[BROCHURE]

Waters™

CONSUMABLES SELECTION GUIDE FOR CLINICAL AND TOXICOLOGY LABORATORIES



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INTRODUCTION

Waters is a trusted leader in clinical liquid chromatography–tandem mass spectrometry (LC-MS/MS), with decades of innovation in high-performance consumables. This selection guide provides expert consumable recommendations across the entire LC-MS/MS analytical workflow – including sample preparation, calibration and chromatographic separation – supporting routine laboratory testing in therapeutic drug monitoring (TDM), endocrinology, toxicology, and amino acid analysis. In addition, Waters offers ready-to-use kits that are complete, validated solutions designed to streamline your lab's operations and ensure reliable data.



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ESSENTIAL CONSUMABLES FOR CLINICAL AND TOXICOLOGY WORKFLOWS

SAMPLE PREPARATION PLATES

Waters sample preparation solutions make it easy to produce samples that are free of matrix interferences, leading to more robust and predictable analytical results. Based on simple, logical workflows that produce cleaner samples through targeted separations, Waters sample preparation products maximize sensitivity, increase throughput, and enable the development of robust methods.

Oasis™ Solid-Phase Extraction (SPE) product line is designed to deliver cleaner extracts, higher recoveries, and greater reproducibility across a wide range of analytes. Oasis Sorbents are engineered with a unique polymeric chemistry that offers balanced retention of both polar and non-polar compounds, making them ideal for complex biological matrices like plasma, serum, and urine.

Key Benefits

- High analyte recovery and minimal matrix effects
- Broad pH stability and chemical compatibility
- Available in multiple formats (cartridges, plates, µElution Plates) for scalability



Oasis SPE is widely used in measurement of small molecule drugs such as immunosuppressants, steroid hormones, and commonly abused and illicit drugs due to its robustness and versatility in handling diverse compound classes.

Ostro Plates are designed for rapid protein precipitation and phospholipid removal in a single step, streamlining sample prep for LC-MS/MS analysis. This technology is especially valuable in high-throughput clinical research labs where speed and reproducibility are critical.

Key benefits:

- Efficient removal of proteins and phospholipids
- Minimal sample handling and reduced prep time
- Compatible with automation and 96-well formats



Ostro Plates are particularly popular in clinical toxicology and drug monitoring applications where matrix cleanliness directly impacts assay sensitivity and reliability. For more information, please visit our website at Sample Preparation Products | For HPLC, UHPLC & UHPLC Analysis.

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ANALYTICAL COLUMNS

LC analytical columns serve as the core of the separation process, enabling the resolution of complex mixtures into individual components based on their chemical properties. In clinical research settings, these columns are essential for monitoring drug levels, detecting biomarkers, and ensuring compliance with laboratory protocols.

The performance of an analytical column—its analytical sensitivity, selectivity, and throughput—is directly influenced by its chemistry, dimensions, and particle technology. Waters offers a broad portfolio of column chemistries tailored to meet the rigorous demands of clinical research and toxicology laboratories. Among the most widely adopted are our bridged-ethylene hybrid (BEH™), charged surface hybrid (CSH™), and high strength silica (HSS) particle technologies, each designed to optimize separation efficiency and reproducibility across a wide range of analytes.

The image below illustrates these particle technologies and their unique characteristics:



BEH Technology	CSH Technology	HSS Technology	Solid-Core Technology
■ High retentivity for basic compounds ■ Exceptional peak shape at elevated pH ■ Good universal column choice for a wide variety of compounds ■ Stable across a wide pH range ■ For separation at high temperature (80 °C)	■ Good separation for basic compounds under low pH conditions ■ Excellent MS performance with formic acid as a mobile phase modifier ■ Fast pH switching and column equilibration	■ Good separation for basic compounds under low pH conditions ■ Excellent MS performance with formic acid as a mobile phase modifier ■ Fast pH switching and column equilibration	■ Maximum efficiency ■ Increased sensitivity ■ Seamless scalability from UHPLC to HPLC

Learn more about our column technologies here.

MASSTRAK™ AND KAIROS™ REAGENTS (RUO ONLY)

We offer analyte-specific calibrators and controls that are CRM-traceable, along with internal standards and tuning solutions to support accurate and reliable analysis. Our portfolio includes RUO sets designed for clinical research, featuring analytically validated protocols.

VIALS AND ACCESSORIES

Vial selection impacts both your daily sample throughput and the volume required per analysis. Whatever your workflow demands, we offer a range of options—including compatible caps (slit and pre-slit)—to ensure optimal performance and convenience.

Below are the common vials used in clinical and toxicology applications:

Vial Name	Part Number (P/N)
Maximum Recovery Vial	186000984
Total Recovery Vials	186000384C
LCMS Certified Clear Glass Vials	600000668CV

Explore our additional vials, plates, and certified containers here.

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CONSUMABLES SELECTION GUIDANCE FOR APPLICATION AREA

In the following sections, you'll find guidance on selecting the right consumables for four key application areas: **therapeutic drug monitoring (TDM)**, **endocrinology**, **toxicology** and **amino acid analysis**. Each recommendation is supported by a relevant application note or kit directions for use, providing evidence of performance and reliability. Additional resources to support consumable selection are provided in the subsequent section for further reference. Together, these resources offer clear, evidence-based guidance to support your laboratory workflows.



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THERAPEUTIC DRUG MONITORING

TDM is the practice of measuring specific drug concentrations at designated intervals to ensure levels remain within a defined range. In research settings, TDM studies support investigations into drug metabolism, pharmacokinetics, and safety profiles. Common analyte groups include immunosuppressants, antifungals, and antiepileptic drugs.

The following tables provide consumable product selections used across the LC-MS/MS workflow for key TDM drugs.

SAMPLE PREP & ANALYTICAL COLUMN SELECTION GUIDANCE

	Analyte Group	ISD-1	ISD-2	Antifungals	Antipsychotics (neuroleptics)
	Analytes	Cyclosporine, everolimus, sirolimus, tacrolimus	Mycophenolic acid	Fluconazole, voriconazole, posaconazole, itraconazole, hydroxyitraconazole	35 different antipsychotic drugs
	Matrix	Whole blood	Plasma	Serum	Plasma
Sample Prep	**Related Product Named**	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat			
	P/N-1	(A) 186002482			
	P/N-2	(B) 186006335			
Analytical Columns	**Column Name**	ACQUITY™ HSS C_{18} SB Column	ACQUITY HSS C_{18} SB Column	ACQUITY UPLC™ BEH C_{18} Column	XSelect™ HSS C_{18} SB XP Column
	Particle Size	1.8 µm	1.8 µm	1.7 µm	2.5 µm
	Dimension	2.1 x 30mm	2.1 x 30 mm	2.1 x 30 mm	2.1 x 30 mm
	P/N	186004117	186004117	186002349	186006160
Link to App Note		Analysis of Cyclosporine, Everolimus, Sirolimus and Tacrolimus in Whole Blood	Method for the Analysis of Plasma Mycophenolic Acid	Analysis of Azole Antifungals in Serum	LC-MS/MS Method for Analysis of 35 anti-Psychotics in Human Plasma

	Analyte Group	Tricyclic antidepressants (TCA)	Antibiotics	Antiepileptic drugs (AED)	Oncology -1
	Analytes	15 different TCA	16 different antibiotic	18 different AEDs	Methotrexate
	Matrix	Plasma	Plasma	Plasma	Serum/Plasma
Sample Prep	**Related Product Named**	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat			
	P/N-1	(A) 186002482			
	P/N-2	(B) 186006335			
Analytical Columns	**Column Name**	XSelect Premier HSS T3 Column	ACQUITY UPLC BEH C_{18} Column	CORTECS™ C_8 Column	ACQUITY UPLC HSS C_{18} SB Column
	Particle Size	2.5 µm	1.7 µm	2.7 µm	1.8 µm
	Dimension	2.1 x 100 mm	2.1 x 100 mm	2.1 x 50 mm	2.1 x 30 mm
	P/N	186009831	186002352	186008349	186004117
Link to App Note		Analysis of Tricyclic Antidepressant Drugs in Plasma	Analysis of Antibiotics in Plasma	Analysis of Antiepileptic Drugs in Plasma	Analysis of Methotrexate in Plasma and Serum

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	Analyte Group	Oncology-2	Oncology-3	Oncology-4 Monoclonal Antibody Drugs (mAbs)	Alcohol
	Analytes	Busulfan	5-Fluorouracil	Imfliximab	PEth
	Matrix	Plasma	Plasma	Plasma	Whole blood
Sample Prep	**Sample Prep Product Name**				Ostro Plate
	Format				25 mg/96 well
	P/N				186005518
	Related Product Names	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat
	P/N-1	(A) 186002482	(A) 186002482	(A) 186002482	(A) 186002482
	P/N-2	(B) 186006335	(B) 186006335	(B) 186006335	(B) 186006335
Analytical Columns	**Column Name**	ACQUITY UPLC HSS T3 Column	ACQUITY UPLC HSS PFP Column	XSelect HSS T3 Column	ACQUITY UPLC BEH C_8 Column
	Particle Size	1.8 µm	1.8 µm	2.5 µm	1.7 µm
	Dimension	2.1 x 50 mm	2.1 x 100 mm	2.1 x 50 mm	2.1 x 50 mm
	P/N	186003538	186005967	186006149	186002877
Link to App Note		Analysis of Busulfan in Plasma	Analysis of 5-fluorouracil in Plasma	LC-MS/MS Analysis of mAbs Using a Monoclonal Antibodies Quantification Kit	Analysis of Phosphatidylethanol PEth in Whole Blood

Note: Waters also offers an IVD kit for tacrolimus as well as IVD calibrator, control and internal standard sets for a panel of tacrolimus, cyclosporine, sirolimus and everolimus. More information on these kits and sets can be found in the MassTrak Reagents (IVD) Ordering Guide (720008244).

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ENDOCRINOLOGY

Endocrinology tests are routinely ordered for quantitative determination of steroids in human serum for clinical research methods. Relevant endocrinology analytes include both small molecules such as steroid hormones, biogenic amines, and vitamins, or large molecules, such as proteins including thyroglobulin and insulin-like growth factor (IGF). LC-MS/MS testing provides high analytical sensitivity and selectivity for endocrinology analyte tests as well as high accuracy in measuring analytes found in low concentrations.

The following tables present consumable product selections used across the LC-MS/MS workflow for key endocrinology analytes.

SAMPLE PREP & ANALYTICAL COLUMN SELECTION GUIDANCE

	Analyte Group	Steroid Hormones-1	Steroid Hormones-2	Steroid Hormones-3	Steroid Hormones-4	Steroid Hormones-5
	Analytes	Androstenedione, corticosterone, cortisol, 11-deoxycoritcosterone, 11-deoxycortisol, 21-deoxycortisol, DHEA, DHEAS, dihydrotestosterone, progesterone, testosterone, 17-hydroxyprogesterone	Androstendione, DHEAS, 17-hydroxyprogesterone, testosterone	Androstendione, cortisol, 11-deoxycortisol, 21-deoxycortisol, 17-OHP	Aldosterone, androstenedione, corticosterone, cortisol, cortisone, 5alpha-dihydrotestosterone, 11-deoxycorticosterone, DHEA, DHEAS, 11-deoxycortisol, 21-deoxycortisol, estradiol, estrone, estriol, 17-hydroxyprogesterone, 11-ketotestosterone, 11-ketoandrostenedione, progesterone, testosterone	Aldosterone and plasma renin, 17-OH progesterone
	Matrix	Serum	Serum	Serum	Serum	Serum
Sample Prep	**Sample Prep Product Name**	Oasis MAX Plate	Oasis PRiME HLB Plate	Oasis PRiME HLB Plate	N/A	Oasis MAX Plate
	Format	2mg/96 well (µElution Plate	3mg/96 well (µElution Plate)	3mg/96 well (µElution Plate)	N/A	2mg/96 well (µElution Plate)
	P/N	186001829	186008052	186008052	N/A	186001829
	Related Product Names	96 well collection plate	96 well collection plate	96 well collection plate	N/A	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat; (C)µElution Plate spacer
	P/N-1	186002481	186002481	186002481	N/A	(A) 186005837
	P/N-2	N/A	N/A	N/A	N/A	(B) 186006332
Analytical Columns	**Column Name**	CORTECS C_8 Column	ACQUITY UPLC HSS T3 Column	ACQUITY UPLC HSS T3 Column	ACQUITY UPLC BEH C_8 Column	XBridge Premier Peptide BEH C_{18} Column
	Particle Size	2.7 µm	1.8 µm	1.8 µm	1.7 µm	2.5 µm
	Dimension	2.1 x 100mm	2.1 x 50mm	2.1 x 50mm	2.1 x 50mm	2.1 x 50mm
	P/N	186008351	186003538	186003538	186002877	186009733
Link to App Note		MassTrak Endocrine Steroid Calibrators and Quality Control Sets - LC-MS/MS Analysis of Steroid Hormones	Quantification of Corticosteroids and Androgens in Serum Utilizing Waters MassTrak Steroid Serum Set	Quantification of Corticosteroids and Androgens in Serum Utilizing Waters MassTrak Steroid Serum Set	Analysis of 19 Steroid Hormones in Serum	LC-MS/MS Analysis of Aldosterone and Plasma Renin Activity

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	Analyte Group	Steroid Hormones-6	Catecholamines and Metanephrines	Vitamins -1	Vitamins -2
	Analytes	17beta-estradiol and estrone	Norepinephrine, epinephrine, normetanephrine, dopamine, metanephrine, 3-methoxytyramine	A, E	K1
	Matrix	Serum	Plasma	Serum	Serum
Sample Prep	**Sample Prep Product Name**	N/A	Oasis WCX Plate	Oasis PRiME HLB Plate	Oasis PRiME HLB Plate
	Format	N/A	2mg/96 well (µElution Plate)	3mg/96 well (µElution Plate)	3mg/96 well (µElution Plate)
	P/N	N/A	186002499	186008052	186008052
	Related Product Names	N/A	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat; (C)µElution Plate spacer	A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat; (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat; (C)µElution Plate spacer
	P/N-1	N/A	(A) 186005837	(A) 18600855	(A) 18600855
	P/N-2	N/A	(B) 186006332	(B) 186006332	(B) 186006332
Analytical Columns	**Column Name**	CORTECS Phenyl Column	ACQUITY UPLC HSS PFP Column	ACQUITY UPLC HSS PFP Column	ACQUITY UPLC HSS PFP Column
	Particle Size	2.7 µm	1.8 µm	1.8 µm	1.8 µm
	Dimension	2.1 x 50 mm	2.1 x 100mm	2.1 x 50mm	2.1 x 50mm
	P/N	186008319	186005967	186005965	186005965
Link to App Note		Analysis of Serum Estrogens by UPLC-MS/MS	Analysis of Plasma Catecholamines and Metanephrines	Analysis of Vitamins A-E in Serum	Analysis of Vitamin-k1 in Serum

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	Analyte Group	Vitamins -4	Vitamin metabolites	Free steroid hormones -1	Free steroid hormones-2	Oncology
	Analytes	Total 25OHD (Research application)	24,25diOHD3; 1,25diOHD3; 25OHD3; C3-epi-25OHD3; 25OHD2; C3-epi-25OHD2	Free T3, FreeT4	Free Testosterone	Thyroglobulin
	Matrix	Serum	Plasma	Serum	Serum	Serum
Sample Prep	**Sample Prep Product Name**	Oasis HLB Plate	Oasis PRiME HLB Plate	Oasis MAX Plate	N/A	N/A
	Format	2mg/96 well (µElution Plate)	3mg/96 well (µElution Plate)	2mg/96 well (µElution Plate)	N/A	N/A
	P/N	186001828BA	186008052	186001829	N/A	N/A
	Related Product Names	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat; (C)µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat; (C)µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat; (C)µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat	96 well collection plate
	P/N-1	(A) 186005837	(A) 186005837	(A) 186002481	(A) 186002482	186002481
	P/N-2	(B) 186006332	(B) 186006332	(B) 186006332	(B) 186002484	N/A
Analytical Columns	**Column Name**	ACQUITY UPLC BEH Phenyl Column	CORTECS Phenyl Column	ACQUITY Premier HSS T3 Column	ACQUITY UPLC BEH C_{18} Column	XSelect Premier HSS T3 Column
	Particle Size	1.7 µm	1.6 µm	1.8 µm	1.7 µm	2.5 µm
	Dimension	2.1 x 50 mm	2.1 x 100mm	2.1 x 50mm	2.1 x 100mm	2.1 x 50mm
	P/N	186002884	186008381	186009470	186002352	186009830
Link to App Note		Analysis of 25-Hydroxyvitamin-D in Serum	Low Level Quantification of Six Vitamin-D Metabolites by UHPLC-MS/MS	Analysis of Free Thryoxine (FT4) and Free Triiodothronine (FT3)	Analysis of Free Testosterone in Serum	Quantification of Thyroglobulin in Serum

Note: 1) Steroids: Waters offers an IVD and RUO calibrator, control, internal standard and Optimix sets for steroids for three different analyte panels. More information on the IVD sets can be found in the MassTrak Reagents (IVD) Ordering Guide (720008244). Furthermore, information on the RUO sets can be found in the Reagents (RUO) Ordering Guide (720008038EN). 2) Vitamin D – Waters offers an IVD Kit for total Vitamin D analysis. More information on the IVD Kit can be found in MassTrak Reagents (IVD) Ordering Guide (720008244).

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CLINICAL AND FORENSIC TOXICOLOGY

Toxicology plays a critical role in both clinical and forensic environments, where the detection and quantification of potentially harmful substances can inform medical decisions, support legal investigations, and protect public health. Whether assessing illicit drug levels, identifying drugs of abuse, or screening for novel psychoactive substances, toxicology workflows demand high analytical precision and reliability.

Accurate toxicology – whether clinical or forensic – begins with choosing the right consumables. Selecting the optimal sample preparation method and chromatographic column is key to achieving clean extractions, reliable separations, and consistent results. The following guidance aligns consumables choices with specific analytes, matrices, and analytical goals to support confidence in every result.

The tables outline recommended consumables for toxicology workflows, organized by analyte group.

	Analyte Group	Alcohol	Anti-doping	DOA Cannabinoids -1	DOA Cannabinoids -2	DOA Cannabinoids-3	DOA Cannabinoids-4
	Analytes	PEth	40 different diuretics and beta-blockers	THC-OH, THC-COOH, and THC	THC-OH, THC-COOH, and THC	THC-OH, THC-COOH, and THC	THC-OH, THC-COOH, and THC
	Matrix	Whole blood	Urine	Plasma	Urine	Whole blood	Oral fluid
Sample Prep	**Sample Prep Product Name**	Ostro Pass Plate	Oasis MAX Plate	Oasis PRiME HLB Plate	Oasis PRiME HLB Plate	Oasis PRiME HLB Plate	Oasis PRiME HLB Plate
	Format	25 mg/96- well	2 mg/96 well (µElution Plate)	3 mg/96 well (µElution Plate)	3 mg/96 well (µElution Plate)	3 mg/96 well (µElution Plate)	3 mg/96 well (µElution Plate)
	P/N	186005518	186001829	186008052	186008052	186008052	186008052
	Related Product Names	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/Silicone Cap Mat, (C)µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/Silicone Cap Mat, (C) µElution Plate spacer
	P/N-1	(A) 186002482	(A) 186005837	(A) 186005837	(A) 186005837	(A) 186005837	(A) 186005837
	P/N-2	(B) 186006335	(B) 186006332	(B) 186006332	(B) 186006332	(B) 186006332	(B) 186006332
Analytical Columns	**Column Name**	ACQUITY BEH C_8 Column	ACQUITY CSH C_{18} Column	ACQUITY UPLC BEH C_{18} Column	ACQUITY UPLC BEH C_{18} Column	ACQUITY UPLC BEH C_{18} Column	CORTECS C_{18} Column
	Particle Size	1.7 µm	1.7 µm	1.7 µm	1.7 µm	1.7 µm	1.6 µm
	Dimension	2.1 x 50 mm	2.1 x 100 mm	2.1 x 50 mm	2.1 x 100 mm	2.1 x 50 mm	2.1 x 100 mm
	P/N	186002877	186005297	186002350	186002350	186002350	186007095
Link to App Note		Analysis of Phosphatidylethanol (PEth) in Whole Blood	Diuretics Beta Blockers by UHPLC-MS/MS in Anti Doping Analysis	Quantitative Analysis of THC Metabolites in Plasma	Quantitative Analysis of THC Metabolites in Urine	Quantitative Analysis of THC Metabolites in Whole Blood	Improved Extraction of THC and its Metabolites from Oral-Fluid

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	Analyte Group	DOA Confirmation -1	DOA Confirmation -2	DOA Confirmation -3 (Using SoHT Guidelines)	DOA Screening -1	DOA Screening -2	DOA Screening -3
	Analytes	80 different DOA	14 different illict drugs	29 different DOA	23 DOA	155 different DOA	12 different DOA
	Matrix	Urine	Oral fluid	Hair	Plasma urine	Whole blood	Urine
Sample Prep	**Sample Prep Product Name**	Oasis MCX Plate	Oasis MCX Plate	Oasis PRiME MCX Plate	Oasis PRiME HLB Plate	Ostro Pass Plate	Oasis MCX Plate
	Format	2 mg/96 well (µElution Plate)	2 mg/96 well (µElution Plate)	30 mg/96 well	3 mg/96 well (µElution Plate)	25 mg/96-well	2 mg/96 well (µElution Plate)
	P/N	186001830BA	186001830BA	186008916	186008052	186005518	186001830BA
	Related Product Names	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/Silicone Pre-Slit Cap Mat	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer	(A) 96 well collection plate; (B) PTFE/ Silicone Pre-Slit Cap Mat	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat, (C) µElution Plate spacer
	P/N-1	(A) 186005837	(A) 186005837	(A) 186002482	(A) 186005837	(A) 186002482	(A) 186005837
	P/N-2	(B) 186006332	(B) 186006332	(B) 186006335	(B) 186006332	(B) 186006335	(B) 186006332
Analytical Columns	**Column Name**	ACQUITY UPLC BEH C_{18} Column	ACQUITY UPLC BEH C_{18} Column	ACQUITY BEH C_{18} Column	CORTECS C_{18} Column	ACQUITY UPLC HSS C_{18} Column	ACQUITY UPLC HSS C_{18} Column
	Particle Size	1.7 µm	1.7 µm	1.7 µm	1.6 µm	1.8 µm	1.8 µm
	Dimension	2.1 x 100 mm	2.1 x 100 mm	2.1 x 50 mm	2.1 x 100 mm	2.1 x 150 mm	2.1 x 150 mm
	P/N	186002352	186002352	186002350	186007095	186003534	186003534
Link to App Note		A Comprehensive Method for the Analysis of Pain Management Drug and Drugs of Abuse	UPLC-MS/MS for the Quantification of Illicit or Prescription Drugs in Preserved Oral Fluid	Complete Workflow for the Determination of Drugs of Abuse for Society of Hair Testing Guidelines	Solid Phase Extraction vs. Solid-Liquid Extraction vs. Liquid-Liquid Extraction	Determination of Drugs Abuse in Whole Blood Using the Ostro™ Pass-through Sample Preparation Plate	Systematic Toxicological Screening Using the ACQUITY UPLC I-Class System Xevo™ TQ-S micro MS

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AMINO ACID ANALYSIS

The following tables provide consumable product selections used across the LC-MS/MS workflow for key amino acid analytes.

SAMPLE PREP, ANALYTICAL COLUMN, AND KAIROS RUO REAGENT KIT SELECTION GUIDANCE

	Analyte Group	Amino Acids	Amino Acids (MetaboQuan-R™ Analysis)
	Analytes	37 different amino acids	29 different amino acid
	Matrix	DBS	Serum
Sample Preparation	**Related Product Names**	(A) 96 well collection plate; (B) PTFE/ Silicone Cap Mat	
	P/N-1	(A) 186002643	
	P/N-2	(B) 186006332	
Analytical Columns	**Column Name**	CORTECS UPLC C_{18} Column	CORTECS T3 Column
	Particle Size	1.6 µm	2.7 µm
	Dimension	2.1 x 150 mm	2.1 x30 mm
	P/N	186007096	186008481
Link to App Note		Analysis of Amino Acids in Dried Blood Spots Using Waters-Kairos Amino-Acid Kit	Quantitative Amino Acid Profiling Using Kairos Amino Acid Kit and MetaboQuan-R Analysis

Note: Additional information on product specifications can be found in the MassTrak & Kairos Reagents (RUO) Ordering Guide (720008038EN) Amino Acids: Waters offers the Kairos Amino Acid Kit, an RUO kit for analysis of 40+ amino acids. Additional information on this kit can be found in Reagents (RUO) Ordering Guide (720008038EN) & Product page.

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ADDITIONAL RESOURCES

1. Sample Preparation of Biological Matrices Wall Chart | Waters
2. Waters Sorbent Selection Guide For Solid-Phase Extraction Wall Chart | Waters
3. Chromatography Columns and Supplies Catalog | Waters
4. In case the sample preparation guidance provided in the respective application area sections below do not yield optimal results, we recommend attempting the 2x4 method development plate and protocol as described in the following:
    1. Oasis 2x4 Method development video
    2. Oasis Method Development 96 well plate - 186004475
    3. Oasis 2x4 method application note
5. Ostro Pass Through Sample Preparation Plates



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