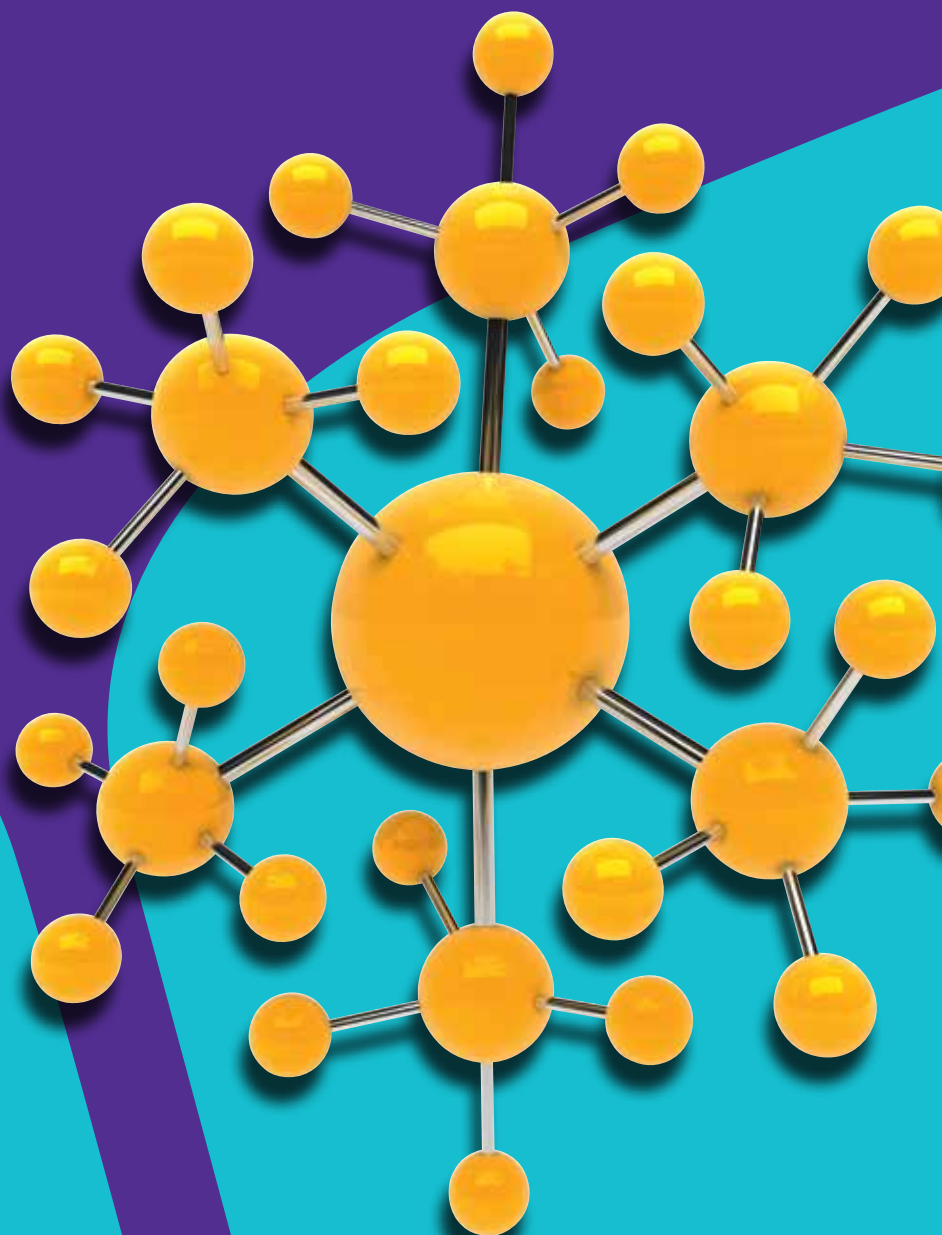


New Chemistry Products for the Metabolomics Workflow

2023 ISSUE-2



Sigma-Aldrich[®]

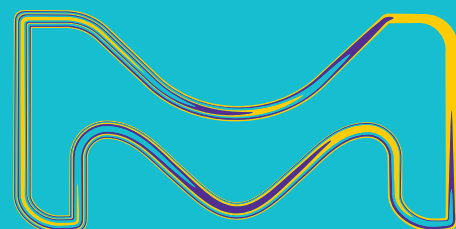
Lab & Production Materials

Millipore[®]

Preparation, Separation,
Filtration & Monitoring Products

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Analytical Products



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The Sigma-Aldrich® portfolio of MilliporeSigma offers a strong and ever-expanding collection of lab and production materials. Through our technical support and scientific partnerships, we help connect our customers with a whole world of progress.

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Analytical Products

The Supelco® portfolio of analytical solutions of MilliporeSigma is developed by analytical chemists for analytical chemists to ensure your results are accurate, precise and reproducible. Every product is meticulously quality-controlled to maintain the integrity of your testing protocols and, with our dedicated scientists, the expertise you need is always on hand.

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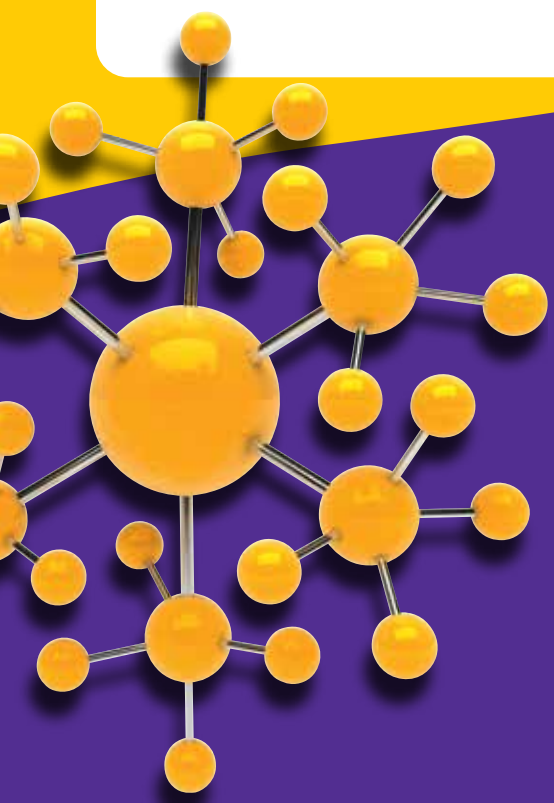


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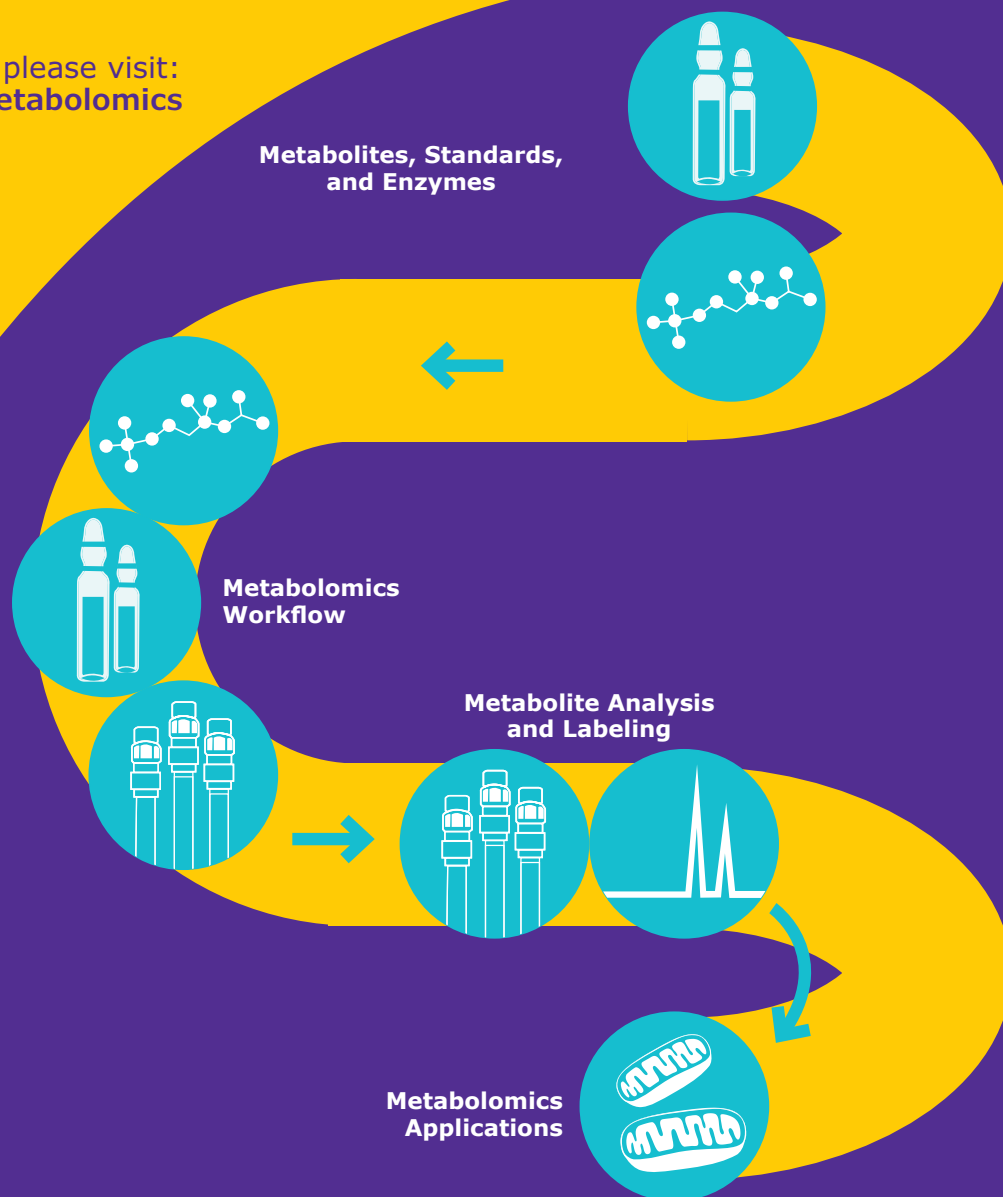
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METABOLOMIC DISCOVERY

Before testing new drugs, metabolomic pathways need to be thoroughly investigated. Our broad range of >1300 products, including metabolites, enzymes, separation tools, and metabolite analysis and labeling help you navigate the metabolic pathways to biomarker discovery.

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For more information, please visit:
SigmaAldrich.com/Metabolomics

























New Metabolism Assay Kits

- Convenient, simple, and highly-dependable assays for monitoring metabolic pathways
- Assay kits utilize spectrophotometric, fluorometric, and/or gravimetric detection methods
- Kits contain all necessary components and reagents for analysis























Cat. No.	Product Name	Description	QR Code
MAK443 	L-Lactate Assay Kit	L-Lactate Assay Kit: 100 fluorometric assays for the quantitative determination of L-lactate (L-lactic acid) and the evaluation of drug effects on its metabolism	
MAK434 	Acetaldehyde Assay Kit	Acetaldehyde Assay Kit: 100 colorimetric assays for acetaldehyde determination in biological samples	
MAK435 	Acetylcholine Assay Kit	Acetylcholine Assay Kit: 100 colorimetric or fluorometric assays for the quantitative determination of acetylcholine and evaluation of drug effects on acetylcholine metabolism	
MAK436 	AF Cholesterol Assay Kit	AF Cholesterol Assay Kit: 100 colorimetric or fluorometric assays for the quantitative determination of cholesterol and evaluation of drug effects on cholesterol metabolism	
MAK437 	Glutathione Peroxidase Assay Kit	Glutathione Peroxidase Assay Kit: 100 colorimetric assays for the quantitative determination of glutathione peroxidase activity and evaluation of drug effects on GPX activity in biological samples	
MAK438 	Glutamine Assay Kit	Glutamine Assay Kit: 100 colorimetric assays for the quantitative determination of glutamine and evaluation of drug effects on glutamine metabolism	
MAK439 	Glycolysis Assay Kit	Glycolysis Assay Kit: 100 colorimetric assays for the determination of L-lactate produced by glycolysis in cell media samples and for the screening of glycolysis inhibitors.	
MAK440 	Glutathione GSH/GSSG Assay Kit	Glutathione GSH/GSSG Assay Kit: 100 colorimetric assays for the quantitative determination of reduced and oxidized glutathione (GSH/GSSG).	











New Metabolism Assay Kits, continued

Cat. No.	Product Name	Description	QR Code
MAK441 	Kinase Assay Kit	Kinase Assay Kit: 400 fluorometric assays for the determination of protein kinase activity and for high-throughput screening of kinase inhibitors.	
MAK442 	Sorbitol Assay Kit	Sorbitol Assay Kit: 100 colorimetric assays for the quantitative determination of D-sorbitol and evaluation of drug effects on sorbitol metabolism	
MAK444 	α -L-Fucosidase Assay Kit	α -L-Fucosidase Assay Kit: 100 colorimetric assays for the quantitative determination of α -L-Fucosidase activity in plasma, serum, tissue, cell lysate, etc.	
MAK445 	Protein Creatinine Ratio Assay Kit	Protein Creatinine Ratio Assay Kit: 100 colorimetric assays for the quantitative determination of urinary protein and creatinine concentrations in urine samples	
MAK446 	Acid Phosphatase Assay Kit	Acid Phosphatase Assay Kit: 100 colorimetric assays for the determination of acid phosphatase in biological samples	
MAK447 	Alkaline Phosphatase Assay Kit	Alkaline Phosphatase Assay Kit: 250 colorimetric assays for the quantitative determination of alkaline phosphatase activity in serum, plasma etc.	
MAK448 	Boron Assay Kit	Boron Assay Kit: 100 colorimetric assays for the quantitative determination of boron in water, plant tissue, soil samples, and antibody conjugation solutions.	
MAK449 	Free Amino Nitrogen Assay Kit	Free Amino Nitrogen Assay Kit: 100 colorimetric assays for Free Amino Nitrogen determination in foods and beverages.	
MAK450 	Glucose Dehydrogenase Assay Kit	Glucose Dehydrogenase Assay Kit: 100 colorimetric assays for the quantitative determination of D-glucose dehydrogenase enzyme activity and drug effects on its metabolism	
MAK451 	Glucose-6-Phosphate Dehydrogenase Assay Kit	Glucose-6-Phosphate Dehydrogenase Assay Kit: 100 colorimetric assays for the quantitative determination of G6PDH concentration and evaluation of drug effects on its metabolism	
MAK452 	Glucose-6-Phosphate Dehydrogenase Inhibitor Screening Kit	Glucose-6-Phosphate Dehydrogenase Inhibitor Screening Kit: 100 colorimetric assays for high throughput inhibitor screening and evaluation of G6PDH inhibitors	


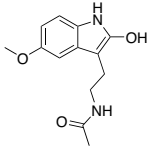


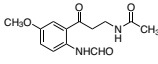


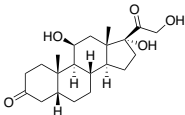


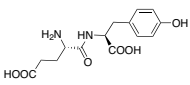


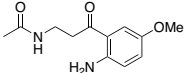


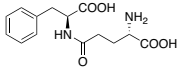


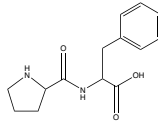


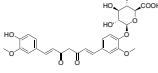


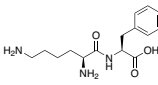


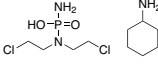

New Metabolism Assay Kits, continued

Cat. No.	Product Name	Description	QR Code
MAK453 	Glutathione S-transferase Assay Kit	Glutathione S-transferase Assay Kit: 100 colorimetric assays for GST activity determination in cell lysates, tissues, etc.	
MAK454 	Nitric Oxide Assay Kit	Nitric Oxide Assay Kit: 100 colorimetric assays for the quantitative determination of nitric oxide (nitrate/nitrite) and evaluation of drug effects on its metabolism	
MAK455 	Whole Blood Hemoglobin (Hb) Kit	Whole Blood Hemoglobin (Hb) Kit: 250 colorimetric assays for the quantitative determination of hemoglobin (Hb) in whole blood.	
MAK456 	β -N-Acetylglucosaminidase Assay Kit	β -N-Acetylglucosaminidase Assay Kit: 100 colorimetric assays for β -NAG activity determination in urine, serum, plasma, cell lysate, etc.	
MAK457 	Caspase-3 Assay Kit	Caspase-3 Assay Kit: 100 fluorometric assays for the quantitative determination of the apoptosis target caspase-3 activity and HTS for apoptosis inducers and inhibitors	
MAK458 	Hyaluronidase Inhibitor Screening Assay Kit	Hyaluronidase Inhibitor Screening Assay Kit: 100 turbidimetric tests for the high-throughput screening for evaluation of hyaluronidase inhibitors	
MAK459 	Detergent Assay Kit	Detergent Assay Kit: 100 colorimetric tests for detecting traces of detergent in purified protein samples and the determination of detergent in water and soil samples	
MAK460 	NAD ⁺ /NADH Assay Kit	NAD ⁺ /NADH Assay Kit sufficient for 100 fluorometric tests for the determination of NAD and NADH and the evaluation of drug effects on NAD/NADH metabolism	
MAK461 	pNPP Phosphatase Assay Kit	pNPP Phosphatase Assay Kit: 500 colorimetric tests for the quantitative determination of phosphatase activity of protein phosphatases.	
MAS009 	Albumin Quick Test Strips	Albumin Quick Test Strips: 10 tests for the detection of albumin in serum, plasma, urine, etc.	


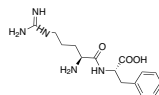


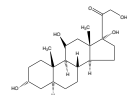


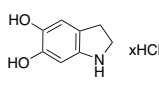


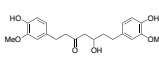


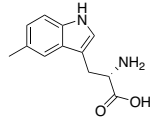


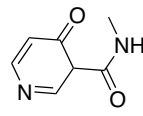


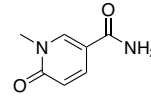


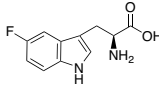


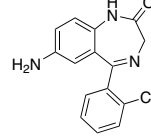


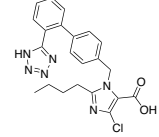

New Metabolism Assay Kits, continued

Cat. No.	Product Name	Description	Image	QR Code
MAS001	Malic Acid Quick Test Strips	Malic Acid Quick Test Strips: 10 tests for the detection of malic acid in a variety of food and beverage samples		
MAS002	L-Lactic Acid Quick Test Strips	10 tests for the detection of L-lactic acid in a variety of food and beverage samples		
MAS003	D-Lactic Acid Quick Test Strips	10 tests for the detection of D-lactic acid in a variety of food and beverage samples		
MAS004	L-Glutamate Quick Test Strips	10 tests for the detection of L-glutamate in a variety of food and beverage samples		
MAS005	Glucose Quick Test Strips	10 tests for the detection of glucose in a variety of food and beverage samples		
MAS006	Pyruvate Quick Test Strips	10 tests for the detection of pyruvate in a variety of food and beverage samples		
MAS007	Histamine Quick Test Strips	10 tests for the detection of histamine in a variety of food and beverage samples		
MAS008	Urea (BUN) Quick Test Strips	10 tests for the detection Urea (BUN) in a variety of food and beverage samples		
MAS010	Oxalate Quick Test Strips	Oxalate Quick Test Strips: 10 tests for the detection of oxalate concentrations in serum, plasma, urine, fruits or vegetables, etc.		


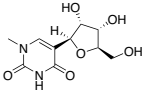

New Metabolites for Research

Cat. No.	Product Name	Description	Structure	QR Code
SMB00981 	2-Hydroxymelatonin	2-Hydroxymelatonin - Highly Pure - Melatonin metabolite with antioxidant properties, ≥95% (HPLC)		
SMB01335 	N ¹ -Acetyl-N ² -formyl-5-methoxykynuramine	N ¹ -Acetyl-N ² -formyl-5-methoxykynuramine - Highly Pure - Melatonin metabolite with antioxidant properties, ≥95% (HPLC)		
SMB01348 	Dihydrocortisol	≥95% (HPLC)		
SMB01349 	Glutamyltyrosine	Glutamyltyrosine - Highly Pure - Dipeptide breakdown product of large proteins, ≥95% (HPLC)		
SMB01350 	N ¹ -Acetyl-5-methoxykynuramine	N ¹ -Acetyl-5-methoxykynuramine - Highly Pure - Melatonin metabolite with potent antioxidant properties, ≥95% (HPLC)		
SMB01351 	γ-Glutamylphenylalanine	γ-Glutamylphenylalanine - Highly Pure - Glutamylphenylalanine is an incomplete breakdown product of protein digestion or protein catabolism, ≥95% (HPLC)		
SMB01352 	Prolylphenylalanine	≥95% (HPLC)		
SMB01357 	Curcumin glucuronide	Curcumin glucuronide Major plasma metabolite of Curcumin		
SMB01358 	Lysylphenylalanine	Lysylphenylalanine A dipeptide composed of lysine and phenylalanine, ≥95% (HPLC)		
SMB01361 	Phosphoramidate mustard cyclohexylamine	≥95% (HPLC)		




















New Metabolites for Research, continued

Cat. No.	Product Name	Description	Structure	QR Code
SMB01362 	Arginylphenylalanine	Arginylphenylalanine A dipeptide of arginine and phenylalanine, ≥95% (HPLC)		
SMB01363 	5α-Tetrahydrocortisol	5α-Tetrahydrocortisol A steroid metabolite of hydrocortisol, ≥95% (HPLC)		
SMB01364 	Leukoaminochrome Hydrochloride	≥95% (HPLC)		
SMB01366 	Hexahydrocurcumin	≥95% (HPLC)		
SMB01342 	5-Methyl-L-tryptophan	5-Methyl-L-tryptophan A tryptophan derivative with a methyl group at position 5 of the indole ring, ≥98% (HPLC)		
SMB01344 	N-Methyl-4-pyridone-5-carboxamide	N-Methyl-4-pyridone-5-carboxamide - Highly Pure - Nicotinate and nicotinamide metabolite		
SMB01345 	N-Methyl-2-pyridone-5-carboxamide	N-Methyl-2-pyridone-5-carboxamide - Highly Pure - N-methyl-nicotinamide (MNA) metabolite		
SMB01347 	5-Fluoro-L-tryptophan	5-Fluoro-L-tryptophan A tryptophan derivative with a fluoro group at position 5 of the indole ring, ≥98% (HPLC)		
SMB01353 	7-Aminoclonazepam	7-Aminoclonazepam - Highly Pure - major metabolite of clonazepam, ≥95% (HPLC)		
SMB01354 	Losartan carboxylic acid	Losartan Carboxylic Acid - Highly Pure - An active carboxylic acid metabolite of Losartan, ≥95% (HPLC)		























New Metabolites for Research, continued

Cat. No.	Product Name	Description	Structure	QR Code
SMB01360 	1-MethylpseudoUridine	1-MethylpseudoUridine - Highly Pure - Nucleobase used in mRNA vaccines, ≥98% (HPLC)		








New Columns for Liquid Chromatography

Cat. No.	Product Name	Description	Image	QR Code
59997-U 	Supel™ Carbon LC, 5 cm x 4.6 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59991-U 	Supel™ Carbon LC, 5 cm x 3.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59998-U 	Supel™ Carbon LC, 10 cm x 4.6 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59993-U 	Supel™ Carbon LC, 10 cm x 3.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59994-U 	Supel™ Carbon LC, 15 cm x 3.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59995-U 	Supel™ Carbon LC Guard Cartridge, pack 3, 2 cm x 4.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59988-U 	Supel™ Carbon LC Guard Cartridge, pack 3, 2 cm x 3.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59981-U 	Supel™ Carbon LC Guard Cartridge, pack 3, 2 cm x 2.1 mm I.D., 2.7 μm	PGC column for unique polar compound separations		

New Columns for Liquid Chromatography, continued

Cat. No.	Product Name	Description	Image	QR Code
59996-U 	Supel™ Carbon LC Guard Cartridge Kit, 2 cm x 4.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59982-U 	Supel™ Carbon LC Guard Cartridge Kit, 2 cm x 2.1 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59989-U 	Supel™ Carbon LC Guard Cartridge Kit, 2 cm x 3.0 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59984-U 	Supel™ Carbon LC, 5 cm x 2.1 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59986-U 	Supel™ Carbon LC, 10 cm x 2.1 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59987-U 	Supel™ Carbon LC, 15 cm x 2.1 mm I.D., 2.7 μm	PGC column for unique polar compound separations		
59999-U 	Supel™ Carbon LC Guard Cartridge Holder	PGC column for unique polar compound separations		
581384-U 	BIOshell™ IgG 1000 Å C4, 15 cm x 1.5 mm I.D., 2.7 μm	Core shell column with unique I.D. for high sensitivity and sustainable separations		
66922-U 	BIOshell™ A160 Peptide C18, 15 cm x 1.5 mm I.D., 2.7 μm	Core shell column with unique I.D. for high sensitivity and sustainable separations		

New Columns for Liquid Chromatography, continued

Cat. No.	Product Name	Description	Image	QR Code
581385-U 	BIOshell™ IgG 1000 Å C4, 5 cm x 1.5 mm I.D., 2.7 µm	Core shell column with unique I.D. for high sensitivity and sustainable separations		
577451-U 	BIOshell™ IgG 1000 Å Diphenyl, 5 cm x 1.5 mm I.D., 2.7 µm	Core shell column with unique I.D. for high sensitivity and sustainable separations		
66923-U 	BIOshell™ A160 Peptide C18, 5 cm x 1.5 mm I.D., 2.7 µm	Core shell column with unique I.D. for high sensitivity and sustainable separations		

PHENOMENAL ELECTROPHORESIS

New M-Clarity™ MQ 200 Reagent Grade Tricine

- Electrophoresis
- Separation of low weigh peptides and proteins
- Crystallization of proteins of varying pH







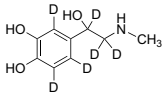

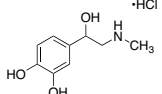

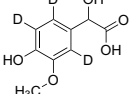



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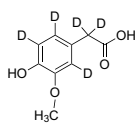

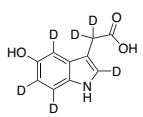

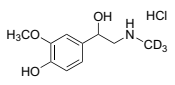

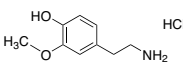

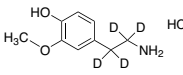

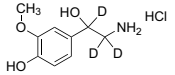

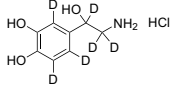

Sigma-Aldrich®
Lab & Production Materials



New Metabolite Certified Reference Materials

Cat. No.	Product Name	Description	Image	QR Code
79248	Amino Acids Mix Solution	17 amino acids in 0.1M hydrochloric acid 2.5 mM each: alanine, arginine, aspartic acid, glutamic acid, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tyrosine, valine and 1.25 mM cystine		
96378	Stable Isotope Labeled Amino Acid Mix Solution 1	1250-2500 nmol/mL in 0.1 M HCl, certified reference material, TraceCERT®		
A-141	Acylcarnitines Mix 1 (C0,C2)	10 mg/mL in methanol (each analyte as free base), certified reference material, ampule of 1 mL, Cerilliant®		
A-144	Acylcarnitines Mix 2 (C4,iC4,C5,iC5,C6,C8,C10,C12,C14,C18)	100-200 µg/mL (90:10 Methanol: 1% aqueous formic acid), certified reference material, ampule of 1 mL, Cerilliant®		
A-145	Acylcarnitines Mix 3 (C8:1,C10:1,C12:1,C14:1,C14:2,C16:1,C18:1,C18:2)	100-200 µg/mL (Methanol:1% aqueous formic acid (90:10) (v/v)), certified reference material, ampule of 1 mL, Cerilliant®		
A-147	Acylcarnitines IS Mix 2 (C4,iC5,C6,C8,C10,C12,C14,C18)	100-200 µg/mL (90:10 Methanol: 1% aqueous formic acid), certified reference material, ampule of 1 mL, Cerilliant®		
E-077	(±)-Epinephrine-D ₆ solution	100 µg/mL in methanol with 5% 1 M HCl, ampule of 1 mL, certified reference material, Cerilliant®		
E-143	(±)-Epinephrine HCl	1 mg/mL in methanol (as free base), certified reference material, ampule of 1 mL, Cerilliant®		
H-091	(±)-4-Hydroxy-3-methoxymandelic acid-D ₃	100 µg/mL in methanol, ampule of 1 mL, certified reference material, Cerilliant®		

New Metabolite Certified Reference Materials, continued

Cat. No.	Product Name	Description	Image	QR Code
H-092	4-Hydroxy-3-methoxyphenyl-D ₃ -acetic-D ₂ Acid solution	100 µg/mL in methanol, ampule of 1 mL, certified reference material, Cerilliant®		
H-152	5-Hydroxyindole-2,4,6,7-d4-3-acetic-2,2-d2 acid (5-HIAA-D6) solution	100 µg/mL in methanol, certified reference material, ampule of 1 mL, Cerilliant®		
M-148	(±)-Metanephrine-D ₃ hydrochloride solution	100 µg/mL in methanol (as free base), ampule of 1 mL, certified reference material, Cerilliant®		
M-171	3-Methoxytyramine hydrochloride	1.0 mg/mL in methanol (as free base), certified reference material, Cerilliant®		
M-172	3-Methoxytyramine-D ₄ HCl	100 µg/mL in methanol (as free base), certified reference material, Cerilliant®		
N-068	(±)-Normetanephrine-D ₃ hydrochloride solution	100 µg/mL in methanol (as free base), ampule of 1 mL, certified reference material, Cerilliant®		
N-069	(±)-Norepinephrine-D ₆ hydrochloride solution	100 µg/mL in methanol (as free base), ampule of 1 mL, certified reference material, Cerilliant®		

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