

CONCENTRATED LC-MS PRODUCT LINE.

LC-MS KITS, CALIBRATORS
AND CONTROLS.



SPOTLIGHT ON TECAN'S LC-MS INNOVATIONS.

LC-MS plays a crucial role in clinical laboratory medicine due to its ability to provide highly sensitive and specific analysis of a wide range of compounds.

Advancing precision in clinical diagnostics

LC-MS provides high sensitivity for detecting and quantifying low concentrations of analytes in complex biological samples, offering clear advantages over traditional techniques. The LC-MS' versatility makes it applicable to various areas of clinical laboratory medicine, such as toxicology, pharmacology and endocrinology. Monitoring drug levels, hormones, metabolites and other biomarkers precisely is vital for making informed clinical decisions. It provides accurate and precise quantification of analytes over a wide dynamic range, making it suitable for both routine clinical assays and research applications. This accuracy is essential for making informed clinical decisions and ensuring patient safety. Furthermore, analyte-multiplexing offers the simultaneous analysis of multiple compounds in a single run. This provides efficiency and comprehensive profiling of biological samples. This is essential in the understanding of a patient's problems holistically. It is widely used in clinical diagnostics to measure specific biomarkers associated with diseases.

Concentrated LC-MS Kits

LC-MS methodology typically uses large volumes of potentially hazardous solvents in both the sample preparation and chromatography steps. Tecan offers a range of LC-MS kits in a "concentrated" format, with lower solvent volumes. The required solvents can then be ordered separately as needed and added to the kits accordingly. The concentrated LC-MS assay range mirrors the already-established ready-to-go range, with protocols for reconstitution ensuring that the correct amount of solvent is added.

Tec-Trace®

Tec-Trace products offer consistent and standardized calibration and controls across different laboratories and LC-MS systems.

MS enhances hormone diagnostics in clinical laboratories

Clinical laboratories are turning to MS to improve the specificity of hormone diagnostics, with LC-MS now being recognized as the reference method for endocrinology. The challenge for laboratories is how best to distinguish between small molecules that are very similar in structure yet act on the body in quite distinct ways. It can be challenging to measure similar-structured hormones like pregnenolone and progesterone using an immunoassay. MS offers deeper insights into a sample, breaking down the molecules and analyzing them by mass. This state-of-the-art technology enables a range of steroids to be determined and quantified in a single assay, providing all the information necessary to enhance the quality of diagnostics.

Starter Kit

This Kit includes everything necessary for a first installation of the Immunosuppressants LC-MS/MS kit on an LC-MS/MS system. Additionally, it contains all solvents for HPLC and sample extraction, calibrators, controls, as well as one HPLC column and consumables.

Solvent Kit

The Solvent Kit includes a set of solvents to perform the sample extraction and the HPLC. calibrators, controls, consumables, or an HPLC column are not included.

Single components

All components can be ordered separately.



**ADVANCING
PRECISION
IN CLINICAL
DIAGNOSTICS.**

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SKU 30191875

STERIOD PANEL LC-MS

• CE-IVDD

- 18 steroids (17 Steroid hormones and Dexamethasone)
- 2 chromatographic runs guarantee the best possible performance of all analytes
- Only one sample preparation with 96-well SPE-plates
- Manual or automated sample preparation possible (e.g. Tecan Resolvex® A200)
- Total runtime (LC-MS): 10 min for 15 steroids, second injection for another 3 analytes with 6 min runtime

- One set of calibrators, quality controls and internal standards included and additional separately available
- Solid Phase Extraction (SPE) cartridges included, featuring the patented narrow bore extraction (NBE™) process
- Only a 250 µL sample is necessary
- All standards in one mix
- Individual isotopic standard for each analyte

Included in Kit

- Calibrators
 - Internal Standard
 - Controls
 - Mobile Phase
 - SPE Plates
- For 96 Assays



Matrix

- Human Serum
- EDTA Plasma

Measured Components

- 11-Deoxycorticosterone
- 17-hydroxyprogesterone
- 21-Deoxycortisol
- Aldosterone
- Androstenedione
- Corticosterone
- Dexamethasone
- DHEA
- DHEA-S
- Dihydrotestosterone
- Cortisone
- Cortisol
- Progesterone
- 11-Deoxycortisol
- Testosterone
- 17-Hydroxypregnenolone
- Estrone
- Estradiol

Runtime

- 10 min for 15 steroids
- 6 min for the second injection for another 3 analytes



500 µL Plasma
250 µL Serum



Spike with Internal
Standard



SPE



Evaporate and
Reconstitute



Inject into LC-MS





SKU 30261571



SKU 30261570

CORTISOL & CORTISONE URINE

The LC-MS/MS kit is intended for the determination of cortisol and cortisone in urine. Cortisol and Cortisone are determined from human urine by UHPLC with positive ion electrospray LC-MS/MS. Prior to the LC-MS/MS analysis a sample clean-up is performed to remove the sample matrix

and to spike with the internal standard. After separation by chromatography on an analytical C-18 column, cortisol and cortisone are ionized by electrospray ionization (ESI) and detected by LC-MS/MS.

For research use only. Not for use in diagnostic procedures.

Included in Kit

- 6 Points calibrator set
 - Internal Standard
 - Mobile Phases
- For 200 Assays



Matrix

- Urine



Runtime

- Combined results in 4 min per assay



Measured Components

- Cortisone
- Cortisol



300 µl Urine

Spike with Internal
Standard

SPE

Evaporate and
Reconstitute

Inject into LC-MS



SKU 30261569



SKU 30261568

METHYLMALONIC ACID

The LC-MS/MS kit is intended for the determination of methylmalonic acid in serum or plasma. Mass spectrometry-based methods have been widely tested for the determination of methylmalonic acid. Furthermore, chromatographic separation from the structural isomer, Succinic Acid (SA), is critical and not elementary.

This method can be used for the analysis of methylmalonic acid in serum and plasma. Sample preparation is simple and

rapid. An isotope-labelled internal standard (methylmalonic acid D3) is added to compensate for matrix effects and measurement variations. methylmalonic acid is determined from human serum or plasma by UHPLC with negative ion electrospray LC-MS/MS. Prior to the LC-MS/MS analysis, a sample clean-up is performed to remove the sample matrix and to spike with the internal standard.

For research use only. Not for use in diagnostic procedures.

Included in Kit

- 6 Points calibrator set
- Internal Standard
- Deproteinization Solution
- Mobile Phases
- Solvent

For 100 Assays



Matrix

- Serum
- EDTA- and Heparin-plasma



Runtime

- 6 min per assay



Measured Components

- Methylmalonic acid (MMA)



100 µL Sample



Spike with Internal Standard



Deproteinize & Vortex



Centrifuge and Evaporate



Inject into LC-MS



SKU 30261535



SKU 30261534

VITAMIN B1 & B6

This LC-MS/MS kit is intended for the determination of vitamin B1 & B6 in whole blood. Mass spectrometry-based methods have been tested for the determination of vitamin B1 and B6 using a tandem mass spectrometry system (LC-MS/MS). Furthermore, chromatographic separation for both vitamins is critical and not easy. This method can be used for the routine analysis of vitamin B1 and B6 in whole blood. Sample preparation is simple and rapid and analogous for the different biological matrices.

A six-point lyophilized whole blood calibrator as well as lyophilized blood controls are also available for quality assurance. Two isotope-labelled internal standards, Pyridoxal-5'-phosphate (methyl D3) and Thiamin Diphosphate (methyl D3), are added to compensate for matrix effects and measurement variations. Samples are analyzed using positive ion electrospray in MRM mode for maximum sensitivity and selectivity.

For research use only. Not for use in diagnostic procedures.

Included in Kit

- 6 Points calibrator set
 - Internal Standard
 - Deproteinization Solution
 - Mobile Phases
- For 100 Assays



Matrix

- Whole Blood



Runtime

- Combined results in 2.5 min per assay



Measured Components

- Vitamin B1 (Thiaminediphosphate - TDP)
- Vitamin B6 (Pyridoxal-5'-phosphate - PLP)



50 µL Sample



Spike with Internal Standard



Deproteinize & Mix



Centrifuge



Inject into LC-MS



SKU 30261565



SKU 30261564

VITAMIN A & E

This LC-MS/MS kit is intended for the determination of vitamin A & E in Serum / Plasma. Vitamin A & E are determined from human serum/plasma by chromatographic separation coupled to a positive ion electrospray (ESI) LC-MS/MS. Before the LC-MS/MS analysis, a sample clean-up

is performed to remove the sample matrix and to spike with the internal standard. A six-point lyophilized whole blood calibrator as well as lyophilized blood controls are also available for quality assurance.

For research use only. Not for use in diagnostic procedures.

Included in Kit

- 6 Points calibrator set
 - Deproteinization Solution with Internal Standard
 - Mobile Phases
- For 100 Assays



Matrix

- Serum, Plasma



Runtime

- Combined results in 4 min per assay



Measured Components

- Vitamin A - Retinol
- Vitamin E - α -Tocopherol

25 μ L Sample

Add deproteinization
solution with Internal
Standard



Vortex



Centrifuge



Inject into LC-MS



SKU 30261558



SKU 30261557

IMMUNOSUPPRESSANTS

This immunosuppressants kit is intended for the determination of four immunosuppressant medications in whole blood, conducted by laboratory professionals on LC-MS/MS.

Immunosuppressant drugs suppress the immune response in humans. The most common immunosuppressants are the calcineurine inhibitors Cyclosporin and Tacrolimus, and the mTOR inhibitors Sirolimus and Everolimus. Mass spectrometry based methods have been tested for the determination of immunosuppressants. In this analytical

method, 4 immunosuppressants are determined from human whole blood by LC-MS/MS. Prior to the LC-MS/MS analysis, a sample clean-up is performed to remove the sample matrix and to spike the samples with the internal standard. The prepared samples are injected into the UHPLC system and, after separation by chromatography on an analytical C18 column, the compounds are ionized by electrospray ionization (ESI) and detected by MS/MS.

For research use only. Not for use in diagnostic procedures.

Included in Kit

- 6 Points calibrator set
 - Deproteinization Solution with Internal Standard
 - Mobile Phases
- For 300 Assays



Matrix

- Whole Blood



Runtime

- Combined results in 4 min per assay



Measured Components

- Tacrolimus
- Everolimus
- Sirolimus
- Cyclosporin-A



50 µL Sample



Add zinc sulphate



Add deproteinization
solution with Internal
Standard



Centrifuge



Inject into LC-MS

TEC-TRACE® CALIBRATORS AND CONTROLS

Tec-Trace® from Tecan is providing certified Controls and Calibrators specifically designed for Mass Spectrometry labs.

Whether it’s steroids, vitamins, immunosuppressants, or drug monitoring, Tec-Trace offers a comprehensive range of products tailored to meet the requirements of well-established LC-MS tests. Calibrators and controls are available separately, allowing labs to utilize only the necessary products for their specific applications.

Tec-Trace offers

- Trusted data generation and high reproducibility.
- Reliable and reproducible results.
- Verified lots with internal and external QC to guarantee comparability.
- Allowing reliable quantification with LC-MS
- Replaces time-consuming and complicated self-production.
- **Two aliquots/three aliquots**
 - › Minimizing aliquoting time
 - › Maximize lifetime
 - › Minimize cross-contamination

Steroid Panel Tec-Trace RUO

Just for this set, calibrators, controls as well as internal standards were combined into one single set.

The calibrators are human serum-based with defined steroid concentrations. They are traceable to SI units through certified reference materials and meet ISO 17511:2021 requirements. They are provided in six concentrations plus the zero standard.

The quality control samples are human serum-based with steroids of target concentrations and acceptable ranges assigned. This allows the laboratory to check the validity of analytical measurements. Two levels are provided

The internal standards are stable isotope-labelled counterparts of the 17 natural steroid hormones and dexamethasone. These can be added to all samples before

The kit includes up to six calibrator levels and three different controls, covering a broad spectrum of analytes. All are provided in a dedicated matrix and lyophilized format to support a streamlined lab workflow. By encompassing relevant concentration ranges, it instils the confidence necessary for accurate and reliable results.

Tec-Trace® Calibrator Sets feature.

- CE IVDD
- Relevant concentration ranges
- Including blank calibrator (no analytes)
- In dedicated matrix to cover matrix effects
- Lyophilizates

Tec-Trace® Control Sets feature.

- CE IVDD
- In a dedicated matrix to cover matrix effects
- Lyophilizates

processing and allow measurement results to be normalized at the end.

Steroids	SKU	-
Steroid Panel LC-MS, IVD	30191875	Complete Kit - 96 determinations
Steroid Panel Tec-Trace, RUO (Calibrators, controls, internal standard)	30220283	1 x 7 x 1.4 mL Calibrators 1 x 5.4 mL Internal standard 1 x 2 x 1.3 mL Controls
Mobile Phase A Steroid Panel LC-MS	30237202	2 x 25 mL
Mobile Phase B Steroid Panel LC-MS	30237653	2 x 25 mL

Immunosuppressants	SKU	Solvent Kit	Starter Kit
Cyclosporin A, Everolimus, Sirolimus, Tacrolimus		30261557	30261558
Deproteinization Solution Concentrated	30257634	1 x 23 ml	1 x 23 ml
Mobile Phase IA Concentrated	30257630	1 x 25 ml	1 x 25 ml
Mobile Phase IB Concentrated	30257631	1 x 25 ml	1 x 25 ml
Mobile Phase II Concentrated	30257633	1 x 12.5 ml	1 x 12.5 ml
Zinc Sulphate	30257635	3 x 25 ml	3 x 25 ml
Tec-Trace Calibrators	30246484	-/-	6 x 2 x 250 µl
Tec-Trace Controls	30246489	-/-	3 x 3 x 250 µl
LC Column Immunosuppressants	30255153	-/-	1 Piece

Vitamin A and E	SKU	Solvent Kit	Starter Kit
		30261564	30261565
Mobile Phase I Concentrated	30256521	1 x 25 mL	1 x 25 mL
Mobile Phase II Concentrated	30256522	1 x 25 mL	1 x 25 mL
Deproteinization solution with internal standard Concentrated	30256520	1 x 20 mL	1 x 20 mL
Tec-Trace Calibrator	30232632	-/-	6 x 2 x 500 µL
Tec-Trace Controls	30232633	-/-	3 x 3 x 500 µL
LC Column Vitamin A & E	30243719	-/-	1 pcs.

Vitamin B1 and B6	SKU	Solvent Kit	Starter Kit
		30261534	30261535
Deproteinization Solution Concentrated	30255318	1 x 23.0 mL	1 x 23.0 mL
Mobile Phase I Concentrated	30255314	1 x 25.0 mL	1 x 25.0 mL
Mobile Phase II Concentrated	30255317	1 x 12.5 mL	1 x 12.5 mL
Internal Standard D3	30255319	1 x 6.00 mL	1 x 6.00 mL
Tec-Trace Calibrators	30232634	-/-	6 x 2 x 250 µL
Tec-Trace Controls	30232635	-/-	3 x 3 x 250 µL
LC column Vitamin B1 and B6	30243723	-/-	1 pcs

Methylmalonic Acid	SKU	Solvent Kit	Starter Kit
		30261568	30261569
Mobile Phase I Concentrated	30256530	1 x 25 mL	1 x 25 mL
Mobile Phase II Concentrated	30256531	1 x 25 mL	1 x 25 mL
Deproteinization solution	30256529	1 x 16 mL	1 x 16 mL
Solvent	30256533	1 x 20 mL	1 x 20 mL
Internal Standard	30261632	1 x 6 mL	1 x 6 mL
Tec-Trace Calibrator	30232630	-/-	6 x 2 x 500 µL
Tec-TraceControls	30232631	-/-	3 x 3 x 500 µL
LC Column Methylmalonic Acid	30243761	-/-	1 pcs

Cortisol and Cortisone	SKU	Solvent Kit	Starter Kit
		30261570	30261571
Mobile Phase I Concentrated	30256554	1 x 25 mL	1 x 25 mL
Mobile Phase II Concentrated	30256555	1 x 25 mL	1 x 25 mL
Conditioning Solution Concentrated	30256557	1 x 25 mL	1 x 25 mL
Elution Solution Concentrated	30256558	1 x 25 mL	1 x 25 mL
Reconstitution Solution Concentrated	30256569	1 x 10 mL	1 x 10 mL
Washing Solution Concentrated	30256556	2 x 27 mL	2 x 27 mL
Internal standard	30256570	1 x 6 mL	1 x 6 mL
Tec-Trace Calibrator	30232626	-/-	6 x 2 x 1000 µL
Tec-Trace Controls	30232627	-/-	3 x 3 x 1000 µL
LC Column Cortisol and Cortisone	30243736	-/-	1 pcs.

IBL International GmbH Phone: +49 (0)40-53 28 91-0
Flughafenstrasse 52a Fax: +49 (0)40-53 28 91-11
22335 Hamburg Email: IBL@Tecan.com
Germany www.tecan.com/ibl

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Australia +61 3 9647 4100 **Austria** +43 62 46 89 330 **Belgium** +32 15 42 13 19 **China** +86 21 220 63 206 **France** +33 4 72 76 04 80 **Germany** +49 79 51 94 170
Italy +39 02 92 44 790 **Japan** +81 44 556 73 11 **Netherlands** +31 18 34 48 17 4 **Nordic** +46 8 750 39 40 **Singapore** +65 644 41 886 **Spain** +34 93 595 25 31
Switzerland +41 44 922 89 22 **UK** +44 118 9300 300 **USA** +1 919 361 5200 **Other countries** +41 44 922 81 11

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