1 mg/mL) in Methanol		1 mL
CERA-045	Amphetamine-D6 (1.0 mg/mL) in Methanol		1 mL
CERA-029	(±)-Amphetamine-D5 (10 µg/mL) in Methanol		5 x 1 mL
CERA-005	(±)-Amphetamine-D5 (0.1 mg/mL) in Methanol		1 mL
CERA-047	(±)-Amphetamine-D5 (0.1 mg/mL) in Methanol		5 mL
CERA-013	(±)-Amphetamine-D5 (1.0 mg/mL) in Methanol		1 mL
CERA-002	(±)-Amphetamine-D5 (0.1 mg/mL) in Methanol		1 mL
CERA-011	(±)-Amphetamine (0.1 mg/mL) in Methanol		1 mL
CERA-049	R(-)-Amphetamine (1.0 mg/mL) (Levamfetamin) in Methanol		1 mL

Forensic science standards

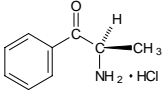
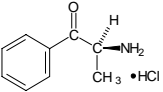
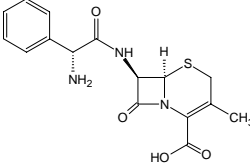
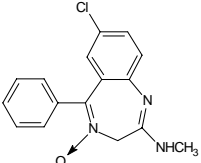
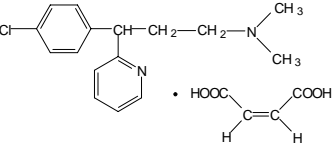
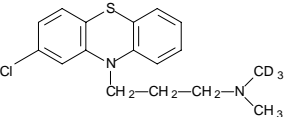
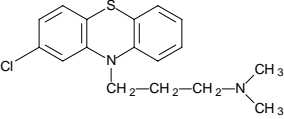
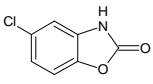
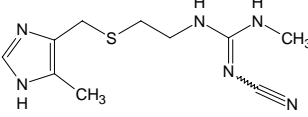
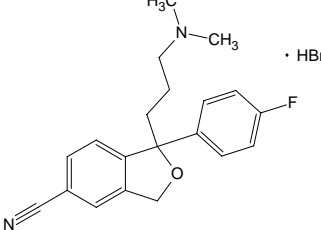
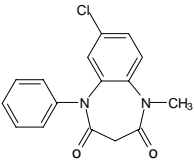
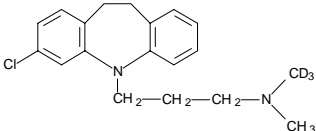
Code	Product		
CERA-007	(±)-Amphetamine (1.0 mg/mL) in Methanol		1 mL
CERA-008	S(+)-Amphetamine (1.0 mg/mL) in Methanol		1 mL
CERA-036	Anhydroecgonine HCl (1.0 mg/mL) in Methanol		1 mL
CERA-034	Anhydroecgonine methyl ester (1.0 mg/mL) in Acetonitrile		1 mL
CERA-070	Atenolol		250 mg
CERA-046	Atropine (1.0 mg/mL) in Acetonitrile		1 mL
CERB-016	(±)-BDB HCl (1.0 mg/mL) in Methanol		1 mL
CERB-013	Benzoylecgonin-D8 (0.1 mg/mL) in Methanol		1 mL
CERB-014	Benzoylecgonine-D8 (1.0 mg/mL) in Methanol		1 mL
CERB-009	Benzoylecgonine-D3 (10µg/mL) in Methanol		5 x 1 mL
CERB-001	Benzoylecgonine-D3 (0.1 mg/mL) in Methanol		1 mL
CERB-015	Benzoylecgonine-D3 (0.1 mg/mL) in Methanol		5 mL
CERB-008	Benzoylecgonine-D3 (1.0 mg/mL) in Methanol		1 mL

Forensic science standards

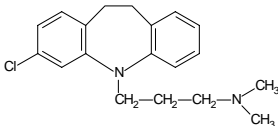
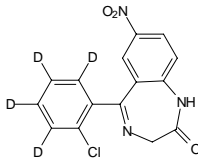
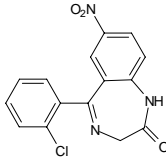
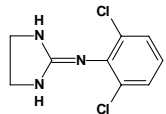
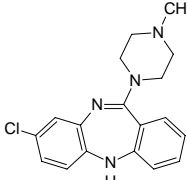
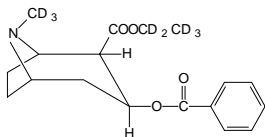
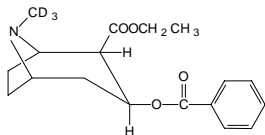
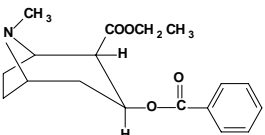
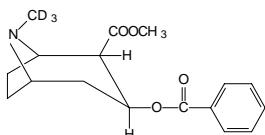
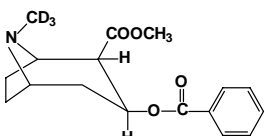
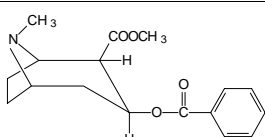
Code	Product		
CERB-007	Benzoylecgonine (0.1 mg/mL) in Methanol		1 mL
CERB-004	Benzoylecgonine (1.0 mg/mL) in Methanol		1 mL
CERB-010	Benzoylecgonine isopropyl ester (1.0 mg/mL) in Acetonitrile		1 mL
CERB-903	Bromazepam (1.0 mg/mL) in Methanol		1 mL
CERB-026	4-Bromo-2,5-dimethoxyphenethylamine HCl (1.0 mg/mL) in Methanol		1 mL
CERB-022	Bufotenine (1.0 mg/mL) in Acetonitrile		1 mL
CERB-901	Buprenorphine-D4 (0.1 mg/mL) in Methanol		1 mL
CERB-902	Buprenorphine (0.1 mg/mL) in Methanol		1 mL
CERB-034	Bupropion HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
New CERB-035	Buprenorphine-3beta-D-glucuronide (0.1 mg/mL) in Methanol		1 mL
CERB-024	Butabarbital (1.0 mg/mL) in Methanol		1 mL

Code	Product		
CERB-005	Butalbital-D5 (0.1 mg/mL) in Methanol		1 mL
CERB-030	Butalbital-D5 (1.0 mg/mL) in Methanol		1 mL
CERB-006	Butalbital (1.0 mg/mL) in Methanol		1 mL
CERB-020	1,4-Butanediol (1.0 mg/mL) in Methanol		1 mL
New CERB-037	Butorphanol tartrate (1.0 mg/mL) (as free base) in Methanol		1 mL
CERB-019	γ-Butyrolactone-D6 (0.1 mg/mL) in Acetonitrile		1 mL
CERB-032	γ-Butyrolactone-D6 (1.0 mg/mL) in Acetonitrile		1 mL
CERB-018	γ-Butyrolactone (1.0 mg/mL) in Acetonitrile		1 mL
CERC-051	Caffeine (1.0 mg/mL) in Methanol		1 mL
CERC-045	Cannabidiol (1.0 mg/mL) in Methanol		1 mL
CERC-046	Cannabinol (1.0 mg/mL) in Methanol		1 mL
CERC-052	Captopril		250 mg
CERC-053	Carbamazepine (1.0 mg/mL) in Methanol		1 mL
CERC-042	Carisoprodol		500 mg

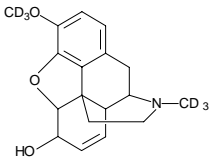
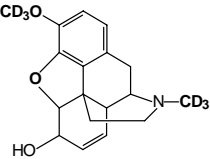
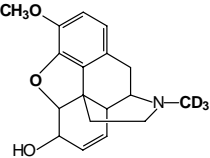
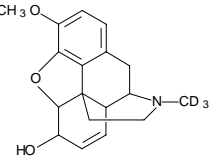
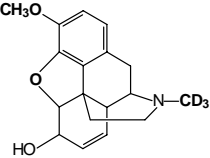
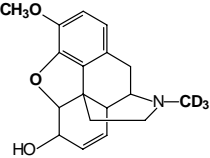
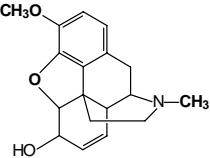
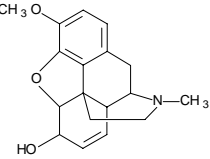
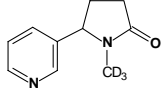
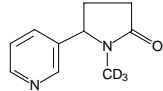
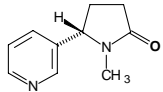
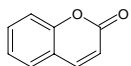
Forensic science standards

Code	Product		
CERC-028	R(+)-Cathinone HCl (1.0 mg/mL) in Methanol		1 mL
CERC-019	2S-Cathinone HCl (1.0 mg/mL) in Methanol		1 mL
CERC-054	Cephalexin		250 mg
CERC-022	Chlordiazepoxide (1.0 mg/mL) in Methanol		1 mL
CERC-036	Chlorpheniramine maleate (1.0 mg/mL) in Methanol		1 mL
CERC-902	Chlorpromazine-D3 (0.1 mg/mL) in Methanol		1 mL
CERC-904	Chlorpromazine HCl (1.0 mg/mL) in Methanol		1 mL
New CERC-074	Chlorzoxazone (0.1 mg/mL) in Acetonitrile		1 mL
CERC-055	Cimetidine		250 mg
New CERC-057	Citalopram hydrobromide (0.1 mg/mL) (as free base) in Methanol		1 mL
CERC-909	Clobazam (1.0 mg/mL) in Methanol		1 mL
CERC-901	Clomipramine-D3 (0.1 mg/mL) in Methanol		1 mL

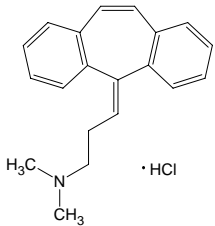
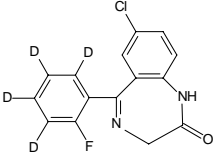
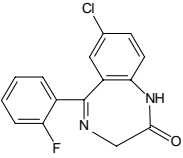
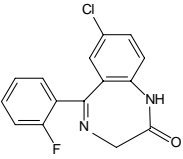
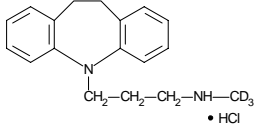
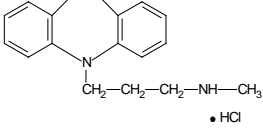
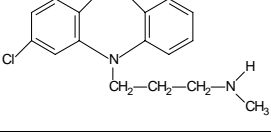
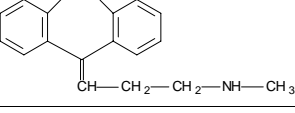
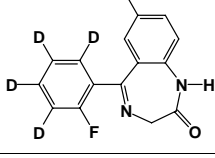
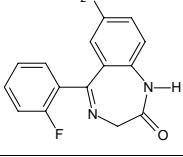
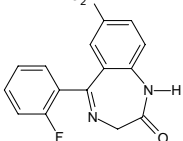
Forensic science standards

Code	Product		1 mL
CERC-903	Clomipramine (1.0 mg/mL) in Methanol		1 mL
CERC-905	Clonazepam-D4 (0.1 mg/mL) in Methanol		1 mL
CERC-907	Clonazepam (1.0 mg/mL) in Methanol		1 mL
CERC-033	Clonidine (1.0 mg/mL) in Methanol		1 mL
New CERC-059	Clozapine (1.0 mg/mL) in Methanol		1 mL
CERC-024	Cocaethylene-D8 (0.1 mg/mL) in Acetonitrile		1 mL
CERC-009	Cocaethylene-D3 (0.1 mg/mL) in Acetonitrile		1 mL
CERC-010	Cocaethylene (1.0 mg/mL) (Benzoylethylecgonin) in Acetonitrile		1 mL
CERC-004	Cocaine-D3 (0.1 mg/mL) in Acetonitrile		1 mL
CERC-014	Cocaine-D3 (1.0 mg/mL) in Acetonitrile		1 mL
CERC-008	Cocaine (1.0 mg/mL) in Acetonitrile		1 mL

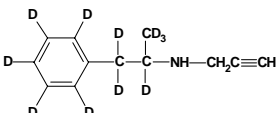
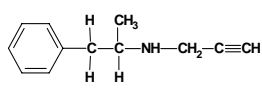
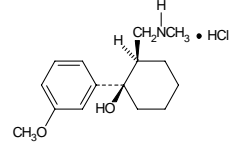
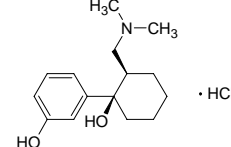
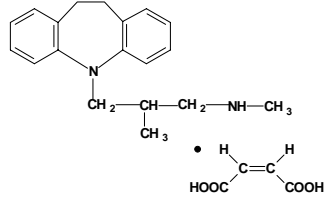
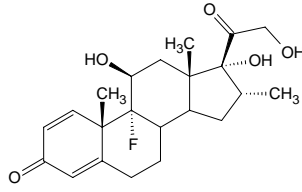
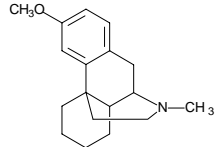
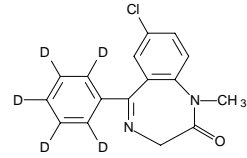
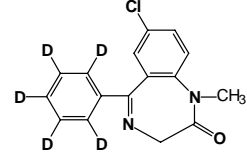
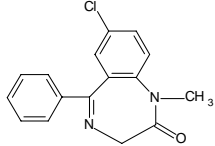
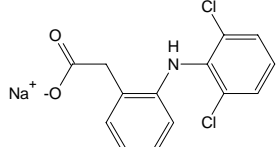
Forensic science standards

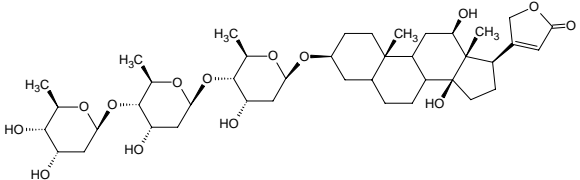
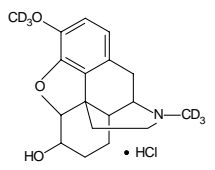
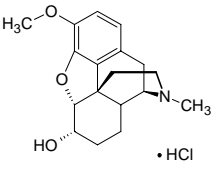
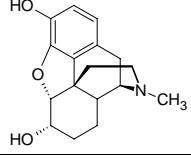
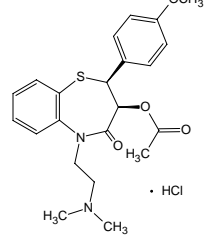
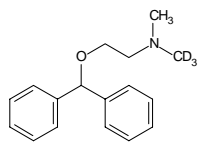
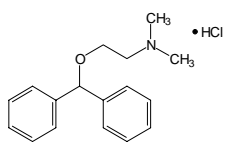
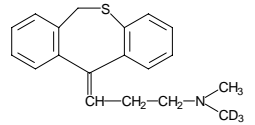
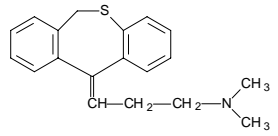
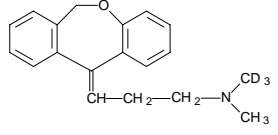
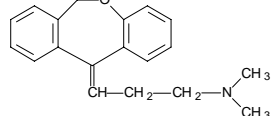
Code	Product		
CERC-040	Codeine-D6 (0.1 mg/mL) in Methanol		1 mL
CERC-041	Codeine-D6 (1.0 mg/mL) in Methanol		1 mL
CERC-030	Codeine-D3 (10µg/mL) in Methanol		5 x 1 mL
CERC-005	Codeine-D3 (0.1 mg/mL) in Methanol		1 mL
CERC-039	Codeine-D3 (0.1 mg/mL) in Methanol		5 mL
CERC-007	Codeine-D3 (1.0 mg/mL) in Methanol		1 mL
CERC-015	Codeine (0.1 mg/mL) in Methanol		1 mL
CERC-006	Codeine (1.0 mg/mL) in Methanol		1 mL
CERC-017	(±)-Cotinine-D3 (0.1 mg/mL) in Methanol		1 mL
CERC-035	DL-Cotinine-D3 (1.0 mg/mL) in Methanol		1 mL
CERC-016	(-)-Cotinine (1.0 mg/mL) in Methanol		1 mL
New CERC-073	Coumarin (1.0 mg/mL) in Acetonitrile		1 mL

Forensic science standards

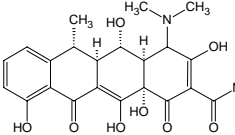
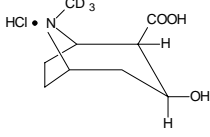
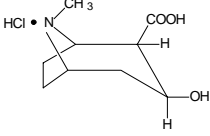
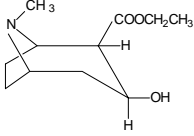
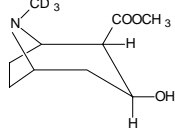
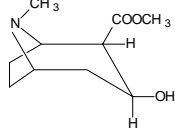
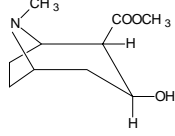
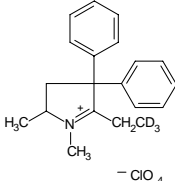
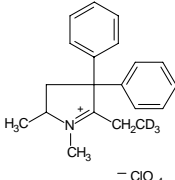
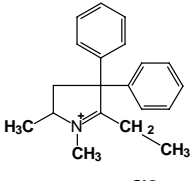
Code	Product		
CERC-056	Cyclobenzaprine HCl		250 mg
CERD-924	Desalkylflurazepam-D4 (0.1 mg/mL) in Methanol		1 mL
CERD-914	Desalkylflurazepam (0.1 mg/mL) in Methanol		1 mL
CERD-915	Desalkylflurazepam (1.0 mg/mL) in Methanol		1 mL
CERD-903	Desipramine-D3 HCl (0.1 mg/mL) in Methanol		1 mL
CERD-906	Desipramine (1.0 mg/mL) in Methanol		1 mL
CERD-916	N-Desmethylclomipramine (1.0 mg/mL) (as free base) in Methanol		1 mL
CERD-007	Desmethyldoxepin (cis/trans) (1.0 mg/mL) in Methanol		1 mL
CERD-925	N-Desmethylflunitrazepam-D4 (0.1 mg/mL) in Methanol		1 mL
CERD-919	Desmethylflunitrazepam(0.1 mg/mL) in Methanol		1 mL
CERD-918	Desmethylflunitrazepam (1.0 mg/mL) in Methanol		1 mL

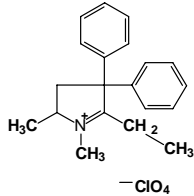
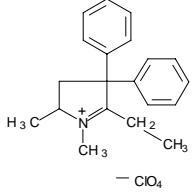
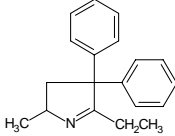
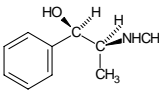
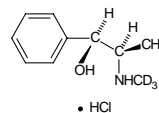
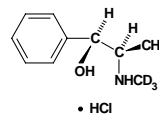
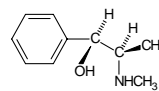
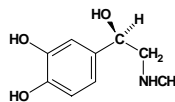
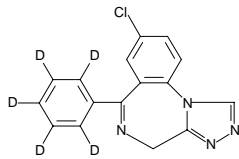
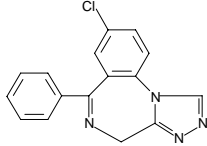
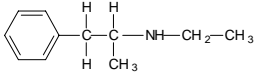
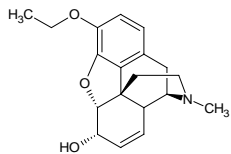
Forensic science standards

Code	Product		
CERD-016	N-Desmethylselegiline-D11 (0.1 mg/mL) in Methanol		1 mL
CERD-012	(±)-N-Desmethylselegiline (1.0 mg/mL) in Methanol		1 mL
New CERD-023	N-Desmethyl-cis-tramadol HCl (1.0 mg/mL) in Methanol		1 mL
New CERT-035	O-Desmethyl-cis-Tramadol HCl (1 mg/mL) (as free base) in Methanol		1 mL
CERD-920	N-Desmethyltrimipramine maleate (1.0 mg/mL) in Methanol		1 mL
CERD-027	Dexamethasone		100 mg
CERD-013	Dextromethorphan (1.0 mg/mL) in Methanol		1 mL
CERD-902	Diazepam-D5 (0.1 mg/mL) in Methanol		1 mL
CERD-910	Diazepam-D5 (1.0 mg/mL) in Methanol		1 mL
CERD-907	Diazepam (1.0 mg/mL) in Methanol		1 mL
CERD-028	Diclofenac sodium		250 mg

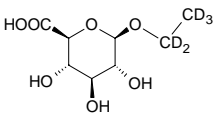
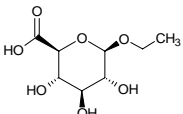
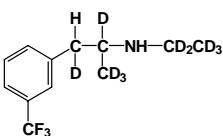
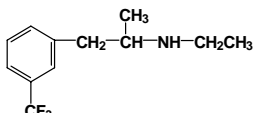
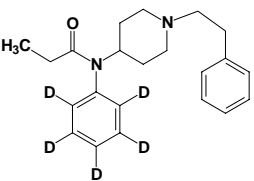
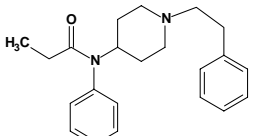
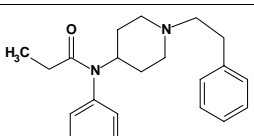
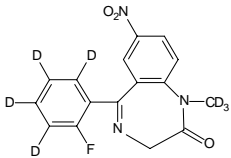
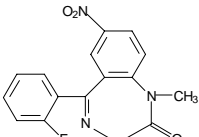
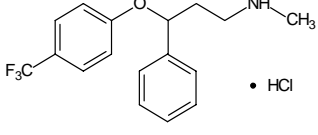
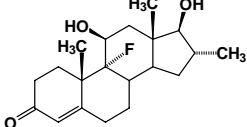
Code	Product		
CERD-029	Digoxin (1.0 mg/mL) in Methanol		1 mL
CERD-021	Dihydrocodeine-D6 HCl (0.1 mg/mL) in Methanol		1 mL
CERD-019	Dihydrocodeine HCl (1.0 mg/mL) in Methanol		1 mL
New CERD-033	Dihydromorphine (1.0 mg/mL) in Methanol		1 mL
CERD-030	Diltiazem HCl		100 mg
CERD-017	Diphenhydramine-D3 (0.1 mg/mL) in Methanol		1 mL
CERD-015	Diphenhydramine HCl (1.0 mg/mL) in Methanol		1 mL
CERD-904	Dothiepin-D3 (cis/trans) (0.1 mg/mL) in Methanol		1 mL
CERD-908	Dothiepin (cis/trans) (1.0 mg/mL) in Methanol		1 mL
CERD-901	Doxepin-D3 (cis/trans) (0.1 mg/mL) in Methanol		1 mL
CERD-905	Doxepin (cis/trans) (1.0 mg/mL) in Methanol		1 mL

Forensic science standards

Code	Product		
CERD-031	Doxycycline hyclate	 <ul style="list-style-type: none"> • HCl • 0.5 H₂O • 0.5 CH₃CH₂OH 	250 mg
CERE-003	Ecgonine-D3 HCl (0.1 mg/mL) in Methanol		1 mL
CERE-004	Ecgonine HCl (1.0 mg/mL) in Methanol		1 mL
CERE-019	Ecgonine ethyl ester (1.0 mg/mL) in Acetonitrile		1 mL
CERE-002	Ecgonine methyl ester-D3 (0.1 mg/mL) in Acetonitrile		1 mL
CERE-008	Ecgonine methyl ester (0.1 mg/mL) in Acetonitrile		1 mL
CERE-001	Ecgonine methyl ester (1.0 mg/mL) in Acetonitrile		1 mL
CERE-021	EDDP-D3 perchlorate (0.1 mg/mL) in Methanol	 <p>- ClO₄</p>	1 mL
CERE-005	EDDP-D3 perchlorate (as salt)	 <p>- ClO₄</p>	5 mg
CERE-012	EDDP perchlorate (0.1 mg/mL) in Methanol	 <p>- ClO₄</p>	1 mL

Code	Product		
CERE-022	EDDP perchlorate (1.0 mg/mL) in Methanol		1 mL
CERE-006	EDDP perchlorate (as salt)		10 mg
CERE-028	EMDP (1.0 mg/mL) in Acetonitrile		1 mL
CERE-023	1R,2S(-)-Ephedrine HCl (1.0 mg/mL) in Methanol		1 mL
CERE-025	1S,2R (+)-Ephedrine-D3 HCl (0.1 mg/mL) in Methanol		1 mL
CERE-026	1S,1R (+)-Ephedrine-D3 HCl (1.0 mg/mL) in Methanol		1 mL
CERE-011	(+)-Ephedrine (1.0 mg/mL) in Methanol		1 mL
CERE-024	R(-)-Epinephrine		100 mg
CERE-903	Estazolam-D5 (0.1 mg/mL) in Methanol		1 mL
CERE-901	Estazolam (1.0 mg/mL) in Methanol		1 mL
CERE-018	(±)-N-Ethylamphetamine (1.0 mg/mL) in Methanol		1 mL
New CERE-052	Ethylmorphine (1.0 mg/mL) in Methanol		1 mL

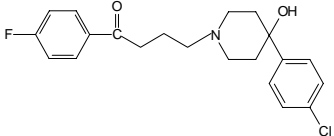
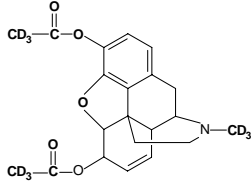
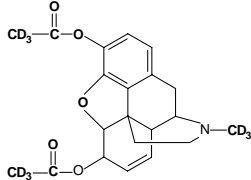
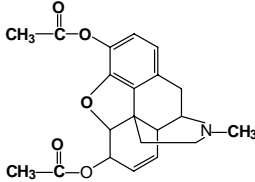
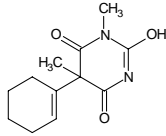
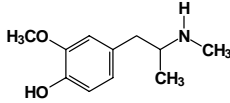
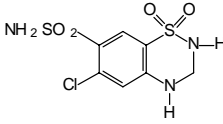
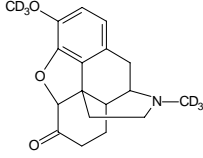
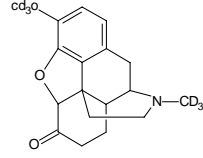
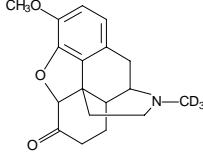
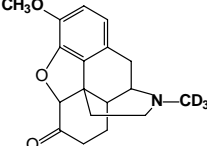
Forensic science standards

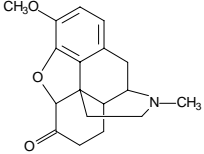
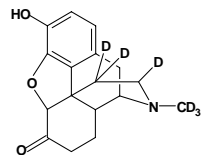
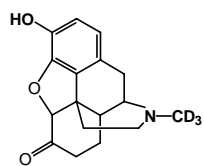
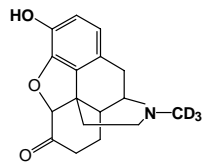
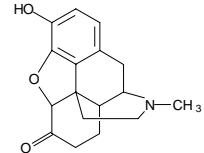
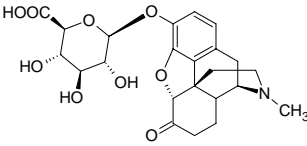
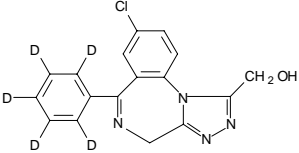
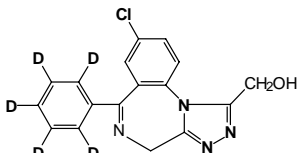
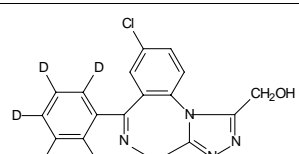
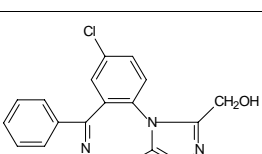
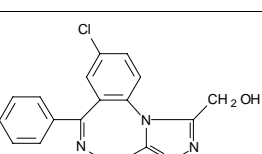
Code	Product		
New CERE-048	Ethyl beta-D-glucuronide-D5 (0.1 mg/mL) in Methanol		1 mL
New CERE-016	Ethyl beta-D-glucuronide (0.1 mg/mL) in Methanol		1 mL
CERF-010	Fenfluramine-D10 (0.1 mg/mL) in Methanol		1 mL
CERF-009	Fenfluramine (1.0 mg/mL) in Methanol		1 mL
CERF-001	Fentanyl-D5 (0.1 mg/mL) in Methanol		1 mL
CERF-002	Fentanyl (0.1 mg/mL) in Methanol		1 mL
CERF-013	Fentanyl (1.0 mg/mL) in Methanol		1 mL
CERF-915	Flunitrazepam-D7 (0.1 mg/mL) in Methanol		1 mL
CERF-907	Flunitrazepam (1.0 mg/mL) in Methanol		1 mL
CERF-919	Fluoxetine-D6 oxalate (0.1 mg/mL) (as free base) in Methanol		1 mL
CERF-918	Fluoxetine HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERF-909	Fluoxymesterone (1.0 mg/mL) in Dimethoxyethane		1 mL

Forensic science standards

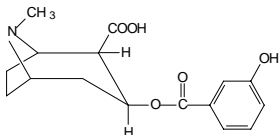
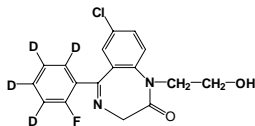
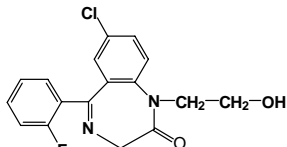
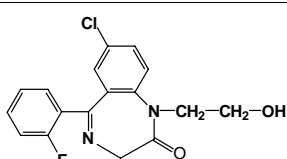
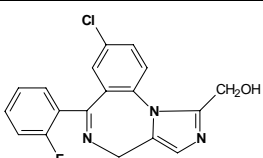
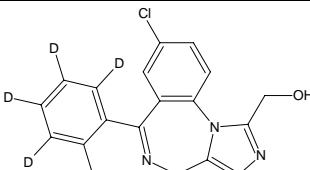
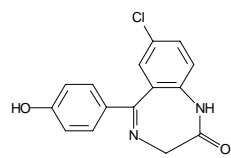
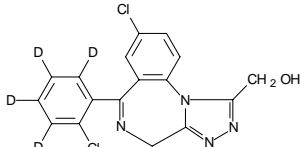
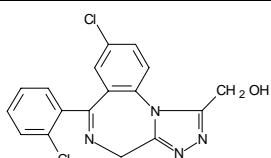
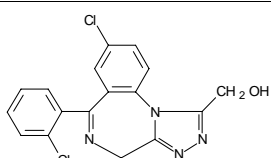
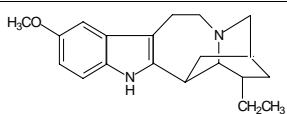
Code	Product		1 mL
CERF-903	Fluphenazine (1.0 mg/mL) in Methanol		1 mL
CERF-003	Flurazepam (1.0 mg/mL) in Methanol		1 mL
CERF-012	Fluvoxamine maleate (1.0 mg/mL) in Acetonitrile		1 mL
CERF-005	Furosemide (1.0 mg/mL) in Methanol		1 mL
CERG-007	Gabapentin (1.0 mg/mL) in Methanol		1 mL
CERG-008	Gemfibrozil		250 mg
CERG-003	GHB-D6 (4-Hydroxy-2,2,3,3,4,4-hexadeuterobutyric acid sodium salt) (0.1 mg/mL) in Methanol		1 mL
CERG-006	GHB-D6 (4-Hydroxy-2,2,3,3,4,4-hexadeuterobutyric acid sodium salt) (1.0 mg/mL) in Methanol		1 mL
CERG-001	GHB (4-Hydroxybutyric acid sodium salt) (1.0 mg/mL) in Methanol		1 mL
CERG-009	Glipizide		250 mg
CERG-005	Glutethimide (1.0 mg/mL) in Methanol		1 mL
CERG-010	Glyburide		250 mg
CERH-002	Haloperidol-D4 (0.1 mg/mL) in Methanol		1 mL

Forensic science standards

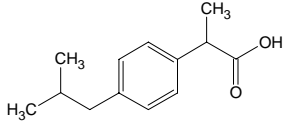
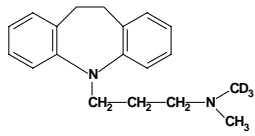
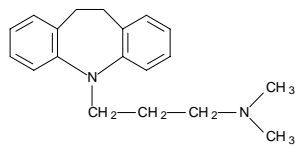
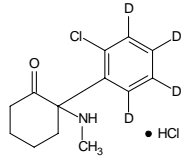
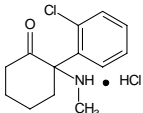
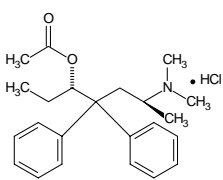
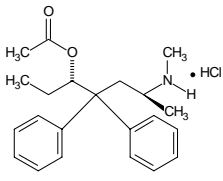
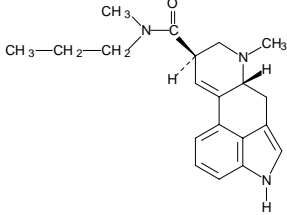
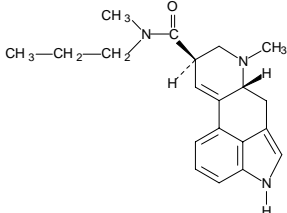
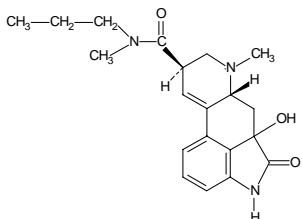
Code	Product		
CERH-030	Haloperidol (1.0 mg/mL) in Methanol		1 mL
CERH-036	Heroin-D9 (0.1 mg/mL) in Acetonitrile		1 mL
CERH-037	Heroin-D9 (1.0 mg/mL) in Acetonitrile		1 mL
CERH-038	Heroin (1.0 mg/mL) in Acetonitrile		1 mL
CERH-013	Hexobarbital (1.0 mg/mL) in Methanol		1 mL
CERH-046	HMMA (4-Hydroxy-3-methoxymethamphetamine) (1.0 mg/mL) in Methanol		1 mL
CERH-001	Hydrochlorothiazide (1.0 mg/mL) in Methanol		1 mL
CERH-047	Hydrocodone-D6 (0.1 mg/mL) in Methanol		1 mL
CERH-048	Hydrocodone-D6 (1.0 mg/mL) in Methanol		1 mL
CERH-005	Hydrocodone-D3 (0.1 mg/mL) in Methanol		1 mL
CERH-008	Hydrocodone-D3 (1.0 mg/mL) in Methanol		1 mL

Code	Product		
CERH-003	Hydrocodone (1.0 mg/mL) in Methanol		1 mL
CERH-049	Hydromorphone-D6 (0.1 mg/mL) in Methanol		1 mL
CERH-006	Hydromorphone-D3 (0.1 mg/mL) in Methanol		1 mL
CERH-010	Hydromorphone-D3 (1.0 mg/mL) in Methanol		1 mL
CERH-004	Hydromorphone (1.0 mg/mL) in Methanol		1 mL
New CERH-051	Hydromorphone-3beta-D-glucuronide (0.1 mg/mL) in Methanol/Water		1 mL
CERA-904	alpha-Hydroxyalprazolam-D5 (0.1 mg/mL) in Methanol		1 mL
CERA-920	alpha-Hydroxyalprazolam-D5 (0.1 mg/mL) in Methanol		5 mL
CERA-908	alpha-Hydroxyalprazolam-D5 (1.0 mg/mL) in Methanol		1 mL
CERA-905	alpha-Hydroxyalprazolam (0.1 mg/mL) in Methanol		1 mL
CERA-907	alpha-Hydroxyalprazolam (1.0 mg/mL) in Methanol		1 mL

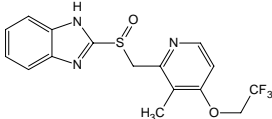
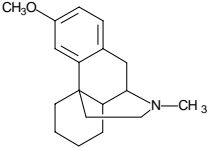
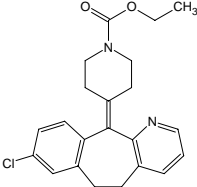
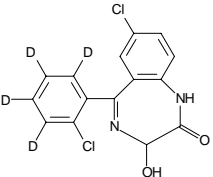
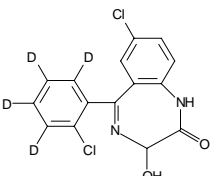
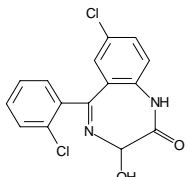
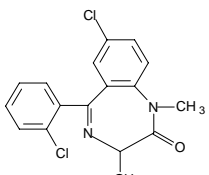
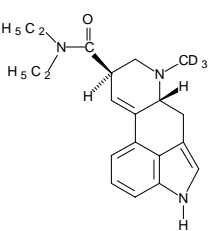
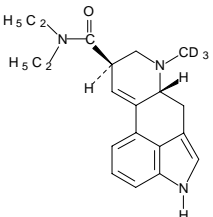
Forensic science standards

Code	Product		
CERH-017	m-Hydroxybenzoylcgonin (1.0 mg/mL) in Methanol		1 mL
CERH-919	2-Hydroxyethylflurazepam-D4 (0.1 mg/mL) in Methanol		1 mL
CERF-901	2-Hydroxyethylflurazepam (0.1 mg/mL) in Methanol		1 mL
CERF-902	2-Hydroxyethylflurazepam (1.0 mg/mL) in Methanol		1 mL
CERH-902	alpha-Hydroxymidazolam (0.1 mg/mL) in Methanol		1 mL
CERH-921	alpha-Hydroxymidazolam-D4 (0.1 mg/mL) in Acetonitrile		1 mL
CERH-918	4-Hydroxynordiazepam (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERT-909	alpha-Hydroxytriazolam-D4 (0.1 mg/mL) in Methanol		1 mL
CERT-915	alpha-Hydroxytriazolam (0.1 mg/mL) in Methanol		1 mL
CERT-911	alpha-Hydroxytriazolam (1.0 mg/mL) in Methanol		1 mL
CERI-001	Ibogaine (1.0 mg/mL) in Methanol		1 mL

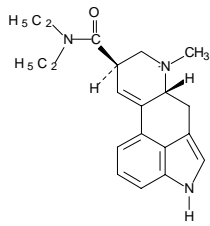
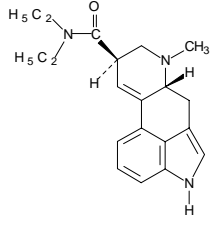
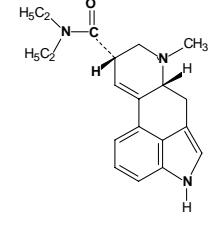
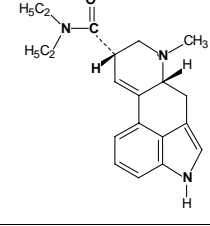
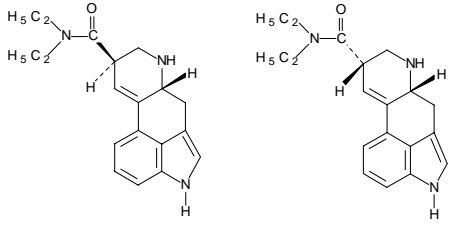
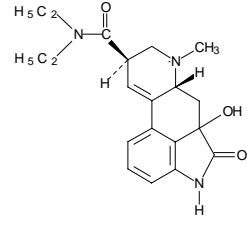
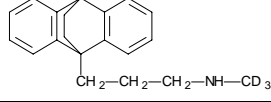
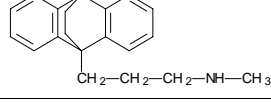
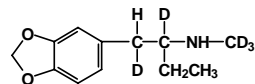
Forensic science standards

Code	Product		1 mL
CERI-009	Ibuprofen (1.0 mg/mL) in Methanol		1 mL
CERI-901	Imipramine-D3 (0.1mg/mL) in Methanol		1 mL
CERI-902	Imipramine (1.0 mg/mL) in Methanol		1 mL
CERK-003	Ketamine-D4 HCl (0.1 mg/mL) in Methanol		1 mL
CERK-002	Ketamine HCl (1.0 mg/mL) in Methanol		1 mL
CERL-008	LAAM-HCl (1.0 mg/mL) in Methanol		1 mL
CERA-048	nor-LAAM HCl (0.1 mg/mL) in Methanol		1 mL
CERL-007	LAMPA (25 µg/mL) in Acetonitrile		1 mL
CERL-004	LAMPA (1.0 mg/mL) in Acetonitrile		1 mL
CERO-015	2-Oxo-3-hydroxy-LAMPA (0.1 mg/mL) in Acetonitrile		1 mL

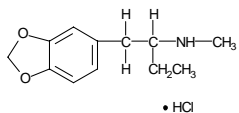
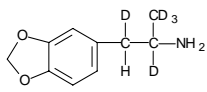
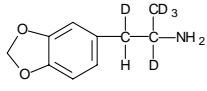
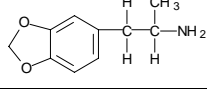
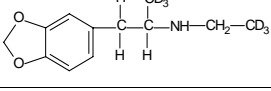
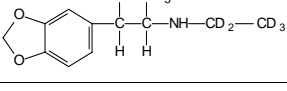
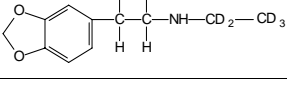
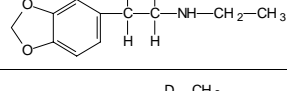
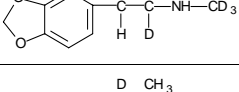
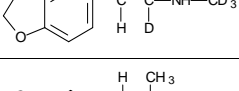
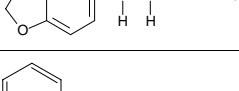
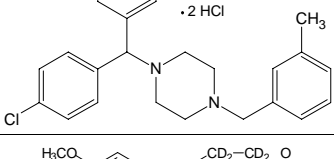
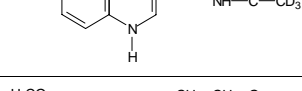
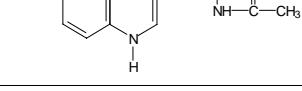
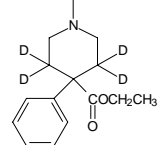
Forensic science standards

Code	Product		
CERL-012	Lansoprazole		250 mg
CERL-010	Levomethorphan		10 mg
CERL-014	Loratadine (1.0 mg/mL) in Methanol		1 mL
CERL-902	Lorazepam-D4 (0.1 mg/mL) in Acetonitrile		1 mL
CERL-911	Lorazepam-D4 (1.0 mg/mL) in Acetonitrile		1 mL
CERL-901	Lorazepam (1.0 mg/mL) in Acetonitrile		1 mL
CERL-907	Lormetazepam (1.0 mg/mL) in Methanol		1 mL
CERL-006	LSD-D3 (Lysergic acid diethylamide-D3) (25 µg/mL) in Acetonitrile		1 mL
CERL-002	LSD-D3 (Lysergic acid diethylamide-D3) (0.1 mg/mL) in Acetonitrile		1 mL

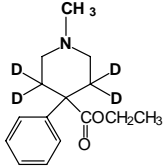
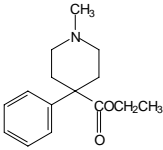
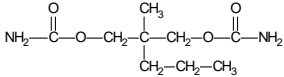
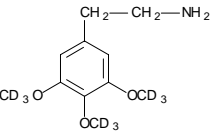
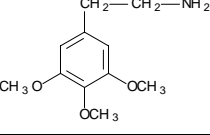
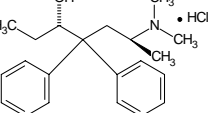
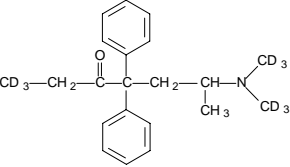
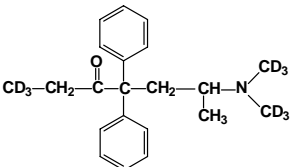
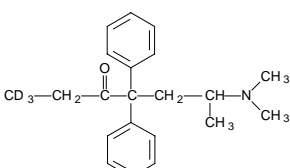
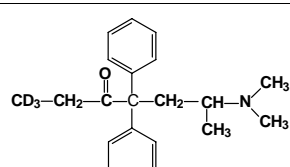
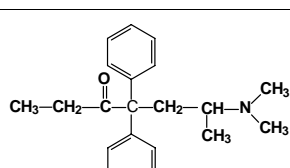
Forensic science standards

Code	Product		1 mL
CERL-005	LSD (Lysergic acid diethylamide) (25 µg/mL) in Acetonitrile		1 mL
CERL-001	LSD (Lysergic acid diethylamide) (1.0 mg/mL) in Acetonitrile		1 mL
CERI-007	iso-LSD (iso-Lysergic acid diethylamide) (25 µg/mL) in Acetonitrile		1 mL
CERI-008	iso-LSD (iso-Lysergic acid diethylamide) (1.0 mg/mL) in Acetonitrile		1 mL
CERL-003	nor-LSD & nor-iso-LSD (0.1 mg/mL) in Acetonitrile		1 mL
CERO-013	2-Oxo-3-hydroxy-LSD (0.1 mg/mL) in Acetonitrile		1 mL
CERM-902	Maprotiline-D3 (0.1 mg/mL) in Methanol		1 mL
CERM-903	Maprotiline (1.0 mg/mL) in Methanol		1 mL
CERM-104	(±)-MBDB-D5 (±)-(3,4-methylene-dioxyphenyl)-2-butamine-D5) (0.1 mg/mL) in Methanol		1 mL

Forensic science standards

Code	Product		
CERM-102	(±)-MBDB HCl ((±)-(3,4-methylene-dioxyphenyl)-2-butamine) (1.0 mg/mL) in Methanol		1 mL
CERM-010	±(MDA-D5 (±)-3,4-Methylenedioxyamphetamine-D5) (0.1 mg/mL) in Methanol		1 mL
CERM-027	±(MDA-D5 (±)-3,4-Methylenedioxyamphetamine-D5) (1.0 mg/mL) in Methanol		1 mL
CERM-012	(±)-MDA ((±)-3,4-Methylenedioxyamphetamine) (1.0 mg/mL) (Tenamfetamin) in Methanol		1 mL
CERM-081	(±)-MDEA-D6 ((±)-3,4-Methylenedioxyethylamphetamine-D6) (0.1 mg/mL) in Methanol		1 mL
CERM-067	(±)-MDEA-D5 ((±)-3,4-Methylenedioxyethylamphetamine-D5) (0.1 mg/mL) in Methanol		1 mL
CERM-068	(±)-MDEA-D5 ((±)-3,4-Methylenedioxyethylamphetamine-D5) (1.0 mg/mL) in Methanol		1 mL
CERM-065	(±)-MDEA ((±)-3,4-Methylenedioxyethylamphetamine) (1.0 mg/mL) in Methanol		1 mL
CERM-011	(±)-MDMA-D5 ((±)-3,4-Methylenedioxymethamphetamine-D5) (0.1 mg/mL) in Methanol		1 mL
CERM-029	(±)-MDMA-D5 ((±)-3,4-Methylenedioxymethamphetamine-D5) (1.0 mg/mL) in Methanol		1 mL
CERM-013	(±)-MDMA ((±)-3,4-Methylenedioxymethamphetamine) (1.0 mg/mL) in Methanol		1 mL
CERM-116	Meclizine 2HCl		250 mg
CERM-094	Melatonin-D7 (0.1 mg/mL) in Methanol		1 mL
CERM-095	Melatonin (1.0 mg/mL) in Methanol		1 mL
CERM-036	Meperidine-D4 (0.1 mg/mL) in Methanol		1 mL

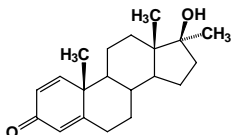
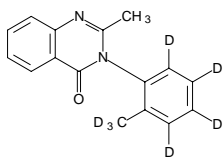
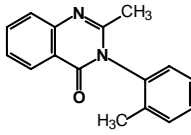
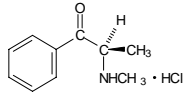
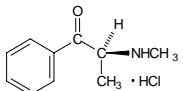
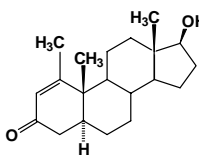
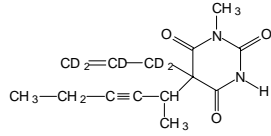
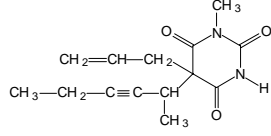
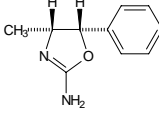
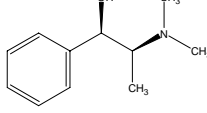
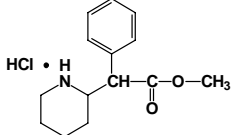
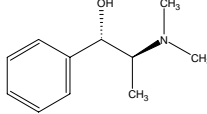

Forensic science standards

Code	Product		1 mL
CERM-038	Meperidine-D4 (1.0 mg/mL) in Methanol		1 mL
CERM-035	Meperidine (1.0 mg/mL) in Methanol		1 mL
CERM-039	Meprobamate (1.0 mg/mL) in Methanol		1 mL
CERM-051	Mescaline-D9 HCl (0.1 mg/mL) (as free base) in Methanol		1 mL
CERM-047	Mescaline HCl (1.0 mg/mL) as free base in Methanol		1 mL
CERM-107	Alphamethadol HCl (1.0 mg/mL) in Methanol		1 mL
CERM-088	(±)-Methadone-D9 (0.1 mg/mL) in Methanol		1 mL
CERM-089	(±)-Methadone-D9 (1.0 mg/mL) in Methanol		1 mL
CERM-008	(±)-Methadone-D3 (0.1 mg/mL) in Methanol		1 mL
CERM-021	(±)-Methadone-D3 (1.0 mg/mL) in Methanol		1 mL
CERM-019	(±)-Methadone (0.1 mg/mL) in Methanol		1 mL

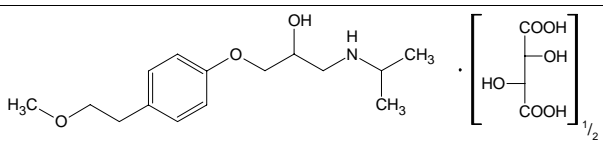
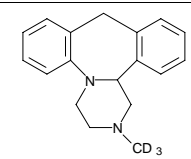
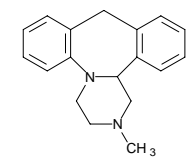
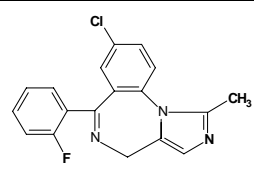
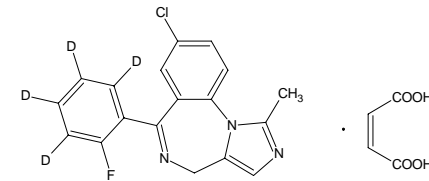
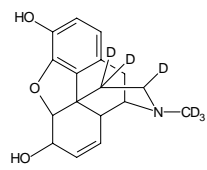
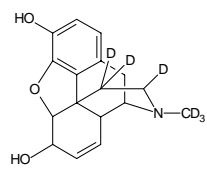
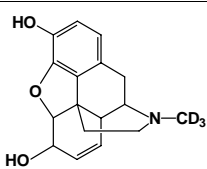
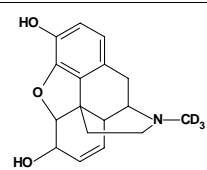
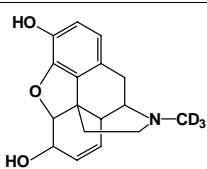
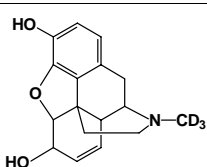
Forensic science standards

Code	Product		
CERM-007	(±)-Methadone (1.0 mg/mL) in Methanol		1 mL
CERM-092	(±)-Methamphetamine-D14 (0.1 mg/mL) in Methanol		1 mL
CERM-093	(±)-Methamphetamine-D14 (1.0 mg/mL) in Methanol		1 mL
CERM-059	(±)-Methamphetamine-D11 (0.1 mg/mL) in Methanol		1 mL
CERM-060	(±)-Methamphetamine-D11 (1.0 mg/mL) in Methanol		1 mL
CERM-090	(±)-Methamphetamine-D9 (0.1 mg/mL) in Methanol		1 mL
CERM-091	(±)-Methamphetamine-D9 (1.0 mg/mL) in Methanol		1 mL
CERM-016	(±)-Methamphetamine-D8 (0.1 mg/mL) in Methanol		1 mL
CERM-034	(±)-Methamphetamine-D8 (1.0 mg/mL) in Methanol		1 mL
CERM-070	(±)-Methamphetamine-D5 (10 µg/mL) in Methanol		5 x 1 mL
CERM-004	(±)-Methamphetamine-D5 (0.1 mg/mL) in Methanol		1 mL
CERM-023	(±)-Methamphetamine-D5 (1.0 mg/mL) in Methanol		1 mL
CERM-022	(±)-Methamphetamine (0.1 mg/mL) in Methanol		1 mL
CERM-009	(±)-Methamphetamine (1.0 mg/mL) in Methanol		1 mL
CERM-024	R(-)-Methamphetamine (1.0 mg/mL) (Levmetamfetamin) in Methanol		1 mL
CERM-020	S(+)-Methamphetamine (1.0 mg/mL) in Methanol		1 mL

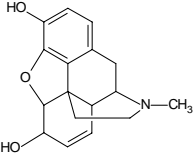
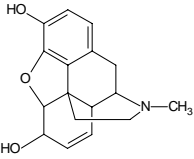
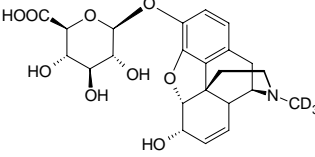
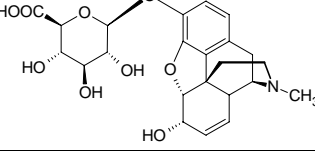
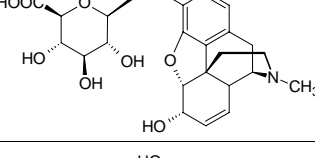
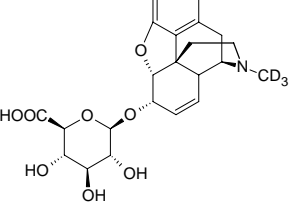
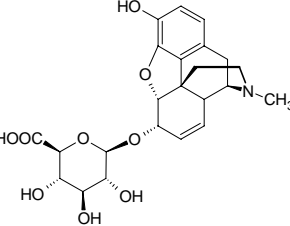
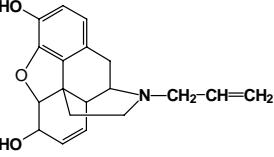
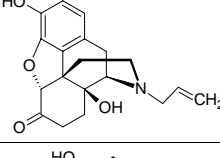
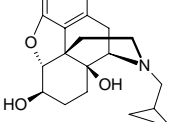
Forensic science standards

Code	Product		1 mL
CERM-912	Methandienone (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERM-014	Methaqualone-D7 (0.1 mg/mL) in Methanol		1 mL
CERM-015	Methaqualone (1.0 mg/mL) in Methanol		1 mL
CERM-061	R(+)-Methcathinone HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERM-055	S(-)-Methcathinone HCl (1.0 mg/mL) in Methanol		1 mL
CERM-910	Methenolone (1.0 mg/mL) in 1,2-Dimethoxyethane		1 mL
CERM-079	Methohexital-D5 (0.1 mg/mL) in Methanol		1 mL
CERM-041	Methohexital (1.0 mg/mL) in Methanol		1 mL
CERM-045	Cis-(±)-4-Methylaminorex (1.0 mg/mL) in Acetonitril		1 mL
CER-13526-S	Methylephedrine (1.0 mg/mL) in Methanol		1 mL
CERM-083	Methylphenidate HCl (1.0 mg/mL) in Methanol		1 mL
CER-13636-S	Methylpseudoephedrine (1.0 mg/mL) in Methanol		1 mL
CERA-074	alpha-Methyltryptamine (0.1 mg/mL) in Methanol		1 mL

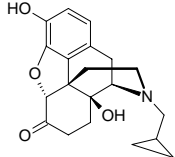
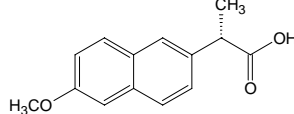
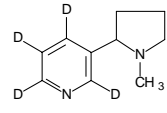
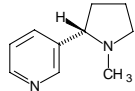
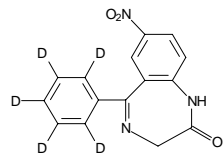
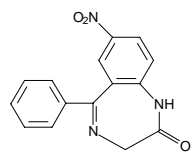
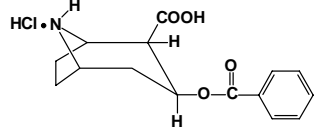
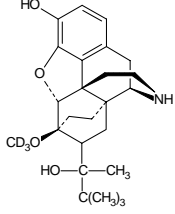
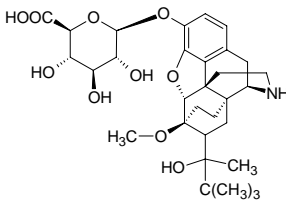
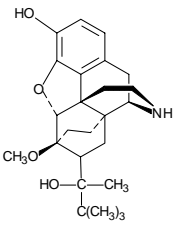
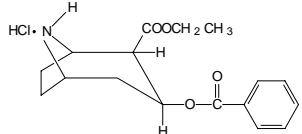
Forensic science standards

Code	Product		
CERM-119	Metoprolol tartarate		250 mg
CERM-901	Mianserin-D3 (0.1 mg/mL) in Methanol		1 mL
CERM-904	Mianserin (1.0 mg/mL) in Methanol		1 mL
CERM-908	Midazolam (1.0 mg/mL) in Methanol		1 mL
New CERM-918	Midazolam-D4 maleate (0.1 mg/mL) (as free base) in Methanol		1 mL
CERM-085	Morphine-D6 (0.1 mg/mL) in Methanol		1 mL
CERM-086	Morphine-D6 (1.0 mg/mL) in Methanol		1 mL
CERM-069	Morphine-D3 (10 µg/mL) in Methanol : Water (50 : 50)		5 x 1 mL
CERM-003	Morphine-D3 (0.1 mg/mL) in Methanol		1 mL
CERM-099	Morphine-D3 (0.1 mg/mL) in Methanol		5 mL
CERM-006	Morphine-D3 (1.0 mg/mL) in Methanol		1 mL

Forensic science standards

Code	Product		1 mL
CERM-030	Morphine (0.1 mg/mL) in Methanol		1 mL
CERM-005	Morphine (1.0 mg/mL) in Methanol		1 mL
CERM-017	Morphine-3β-D-glucuronide-D3 (0.1 mg/mL) in Methanol		1 mL
CERM-018	Morphine-3β-D-glucuronide (0.1 mg/mL) in Methanol		1 mL
CERM-031	Morphine-3β-D-glucuronide (1.0 mg/mL) in Methanol		1 mL
CERM-120	Morphine-6β-D-glucuronide-D3 (0.1 mg/mL) in Methanol : Water (50 : 50)		1 mL
CERM-096	Morphin-6β-D-glucuronide (0.1 mg/mL) in Methanol : Water (50 :50)		1 mL
CERN-917	Nalorphine (1.0 mg/mL) in Methanol		1 mL
CERN-004	Naloxone (1.0 mg/mL) in Methanol		1 mL
CERN-038	6β-Naltrexol (1.0 mg/mL) in Methanol		1 mL

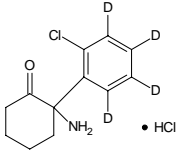
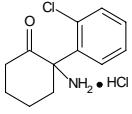
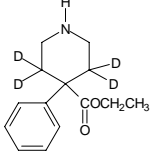
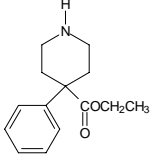
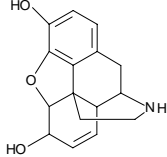
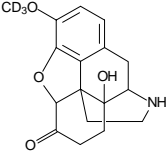
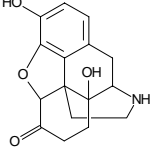
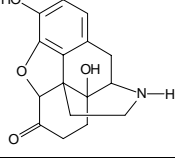
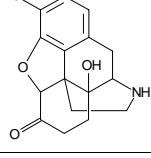
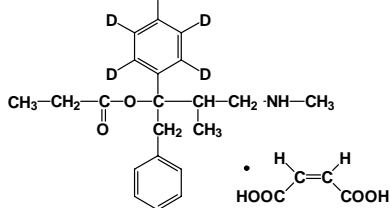
Forensic science standards

Code	Product		
CERN-007	Naltrexone (1.0 mg/mL) in Methanol		1 mL
CERN-042	Naproxen (1.0 mg/mL) in Methanol		1 mL
New CERN-048	Nicotine-D4 (0.1 mg/mL) in Acetonitrile		1 mL
CERN-008	S(-)-Nicotine (1.0 mg/mL) in Methanol		1 mL
CERN-901	Nitrazepam-D5 (0.1 mg/mL) in Methanol		1 mL
CERN-906	Nitrazepam (1.0 mg/mL) in Methanol		1 mL
CERN-022	Norbenzoyllecgonine HCl (1.0 mg/mL) in Methanol		1 mL
CERN-920	Norbuprenorphine-D3 (0.1 mg/mL) in Methanol		1 mL
New CERN-045	Norbuprenorphine glucuronide (0.1 mg/mL) in Methanol		1 mL
CERN-912	Norbuprenorphine (0.1 mg/mL) in Methanol		1 mL
CERN-024	Norcocaethylene HCl (1.0 mg/mL) in Acetonitrile		1 mL

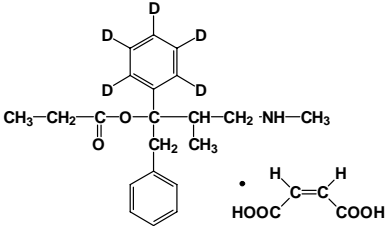
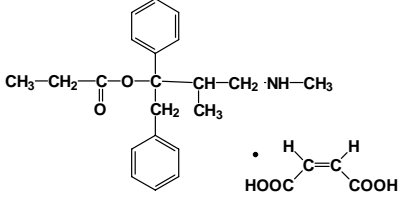
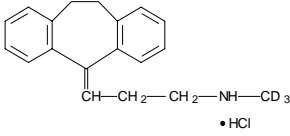
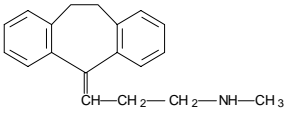
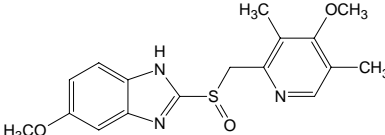
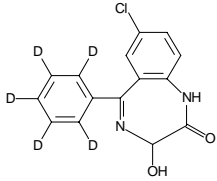
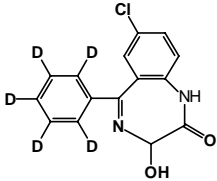
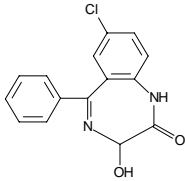
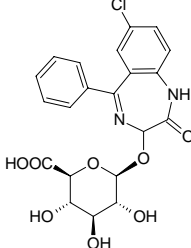
Forensic science standards

Code	Product		1 mL
CERN-034	Norcocaine-D3 HCl (0.1 mg/mL) in Acetonitrile		1 mL
CERN-003	Norcocaine (1.0 mg/mL) in Acetonitrile		1 mL
CERN-005	Norcodeine (1.0 mg/mL) in Methanol		1 mL
CERN-903	Nordiazepam-D5 (0.1 mg/mL) in Methanol		1 mL
CERN-918	Nordiazepam-D5 (0.1 mg/mL) in Methanol		5 mL
CERN-911	Nordiazepam-D5 (1.0 mg/mL) in Methanol		1 mL
CERN-905	Nordiazepam (1.0 mg/mL) in Methanol		1 mL
New CERN-043	(±)-Norephedrine-D3 HCl (1.0 mg/mL) (as free base) (±)-Phenylpropanolamine HCl in Methanol		1 mL
CERN-030	Norfentanyl-D5 oxalate (0.1 mg/mL) in Acetonitrile		1 mL
CERN-031	Norfentanyl oxalate (1.0 mg/mL) in Acetonitrile		1 mL
CERN-922	Norfluoxetine-D6 oxalate (0.1 mg/m) (as free base) in Methanol		1 mL

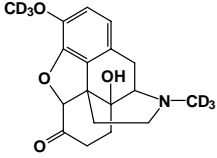
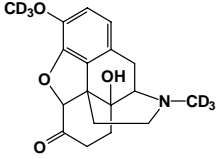
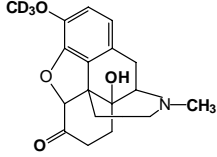
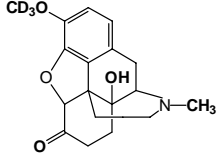
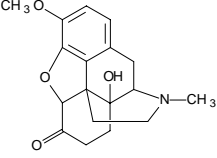
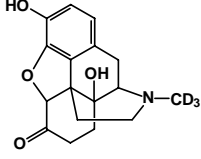
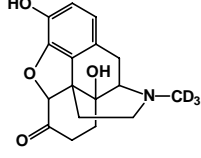
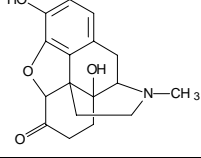
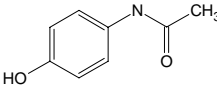
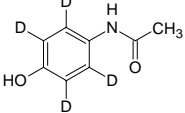
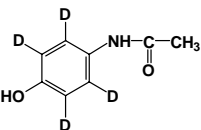
Forensic science standards

Code	Product		
CERN-037	(±)-Norketamine-D4 HCl (0.1 mg/mL) in Methanol		1 mL
CERN-036	(±)-Norketamine HCl (1.0 mg/mL) in Methanol		1 mL
CERN-020	Normeperidine-D4 (0.1 mg/mL) in Methanol		1 mL
CERN-017	Normeperidine (0.1 mg/mL) in Methanol		1 mL
CERN-006	Normorphine (1.0 mg/mL) in Methanol		1 mL
CERN-032	Noroxycodone-D3 (0.1 mg/mL) in Methanol		1 mL
CERN-011	Noroxycodone HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERN-013	Noroxymorphone (0.1 mg/mL) in Methanol		1 mL
CERN-012	Noroxymorphone (1.0 mg/mL) in Methanol / DMSO		1 mL
CERN-904	DL-Norpropoxyphene-D5 maleate (0.1 mg/mL) in Methanol		1 mL

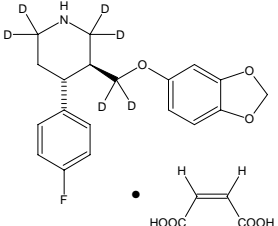
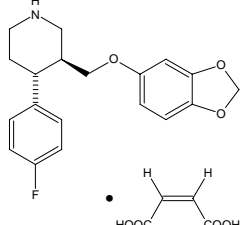
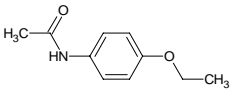
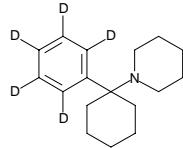
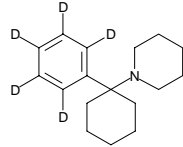
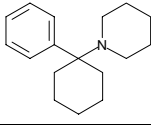
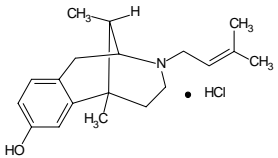
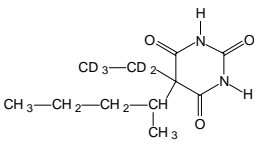
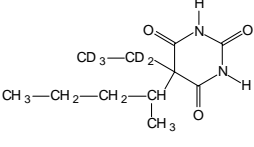
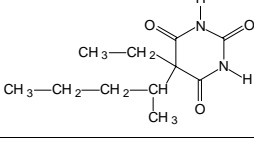
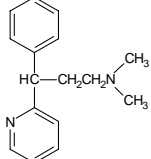
Forensic science standards

Code	Product		1 mL
CERN-919	Norpropoxyphene-D5 maleate (1.0 mg/mL) in Methanol		1 mL
CERN-913	D-Norpropoxyphene maleate (1.0 mg/mL) in Methanol		1 mL
CERN-902	Nortriptyline-D3 HCl (0.1 mg/mL) in Methanol		1 mL
CERN-907	Nortriptyline (1.0 mg/mL) in Methanol		1 mL
CERO-021	Omeprazole HCl (0.1 mg/mL) in Methanol		1 mL
CERO-901	Oxazepam-D5 (0.1 mg/mL) in Acetonitrile		1 mL
CERO-904	Oxazepam-D5 (1.0 mg/mL) in Acetonitrile		1 mL
CERO-902	Oxazepam (1.0 mg/mL) in Acetonitrile		1 mL
CERO-023	Oxazepam glucuronide (0.1 mg/mL) in Methanol / Water (1/1)		1 mL

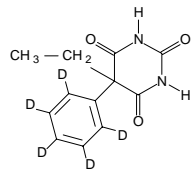
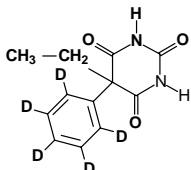
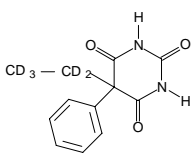
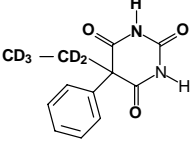
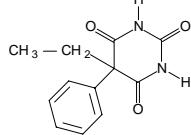
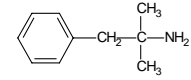
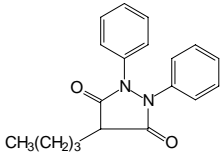
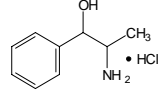
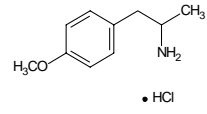
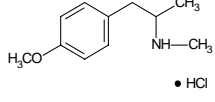
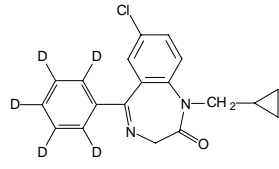
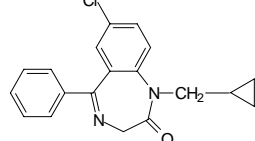
Forensic science standards

Code	Product		
CERO-007	Oxycodone-D6 (0.1 mg/mL) in Methanol		1 mL
CERO-008	Oxycodone-D6 (1.0 mg/mL) in Methanol		1 mL
CERO-005	Oxycodone-D3 (0.1 mg/mL) in Methanol		1 mL
CERO-006	Oxycodone-D3 (1.0 mg/mL) in Methanol		1 mL
CERO-002	Oxycodone (1.0 mg/mL) in Methanol		1 mL
CERO-003	Oxymorphone-D3 (0.1 mg/mL) in Methanol		1 mL
CERO-019	Oxymorphone-D3 (1.0 mg/mL) in Methanol		1 mL
CERO-004	Oxymorphone (1.0 mg/mL) in Methanol		1 mL
CERA-064	Acetaminophen (1.0 mg/mL) (Paracetamol) in Methanol		1 mL
New CERP-917	Acetaminophen-D4 (1.0 mg/mL) in Methanol		1 mL
CERP-909	Paracetamol-D4 (0.1 mg/mL) in Methanol		1 mL

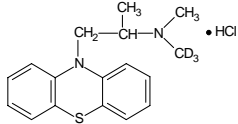
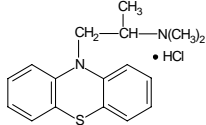
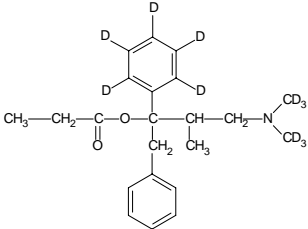
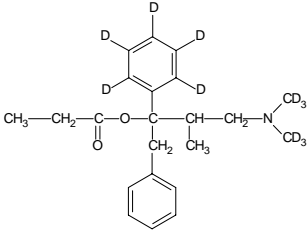
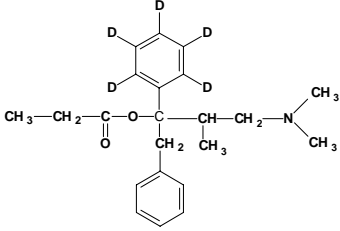
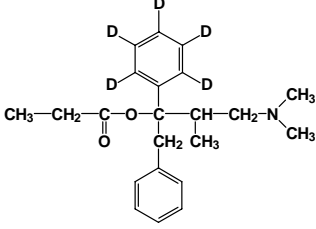
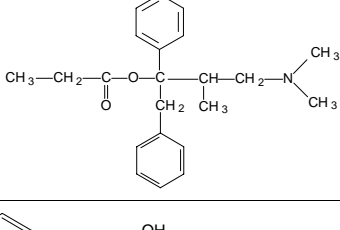
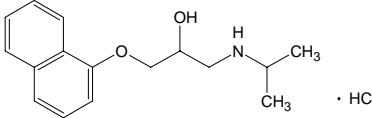
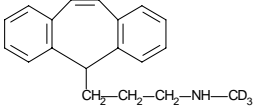
Forensic science standards

Code	Product		1 mL
CERP-915	Paroxetine-D6 maleate (0.1 mg/mL) (as free base) in Methanol		1 mL
CERP-916	Paroxetine (1.0 mg/mL) in Methanol		1 mL
New CERP-061	Phenacetin (1.0 mg/mL) in Acetonitrile		1 mL
CERP-003	Phencyclidine-D5 (0.1 mg/mL) (PCP) in Methanol		1 mL
CERP-006	Phencyclidine-D5 (1.0 mg/mL) (PCP) in Methanol		1 mL
CERP-007	Phencyclidine (1.0 mg/mL) (PCP) in Methanol		1 mL
CERP-039	(±)-Pentazocine HCl (1.0 mg/mL) in Methanol		1 mL
CERP-009	Pentobarbital-D5 (0.1 mg/mL) in Methanol		1 mL
CERP-013	Pentobarbital-D5 (1.0 mg/mL) in Methanol		1 mL
CERP-010	Pentobarbital (1.0 mg/mL) in Methanol		1 mL
CERP-045	Pheniramine (1.0 mg/mL) in Methanol		1 mL

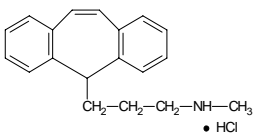
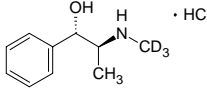
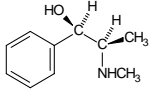
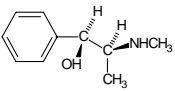
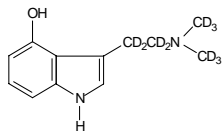
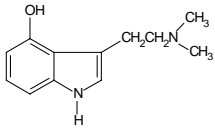
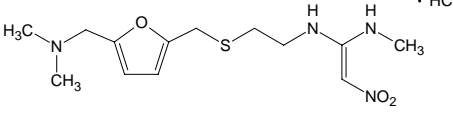
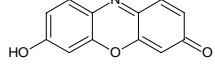
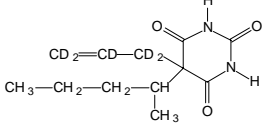
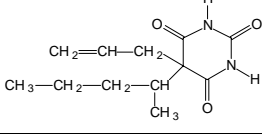
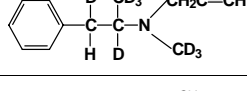
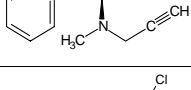
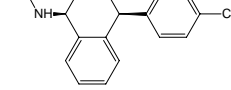
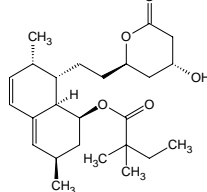
Forensic science standards

Code	Product		
CERP-018	Phenobarbital-D5 (0.1 mg/mL) in Methanol (deuterium label on ring)		1 mL
CERP-019	Phenobarbital-D5 (1.0 mg/mL) in Methanol (deuterium label on ring)		1 mL
CERP-004	Phenobarbital-D5 (0.1 mg/mL) in Methanol (deuterium label on side chain)		1 mL
CERP-017	Phenobarbital-D5 (1.0 mg/mL) in Methanol (deuterium label on side chain)		1 mL
CERP-008	Phenobarbital (1.0 mg/mL) in Methanol		1 mL
CERP-023	Phentermine (1.0 mg/mL) in Methanol		1 mL
CERP-021	Phenylbutazone (1.0 mg/mL) in Acetonitril		1 mL
CERP-038	(±)-Phenylpropanolamine HCl (1.0 mg/mL) (±)-Norpseudoephedrine in Methanol		1 mL
CERP-050	PMA (p-Methoxyamphetamine) HCl (1.0 mg/mL) in Methanol		1 mL
CERP-051	PMMA (p-Methoxymethamphetamine) HCl (1.0 mg/mL) in Methanol		1 mL
CERP-905	Prazepam-D5 (0.1 mg/mL) in Methanol		1 mL
CERP-906	Prazepam (1.0 mg/mL) in Methanol		1 mL

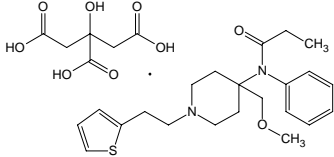
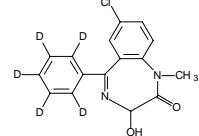
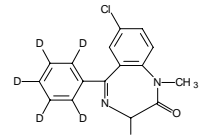
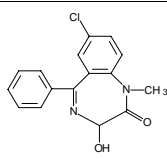
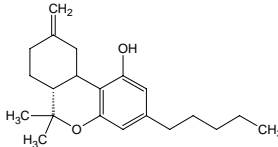
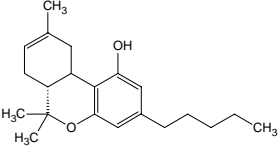
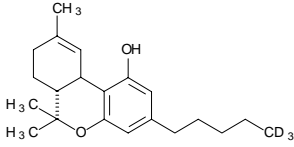
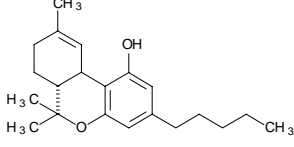
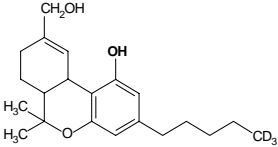
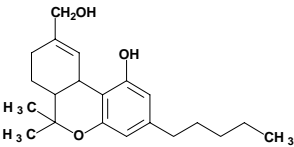
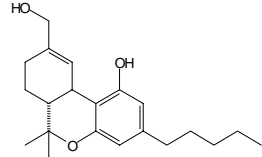
Forensic science standards

Code	Product		
CERP-910	Promethazine-D3 HCl		5 mg
CERP-044	Promethazine HCl		25 mg
CERP-913	(±)-Propoxyphene-D11 (0.1 mg/mL) in Methanol		1 mL
CERP-914	(±)-Propoxyphene-D11 (1.0 mg/mL) in Methanol		1 mL
CERP-901	(±)-Propoxyphene-D5 (0.1 mg/mL) in Methanol		1 mL
CERP-904	(±)-Propoxyphene-D5 (1.0 mg/mL) in Methanol		1 mL
CERP-011	D-Propoxyphene (1.0 mg/mL) in Methanol		1 mL
CERP-055	Propranolol HCl (1.0 mg/mL) (as free base) in Acetonitril		1 mL
CERP-902	Protriptyline-D3 (0.1 mg/mL) in Methanol		1 mL

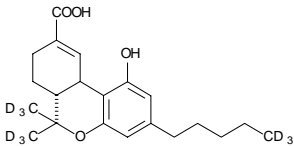
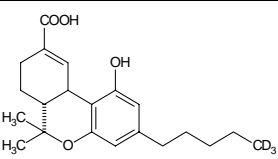
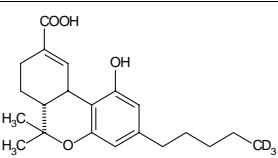
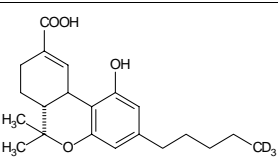
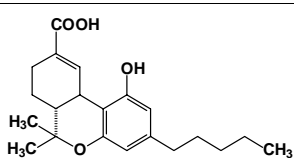
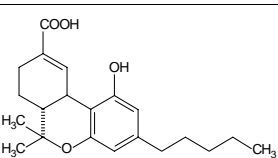
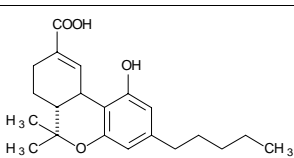
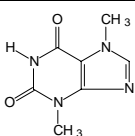
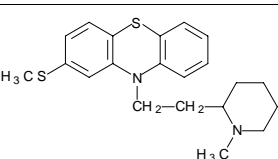
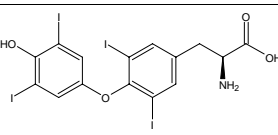
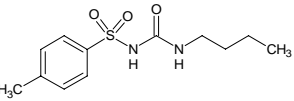
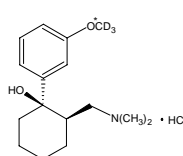
Forensic science standards

Code	Product		
CERP-903	Protriptyline HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERP-056	Pseudoephedrine-D3 HCl (0.1 mg/mL) (as free base) in Methanol		1 mL
CERP-036	(-)-Pseudoephedrine (1.0 mg/mL) in Methanol		1 mL
CERP-035	(+)-Pseudoephedrine (1.0 mg/mL) in Methanol		1 mL
CERP-049	Psilocin-D10		5 mg
CERP-048	Psilocin		5 mg
CERR-002	Ranitidine HCl		250 mg
New CERR-005	Resorufin (1.0 mg/mL) in Acetonitrile		1 mL
CERS-001	Secobarbital-D5 (0.1 mg/mL) in Methanol		1 mL
CERS-002	Secobarbital (1.0 mg/mL) in Methanol		1 mL
CERS-004	Selegiline-D8 (0.1 mg/mL) in Methanol		1 mL
CERS-003	R(-)-Selegiline ((-)-Deprenyl) (1.0 mg/mL) in Methanol		1 mL
CERS-006	Sertraline (1.0 mg/mL) in Methanol		1 mL
CERS-007	Simvastatin (1.0 mg/mL) in Methanol		1 mL

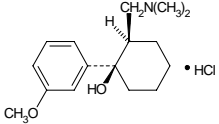
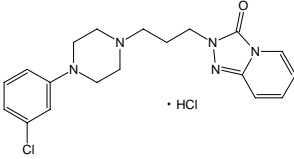
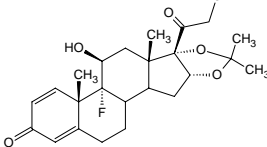
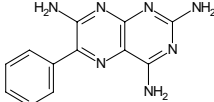
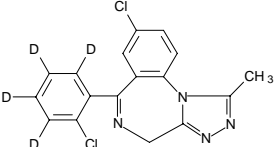
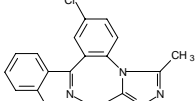
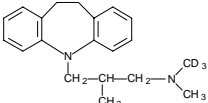
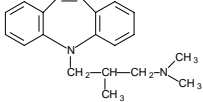
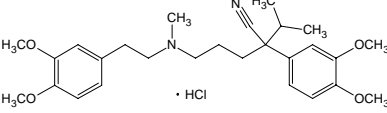
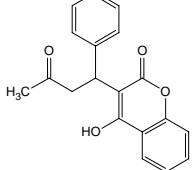
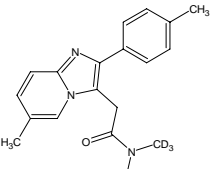
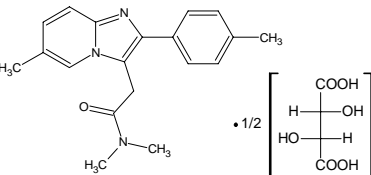
Forensic science standards

Code	Product		
New CERS-008	Sufentanil citrate (0.1 mg/mL) (as free base) in Methanol		1 mL
CERT-902	Temazepam-D5 (0.1 mg/mL) in Methanol		1 mL
CERT-912	Temazepam-D5 (1.0 mg/mL) in Methanol		1 mL
CERT-907	Temazepam (1.0 mg/mL) in Methanol		1 mL
New CERT-033	Exo-THC (1.0 mg/mL) (Delta 9(11)-Tetrahydrocannabinol) in Methanol		1 mL
New CERT-032	(-)-delta 8-THC (1.0 mg/mL) in Methanol		1 mL
CERT-003	(-)-delta 9-THC-D3 (0.1 mg/mL) (Dronabinol) in Methanol		1 mL
CERT-005	(-)-delta 9-THC (1.0 mg/mL) (Dronabinol) in Methanol		1 mL
CERH-041	11-Hydroxy-delta 9-THC-D3 (0.1 mg/mL) in Methanol		1 mL
CERH-026	11-Hydroxy-delta 9-THC (0.1 mg/mL) in Methanol		1 mL
CERH-027	11-Hydroxy-delta 9-THC (1.0 mg/mL) in Methanol		1 mL

Forensic science standards

Code	Product		
CERT-007	(±)-11-Nor-9-carboxy-delta 9-THC-D9 (0.1 mg/mL) in Methanol		1 mL
CERT-015	(±)-11-Nor-9-carboxy-delta 9-THC-D3 (10 µg/mL) in Methanol		5 x 1 mL
CERT-004	(±)-11-Nor-9-carboxy-delta 9-THC-D3 (0.1 mg/mL) in Methanol		1 mL
CERT-008	(±)-11-Nor-9-carboxy-delta 9-THC-D3 (1.0 mg/mL) in Methanol		1 mL
CERT-018	(-)-11-Nor-9-carboxy-delta 9-THC (0.1 mg/mL) in Methanol		1 mL
CERT-019	(-)-11-nor-9-Carboxy-delta 9-THC (1.0 mg/mL) in Methanol		1 mL
CERT-006	(±)-11-Nor-9-carboxy-delta 9-THC (0.1 mg/mL) in Methanol		1 mL
CERT-013	Theobromine (0.1 mg/mL) in Methanol		1 mL
CERT-905	Thioridazine (1.0 mg/mL) in Methanol		1 mL
CERL-013	L-Thyroxine		100 mg
New CERT-036	Tolbutamide (1.0 mg/mL) in Acetonitrile		1 mL
CERT-029	Tramadol-13C,D3 HCl (0.1 mg/mL) (as free base) in Methanol		1 mL

Forensic science standards

Code	Product		1 mL
CERT-027	cis-Tramadol HCl (1.0 mg/mL) in Methanol		1 mL
CERT-030	Trazodone HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERT-031	Triamcinolone acetoneide		100 mg
CERT-014	Triamterene		100 mg
CERT-908	Triazolam-D4 (0.1mg/mL) in Methanol		1 mL
CERT-910	Triazolam (1.0 mg/mL) in Methanol		1 mL
CERT-903	Trimipramine-D3 (0.1 mg/mL) in Methanol		1 mL
CERT-904	Trimipramine (1.0 mg/mL) in Methanol		1 mL
CERV-002	Verapamil HCl (1.0 mg/mL) (as free base) in Methanol		1 mL
CERW-003	Warfarin (1.0 mg/mL) in Acetonitril		1 mL
CERZ-001	Zolpidem-D6 (0.1 mg/mL) in Methanol		1 mL
CERZ-001	Zolpidem L-(+)-hemitartrate (1 mg/mL) (as free base) in Methanol		1 mL

Forensic science standards

Code	Product		
Derivatising reagents			
CERB-023	BSTFA with 1% TMCS	$ \begin{array}{c} \text{CH}_3 \quad \text{CF}_3 \quad \text{CH}_3 \\ \quad \quad \\ \text{CH}_3\text{-Si-O-C=N-Si-CH}_3 \\ \quad \quad \\ \text{CH}_3 \quad \text{CH}_3 \quad \text{CH}_3 \\ + \\ \begin{array}{c} \text{CH}_3 \\ \\ \text{H}_3\text{C-Si-Cl} \\ \\ \text{CH}_3 \end{array} \end{array} $	10 x 1 mL
CERM-108	MTBSTFA (with 1% t-BDMCS)	$ \begin{array}{c} \text{CH}_3 \text{ CH}_3 \quad \text{O} \\ \quad \quad \\ \text{H}_3\text{C-C-Si-N-CCF}_3 \\ \quad \quad \\ \text{CH}_3 \text{ CH}_3 \quad \text{CH}_3 \\ + \\ \begin{array}{c} \text{CH}_3 \quad \text{CH}_3 \\ \quad \\ \text{CH}_3\text{-C-Si-Cl} \\ \quad \\ \text{CH}_3 \quad \text{CH}_3 \end{array} \end{array} $	5 x 1 mL
Explosives			
CERB-002	1,2,4-Butanetriol trinitrate 100 µg/mL in Acetonitrile		1 mL
CERB-003	1,2,4-Butanetriol-1,4-dinitrate 100 µg/mL in Acetonitrile		1 mL
CERD-002	1,2-Dinitroglycerin 100 µg/mL in Acetonitrile		1 mL
CERD-003	1,3-Dinitroglycerin 100 µg/mL in Acetonitrile		1 mL
CERD-004	Dinitro ethylene glycol 100 µg/mL in Acetonitrile		1 mL
CERD-010	1,2-Dinitroglycerin 1000 µg/mL in Acetonitrile		1 mL
CERD-011	1,3-Dinitroglycerin 1000 µg/mL in Acetonitrile		1 mL
CERERA-017	2-Amino-4,6-dinitrotoluene (3,5-Dinitro-2-methylaniline)		100 mg
CERERA-018	4-Amino-2,6-dinitrotoluene (3,5-Dinitro-4-methylaniline)		100 mg
CERERA-022S	2-Amino-4,6-dinitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERA-023S	4-Amino-2,6-dinitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERD-032S	1,3-Dinitrobenzene 1000 µg/mL in Acetonitrile		1.2 mL
CERERD-033S	2,4-Dinitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERD-034S	2,6-Dinitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERD-079	2,2'-Dinitrodiphenylamine		250 mg
CERERD-080	2,4'-Dinitrodiphenylamine		250 mg
CERERD-081	4,4'-Dinitrodiphenylamine		250 mg
CERERD-109A	3,4-Dinitrotoluene 1000 µg/mL in Methanol		1.2 mL
CERERD-110A	1,2-Dinitrobenzene 1000 µg/mL in Methanol		1.2 mL
CERERD-115S	Diphenylamine 5000 µg/mL in Methanol		1.2 mL
CERERE-032S	Ethyl centralite 500 µg/mL in Methanol		1.2 mL
CERERH-004S	1,3,5,7-Tetranitro-1,3,5,7-tetraaza-cyclooctane (HMX) 1000 µg/mL in Acetonitrile		1.2 mL
CERERN-004S	Nitrobenzene 1000 µg/mL in Acetonitrile		1.2 mL
CERERN-006S	3-Nitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERN-007S	4-Nitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERN-027S	N-Nitrosodiphenylamine 1000 µg/mL in Methanol		1.2 mL
CERERR-001S	Hexahydro-1,3,5-Trinitro-1,3,5-triazine (RDX) 1000 µg/mL in Acetonitrile		1.2 mL
CERERT-021S	Tetryl (1000 µg/mL in Acetonitrile) (This item requires special packaging, please inquire)		1.2 mL
CERERT-022S	2,4,6-Trinitrotoluene 1000 µg/mL in Acetonitrile		1.2 mL
CERERT-023S	1,3,5-Trinitrobenzene 1000 µg/mL in Acetonitrile		1.2 mL
CERM-001	1-Mononitroglycerin 100 µg/mL in Acetonitrile		1 mL
CERM-002	2-Mononitroglycerin 100 µg/mL in Acetonitrile		1 mL
CERM-077	1-Mononitroglycerin 1000 µg/mL in Acetonitrile		1 mL
CERM-078	2-Mononitroglycerin 1000 µg/mL in Acetonitrile		1 mL
CERP-005	1,2-Propanediol dinitrate 100 µg/mL in Acetonitrile		1 mL
CERP-037	Nitropenta 1000 µg/mL in Acetonitrile		1 mL
CERSCA-017	2-Amino-4,6-Dinitrotoluene		1 g
CERSCA-018	4-Amino-2,6-Dinitrotoluene		1 g
CERSCD-079	2,2'-Dinitrodiphenylamine		1 g

Code	Product	Unit
CERSCD-080	2,4'-Dinitrodiphenylamine	1 g
CERSCD-081	4,4'-Dinitrodiphenylamine	1 g
CERT-002	Trinitroglycerin 1000 µg/mL in Acetonitrile	1 mL
CERT-021	Trinitroglycerin 1% w/w in Propylene Glycol	1 mL
CERT-022	Trinitroglycerin 1% w/w in Propylene Glycol	5 x 0.25mL

Miscellaneous

Code	Product	Unit
CERIMP-2-1	2-(4-Butylphenyl)propanoic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-10	2-(4-Isobutylphenyl)propanoic Amide (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-13	2-(3-Isobutylphenyl)propanoic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-20	2-(4-n-Propylphenyl)propionic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-24	2-[4-(1-Hydroxy-2-methylpropyl)phenyl]propanoic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-26	(2RS)-2-(4-Formylphenyl)propanoic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-28	3-(4-Isobutylphenyl)propanoic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-32	2-[4-(2-Hydroxy-2-methylpropyl)phenyl]propionic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-35	(2RS)-2-(4-ethylphenyl)propanoic Acid (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-36	2-(4-Isobutylphenyl)ethanol (0.1 mg/mL) in Methanol	1 mL
CERIMP-2-4	4-Isobutylacetophenone (0.1 mg/mL) in Methanol	1 mL
CERIMP-42-4	N,O-Diacetyl-4-aminophenol (0.1 mg/mL) in Acetonitrile	1 mL
CERIMP-42-5	N-(4-Hydroxyphenyl)propionamide (0.1 mg/mL) in Acetonitrile	1 mL
CERIMP-61-7	2-[[2-(Acetylamino)-6-oxo-1,6-dihydro-9H-purin-9-yl]-methoxy] ethyl acetate (0.1 mg/mL) in Acetonitrile	1 mL
CERIMP-86-1	N,N-Dimethyl-5-(2-aminoethylthiomethyl)furfurylamine (0.1 mg/mL) in Acetonitrile	1 mL
CERIMP-86-2	N,N-Bis[2-[5-(dimethylaminomethyl)furfurylthio]ethyl]-2-nitro-1,1-ethendiamine (0.1 mg/mL) in Acetonitrile	1 mL
CERIMP-86-3	N-[2-[5-(Dimethylaminomethyl)-2-furylmethylsulphonyl]ethyl]-N'-methyl-2-nitro-1,1-ethendiamine (Ranitidine Sulphoxide) (0.1 mg/mL) in Acetonitrile	1 mL
CERIMP-86-8	N-Methyl-2-nitroacetamide (0.1 mg/mL) in Acetonitrile	1 mL
CERIMPA-064-01	4-Aminophenol (1 mg/mL) in Acetonitrile	1 mL
CERIMPA-064-03	4-Nitrophenol (1 mg/mL) in Acetonitrile	1 mL
CERIMPC-006-01	Codeine N-Oxide (0.1 mg/mL) in Methanol	1 mL
CERIMPC-006-02	Codeinone (0.1 mg/mL) in Acetonitrile	1 mL
CERIMPC-051-01	Theophylline (1 mg/mL) in Methanol	1 mL
CERIMPC-051-02	Isocaffeine (1 mg/mL) in Methanol	1 mL
CERIMPC-051-03	Paraxanthine (1 mg/mL) in Methanol	1 mL
CERIMPD-907-01	5-Chloro-2-(methylamino)benzophenone (1 mg/mL) in Acetonitrile	1 mL
CERIMPI-009-01	2-(4-Methylphenyl)propanoic Acid (1 mg/mL) in Methanol	1 mL
CERIMPM-005-01	Morphine N-Oxide (0.1 mg/mL) in Methanol	1 mL
CERIMPM-005-04	Morphinone Perchlorate (0.1 mg/mL (as free base)) in Methanol	1 mL
CERIMPM-005-05	10-Hydroxymorphine (0.1 mg/mL) in Methanol	1 mL
CERIMPN-007-01	2,2'-Bisnaltrexone (0.1 m/mL) in Methanol	1 mL
CERIMPN-007-02	10-Hydroxynaltrexone (0.1 mg/mL) in Methanol	1 mL
CERIMPN-007-03	10-Ketonaltrexone (0.1 m/mL) in Methanol	1 mL
CERIMPO-002-01	14-Hydroxycodeinone (0.1 mg/mL) in Acetonitrile	1 mL
CERIMPO-002-02	Oxycodone-N-oxide (0.1 m/mL) in Methanol	1 mL
CERIMPO-004-01	14-Hydroxymorphinone (0.1 mg/mL) in Acetonitrile	1 mL
CERIMPO-902-01	2-Amino-5-chlorobenzophenone (1 mg/mL) in Acetonitrile	1 mL
CER-01091-S	Acetoxyvaleric Acid (0.1 mg/mL) in Acetonitrile	1 mL
CER-02261-SK	Bilberry Kit, 5 ampules	kit (5)
CER-02273-S	Bilobalide (0.1 mg/mL) in Acetonitrile	1 mL
CER-02278-S	Biochanin A (0.1 mg/mL) in Methanol	1 mL
CER-03212-S	beta-Carotene (0.1 mg/mL) in Tetrahydrofuran	1 mL
CER-03289-S	Catechin (0.1 mg/mL) in Acetonitrile	1 mL
CER-03322-SK	Cat's Claw Kit, 4 ampules	kit (4)

Miscellaneous

Code	Product	Unit
CER-03950-S	Cyanidin Chloride (0.1 mg/mL) in Methanol:H ₂ O:HCl (80:11:9)	1 mL
CER-04008-S	Daidzein (0.1 mg/mL) in Methanol	1 mL
CER-04017-S	Daidzin (0.1 mg/mL) in Methanol	1 mL
CER-04120-S	Delphinidin Chloride (0.1 mg/mL) in Methanol:H ₂ O:HCl (80:11:9)	1 mL
CER-04237-S	Desmethoxyyangonin (0.1 mg/mL) in Acetonitrile	1 mL
CER-04475-S	Dihydrokavain (0.1 mg/mL) in Acetonitrile	1 mL
CER-04479-S	Dihydromethysticin (0.1 mg/mL) in Acetonitrile	1 mL
CER-05124-S	Epicatechin (0.1 mg/mL) in Acetonitrile	1 mL
CER-05134-S	Epicatechin Gallate (0.1 mg/mL) in Acetonitrile	1 mL
CER-05144-S	Epigallocatechin (0.1 mg/mL) in Acetonitrile	1 mL
CER-05149-S	Epigallocatechin Gallate (0.1 mg/mL) in Acetonitrile	1 mL
CER-06193-S	Formononetin (0.1 mg/mL) in Methanol	1 mL
CER-07083-S	Genistein (0.1 mg/mL) in Methanol	1 mL
CER-07097-S	Genistin (0.1 mg/mL) in Methanol	1 mL
CER-07177-S	Ginkgolide A (0.1 mg/mL) in Acetonitrile	1 mL
CER-07178-SK	Ginkgo terpenoid Kit, 5 ampules	kit (5)
CER-07182-S	Ginkgolide B (0.1 mg/mL) in Acetonitrile	1 mL
CER-07188-S	Ginkgolide C (0.1 mg/mL) in Acetonitrile	1 mL
CER-07189-S	Ginkgolide J (0.1 mg/mL) in Acetonitrile	1 mL
CER-07343-S	Glycitein (0.1 mg/mL) in Methanol	1 mL
CER-07348-S	Glycitin (0.1 mg/mL) in Methanol	1 mL
CER-07419-SK	Green Tea Kit, 5 ampules	kit (5)
CER-08731-S	Hydroxyvalerenic Acid (0.1 mg/mL) in Acetonitrile	1 mL
CER-08907-S	Hyperforin (0.1 mg/mL) in Methanol:Formic Acid (99:1)	1 mL
CER-08912-S	Hypericin (0.1 mg/mL) in Methanol:Pyridine (99.9:0.1)	1 mL
CER-09418-S	Isomitraphylline (0.1 mg/mL) in Acetonitrile	1 mL
CER-11301-S	Kavain (0.1 mg/mL) in Acetonitrile	1 mL
CER-11311-SK	Kava Kit, 6 ampules	kit (6)
CER-13072-S	Malvidin Chloride (50 µg/mL) in Methanol:H ₂ O:HCl (80:11:9)	1 mL
CER-13861-S	Methysticin (0.1 mg/mL) in Acetonitrile	1 mL
CER-13881-SK	Milk Thistle Kit, 3 ampules	kit (3)
CER-13956-S	Mitraphylline (0.1 mg/mL) in Acetonitrile	1 mL
CER-16112-S	Pelargonidin Chloride (0.1 mg/mL) in Methanol:Water:HCl (80:11:9)	1 mL
CER-16372-S	Peonidin Chloride (0.1 mg/mL) in Methanol:Water:HCl (80:11:9)	1 mL
CER-19074-SK	Schisandra Kit, 4 ampules	kit (4)
CER-19227-S	Silybin (0.1 mg/mL) in Acetonitrile	1 mL
CER-19241-S	Silychristin (0.1 mg/mL) in Acetonitrile	1 mL
CER-19502-S	Schisandrol B (0.1 mg/mL) in Acetonitrile	1 mL
CER-19503-S	Schisandrin (0.1 mg/mL) in Acetonitrile	1 mL
CER-19506-S	gamma-Schisandrin (0.1 mg/mL) in Acetonitrile	1 mL
CER-19507-S	Schisandrin A (0.1 mg/mL) in Acetonitrile	1 mL
CER-19562-SK	St. Johns Wort Kit, 3 ampules	kit (3)
CER-19572-SK	Soy Isoflavone Kit, 6 ampules	kit (6)
CER-20066-S	Taxifolin (0.1 mg/mL) in Acetonitrile	1 mL
CER-21221-S	Uncarine C (0.1 mg/mL) in Acetonitrile	1 mL
CER-21226-S	Uncarine E (0.1 mg/mL) in Acetonitrile	1 mL
CER-22152-S	Valerenic Acid (0.1 mg/mL) in Acetonitrile	1 mL
CER-22162-SK	Valerian Kit, 3 ampules	kit (3)
CER-25011-S	Yangonin (0.1 mg/mL) in Acetonitrile	1 mL