

explore

LUNA[®]
OMEGA

World Renowned HPLC Media Reinvented for UHPLC!

New Luna Omega 1.6 μm

- Staggering UHPLC Efficiencies and Performance
- Extreme Ruggedness and Mechanical Strength
- Perfect Complement to Kinetex[®] Core-Shell Technology



Two Superb New Polar Selectivities for UHPLC and HPLC

Polar C18 (1.6 μm , 3 μm , 5 μm)
PS C18 (1.6 μm , 3 μm , 5 μm)

 **phenomenex**[®]
...breaking with traditionSM



Enhanced with 20 Years of Technology, Innovation, and Experience

One of the world's leading HPLC brands, now enhanced for incredible UHPLC performance! Luna Omega 1.6 μm UHPLC columns culminate 20 years of technological prowess, advancements, and innovation from Phenomenex!

With **astounding efficiency levels**, highly **versatile selectivities**, and **trusted accuracy**, Luna Omega columns will take your UHPLC experience to a new level.



Luna[®] Omega UHPLC columns
will boost your UHPLC instrumentation!



Why Luna® Omega Should be in Your Lab?

Omega	Cutting-Edge UHPLC	p. 4
	Astounding Performance	p. 5
	Separation Muscle	p. 6
	Inert Foundation	p. 7
	Excellent Reproducibility	pp. 8-9
C18	C18 Selectivity	p. 10
	Utilizing Hydrophobicity	p. 11
Polar C18	Polar C18 Selectivity	p. 12
	Enhanced Polar Retention	p. 13
	100% Aqueous Stability	p. 14
	Polar and Non-polar Selectivity	p. 15
	Upgrading C18 Methods	p. 16
	Improving Existing Polar Methods	p. 17
	Polar Case Study: Catecholamines and PMETs	p. 18
Polar Case Study: ETG/ETS	p. 19	
PS C18	PS C18 Selectivity.....	p. 20
	Enhanced Retention of Acids	p. 21
	Better Peak Shape for Bases	p. 22
	Excellent Loadability	p. 23
	Greater Method Flexibility	p. 24
	Improving Existing Basic Compound Methods.....	p. 25
Reinvented	Use Luna and Luna Omega Phases Together.....	p. 26
	UHPLC to HPLC to PREP Scalability.....	p. 27
	C18 and Polar C18 - Complementary Work Horses.....	pp. 28-29
	Pairing With Core-Shell Technology	pp. 30-31
	Column Lifetime	p. 32
	Sample Preparation.....	p. 33
	UHPLC Column Protection – Guard Cartridge System	p. 34
	HPLC Column Protection – Guard Cartridge System.....	p. 35
Ordering Information	pp. 36-39	



Cutting-Edge 1.6 μm Silica Particle

Luna[®] is one of the most recognized HPLC brands on the market, delivering high efficiency, ruggedness, reproducibility and dependability for a wide range of analyses. The new Luna Omega 1.6 μm builds upon this legacy with an innovative yet rugged UHPLC silica particle architecture, designed and manufactured by Phenomenex based on more than 20 years of applied knowledge, invention, and customer experience.

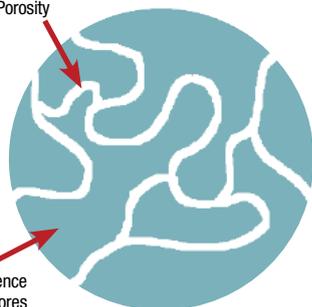
Novel Design and Manufacturing Process



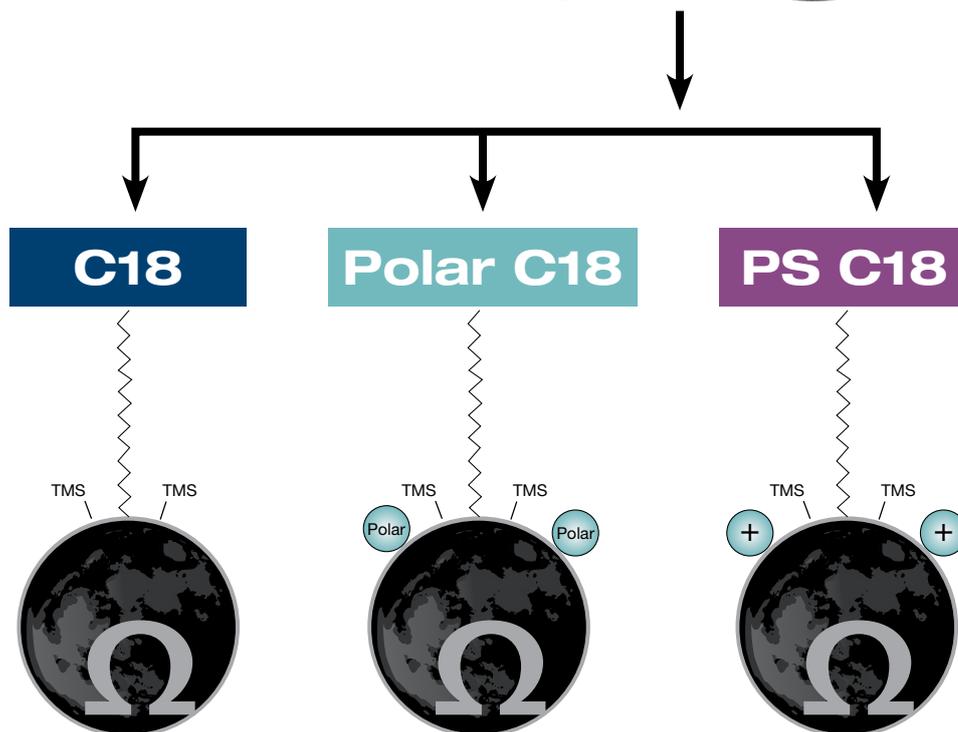
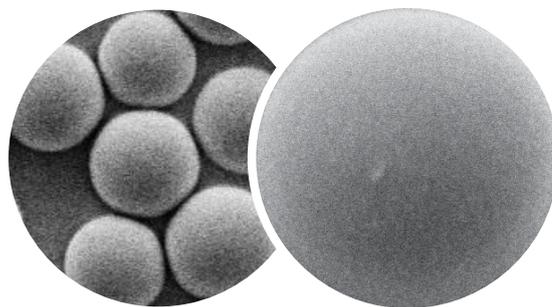
Within the novel manufacturing process of Luna Omega 1.6 μm silica, we implement a proprietary processing technique to gain greater particle inertness, a stronger particle morphology, and more consistent porosity.

Thermal Modified Pore Structure

Consistent Porosity

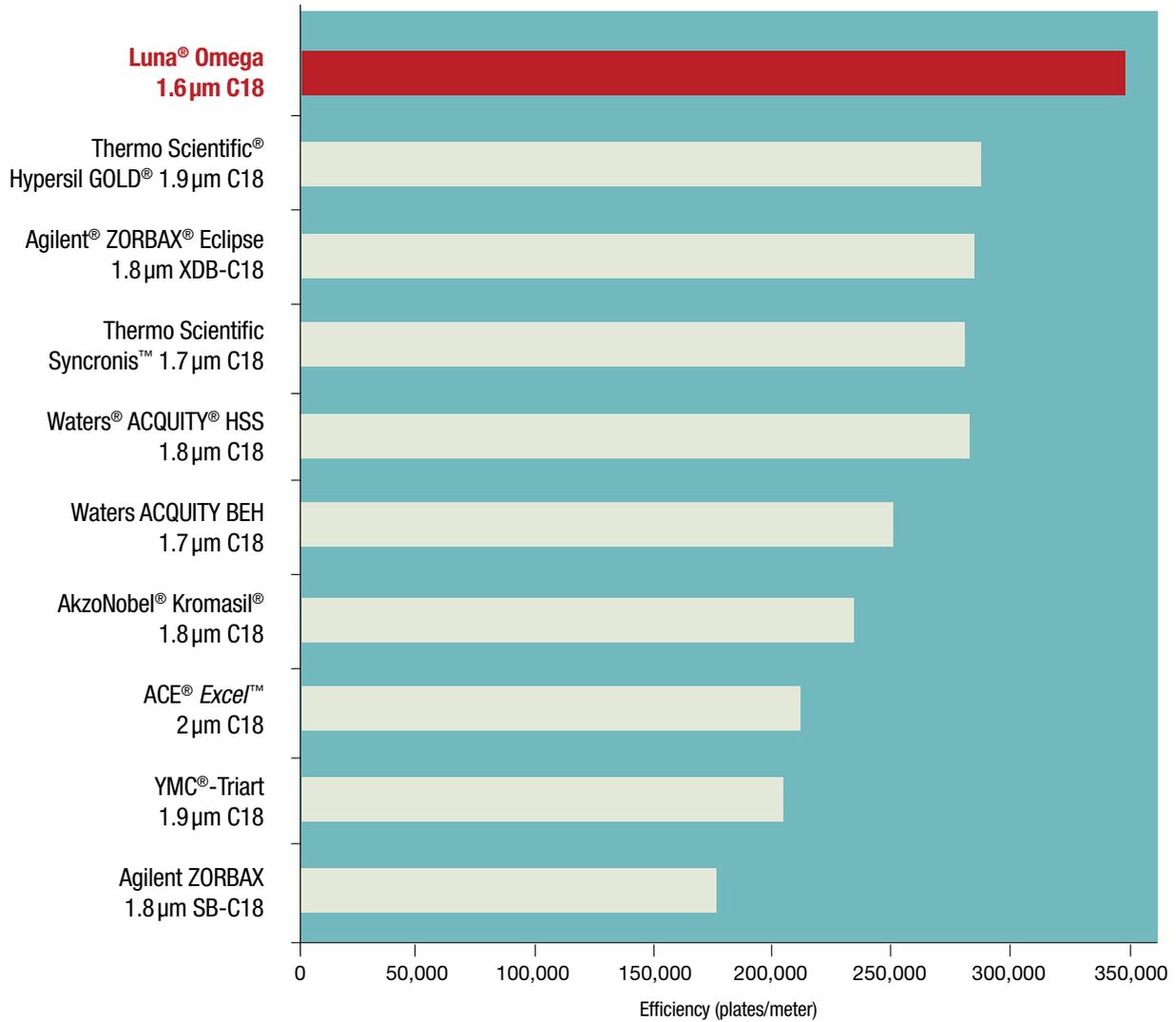


Most importantly, through our proprietary process, we eliminate micropores, further improving column efficiency, inertness, and reproducibility.



The undeniably high efficiency levels found in each Luna Omega UHPLC column provide you with the potential of huge gains in method performance. While traditional silica and hybrid fully porous particles claim high performance, when compared to Luna Omega 1.6 μm , they drastically fall short and prevent UHPLC scientists from reaching their UHPLC potential.

UHPLC Efficiency Comparison

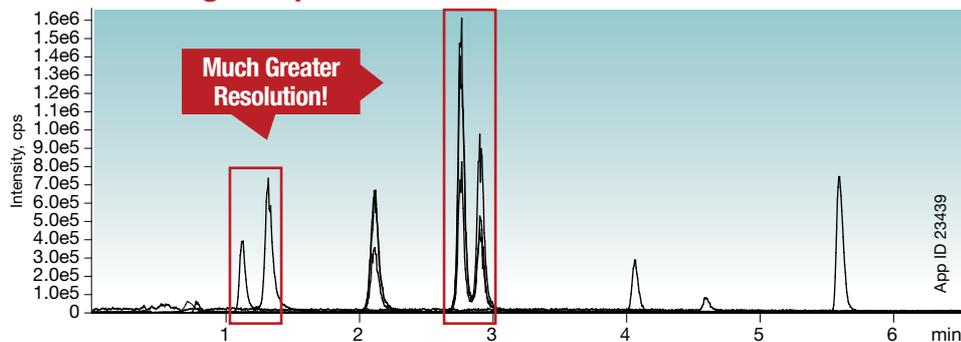


Conditions for all columns:
Dimension: 50 x 2.1 mm
Mobile Phase: Acetonitrile/Water (65:35)
Flow Rate: 0.5 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
System: ACQUITY UPLC®

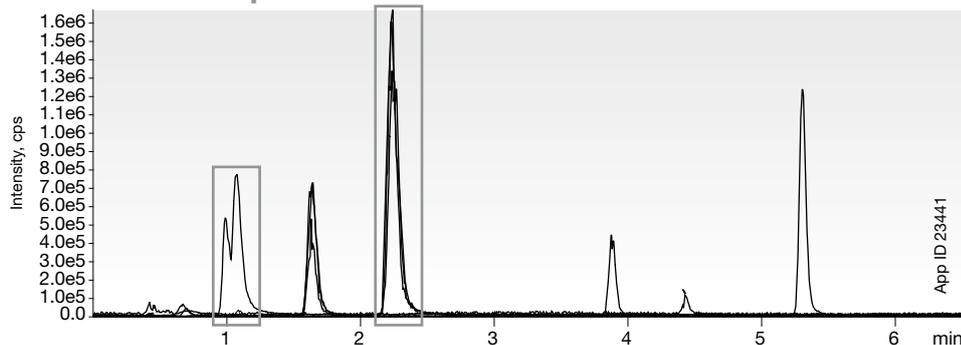
Comparative separations may not be representative of all applications.

Our industry leading bonding technologies in conjunction with high efficiency levels ensure excellent stationary phase coverage and improved separation power. Now, with Luna Omega 1.6 μm, you can turn difficult separations into resolution achievements.

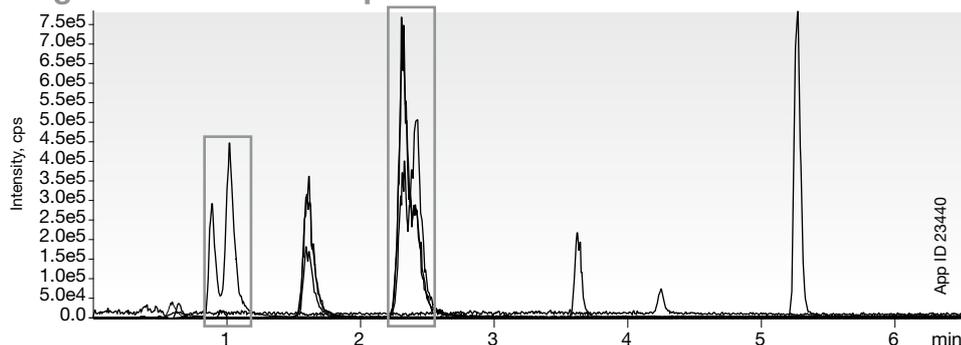
Luna® Omega 1.6μm C18



ACE® Excel™ 2μm C18-AR



Agilent® ZORBAX® 1.8μm XDB-C18



Conditions for all columns:

Columns: Luna Omega 1.6μm C18
ZORBAX 1.8μm XDB-C18
ACE Excel 2μm C18-AR

Dimension: 50 x 2.1 mm

Mobile Phase: A: 0.1 % Formic Acid in Water
B: 0.1 % Formic Acid in Methanol

Gradient:	Time (min)	% B
	0	3
	7	90

Flow Rate: 0.3 mL/min

Temperature: 30 °C

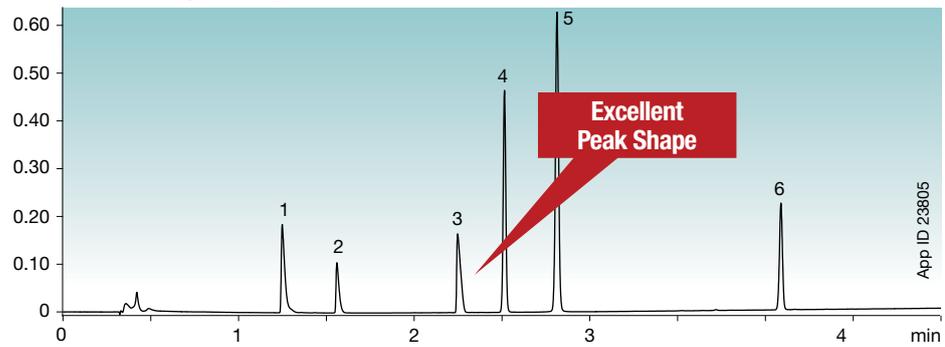
Detection: MS/MS

Sample: 1. Succinic acid
2. MMA
3. Glutaric acid
4. Methylsuccinate
5. Ethylmalonic acid
6. Hippuric acid
7. Homovanillic acid
8. Suberic acid

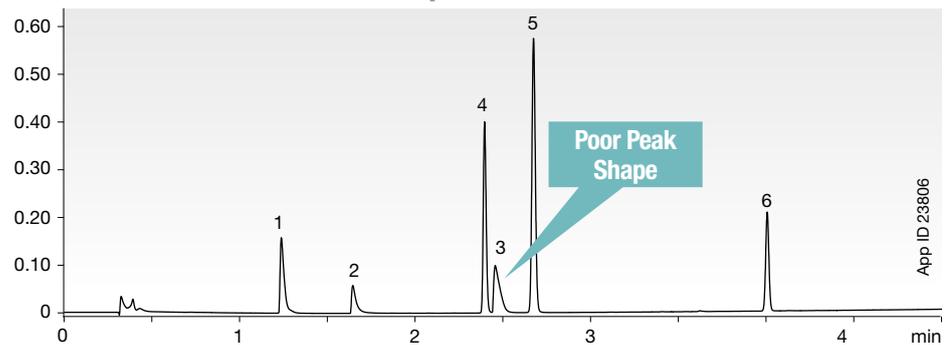
Comparative separations may not be representative of all applications.

Luna Omega UHPLC columns contain a unique silica modified using a proprietary, post-synthetic thermal treatment process to provide extraordinary mechanical strength and significantly greater inertness than traditional fully porous and hybrid materials. This greatly minimizes secondary interactions that negatively affect peak shape, allowing for greater method accuracy.

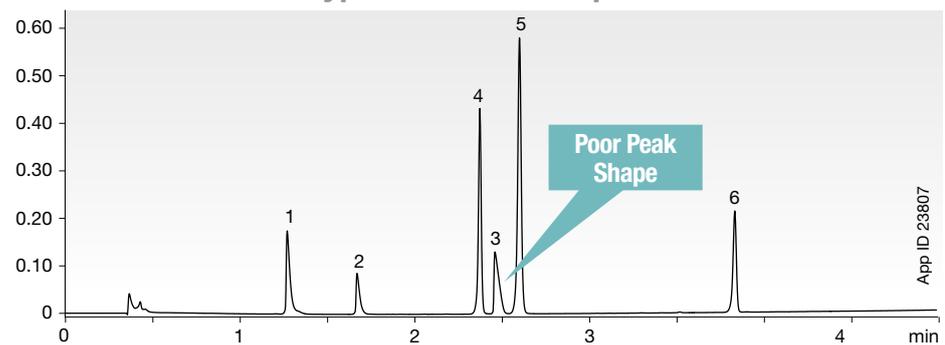
Luna® Omega 1.6µm C18



Waters® ACQUITY® BEH 1.7µm C18



Thermo Scientific® Hypersil GOLD® 1.9µm C18



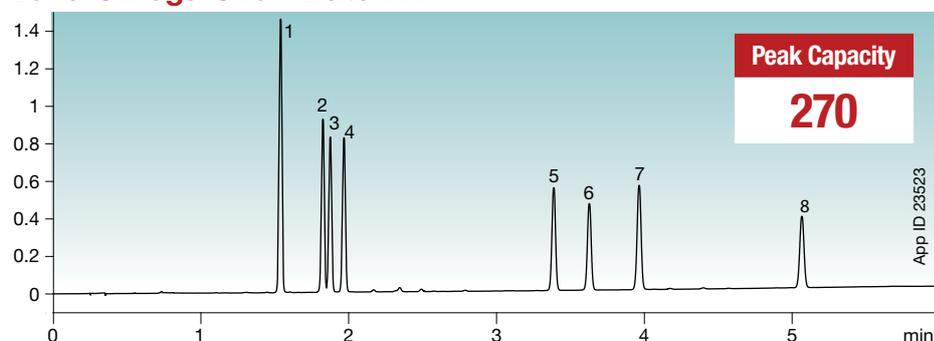
Conditions for all columns:

Columns:	Luna Omega 1.6µm C18 ACQUITY BEH 1.7µm C18 Hypersil GOLD 1.9µm C18	
Dimension:	50 x 2.1 mm	
Mobile Phase:	A: 0.1% Formic Acid in Water B: 0.1% Formic Acid in Acetonitrile	
Gradient:	Time (min)	% B
	0	5
	5	95
	6	95
	6.1	5
	8	5

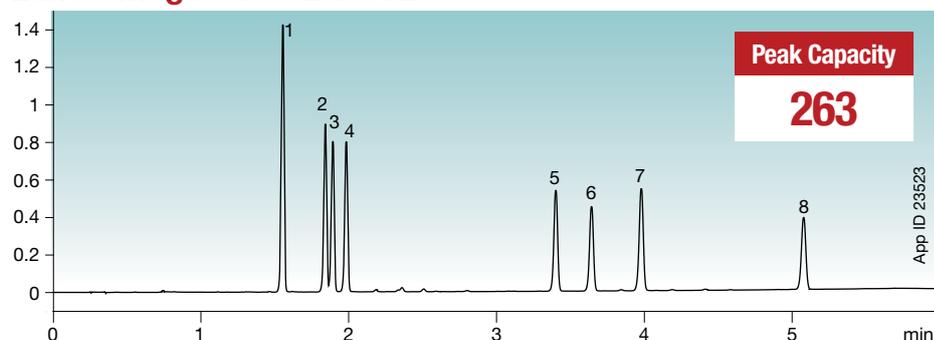
Flow Rate:	0.4 mL/min
Temperature:	Ambient
Detection:	UV @ 254 nm
Sample:	1. Pindolol 2. Chlorpheniramine 3. Nortriptyline 4. 3-Methyl-4-nitrobenzoic acid 5. 5-Methyl salicylaldehyde 6. Hexanophenone

Batch-to-batch and column-to-column, Luna® Omega media and columns are designed to be consistent and incredibly accurate tools for your analysis. Each batch and column are quality tested to ensure dependability and reproducibility.

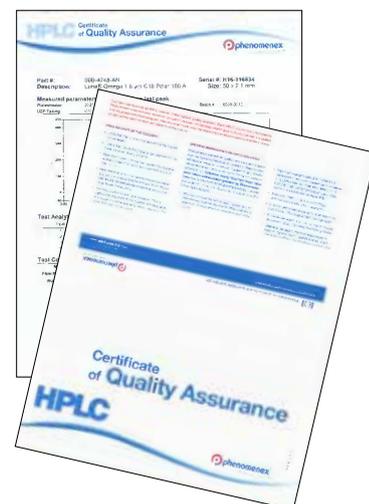
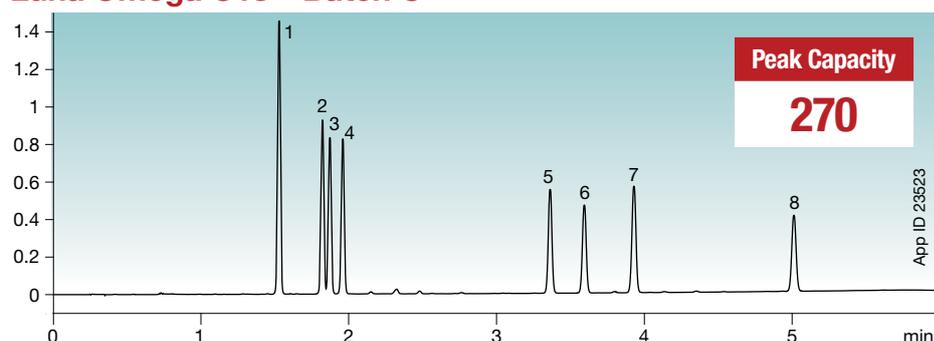
Luna Omega C18 – Batch A



Luna Omega C18 – Batch B



Luna Omega C18 – Batch C



Conditions for all columns:

Columns: Luna Omega 1.6µm C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4742-AN
Mobile Phase: A: Water
 B: Acetonitrile
Gradient:

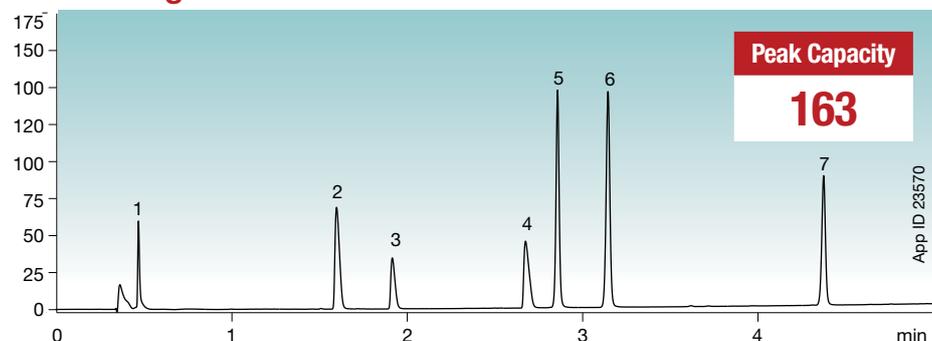
Time (min)	% B
0	20
6	60
6.01	20
8	20

Flow Rate: 0.4 mL/min
Temperature: Ambient
Detection: UV @ 220 nm
Sample:

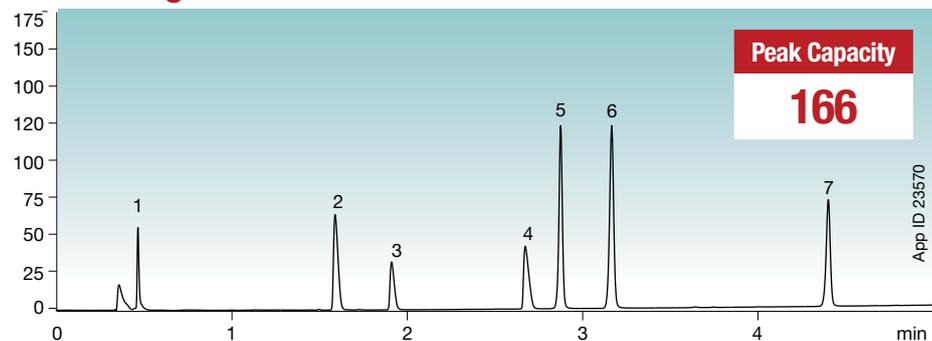
1. Estriol
2. Prednisolone
3. Hydrocortisone
4. Cortisone
5. Cortisone Acetate
6. 21-Hydroxycortisone
7. 17-Hydroxycortisone
8. Deoxycorticosterone

Just like Luna® Omega C18, the Luna Omega Polar C18 is also stringently tested to make sure both batch-to-batch and column-to-column quality stays at the highest level before it reaches your lab bench.

Luna Omega Polar C18 – Batch A

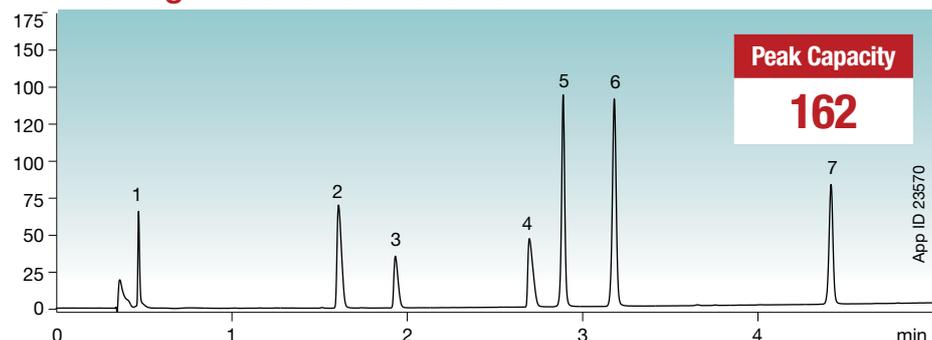


Luna Omega Polar C18 – Batch B



**QUALITY
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL**
= 9001:2008 =

Luna Omega Polar C18 – Batch C



Conditions for all columns:

Columns: Luna Omega 1.6µm Polar C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4748-AN
Mobile Phase: A: 0.1% Formic Acid in Water
 B: 0.1% Formic Acid in Acetonitrile
Gradient:

Time (min)	% B
0	5
5	95

Flow Rate: 0.4 mL/min
Temperature: 30 °C
Detection: UV @ 254 nm
Sample: 1. Uracil
 2. Pindolol
 3. Chlorpheniramine
 4. Nortriptyline
 5. 3-Methyl-4-nitrobenzoic acid
 6. 5-Methyl salicylaldehyde
 7. Hexanophenone

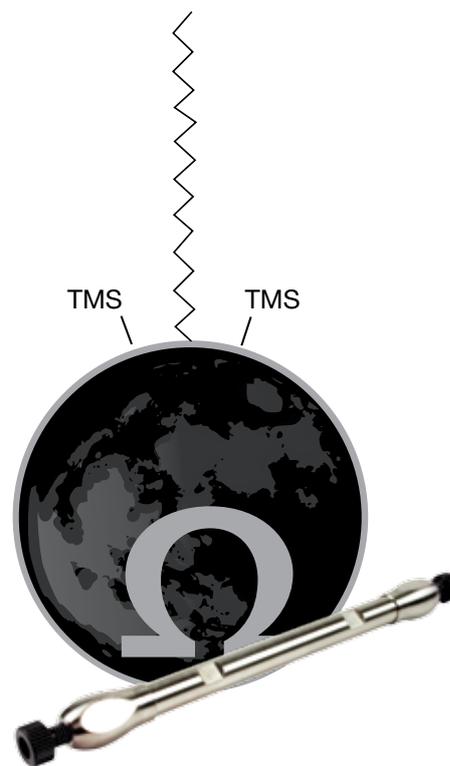
Ω Selectivity Highlight Luna Omega C18

Luna Omega C18

Luna® Omega C18 is an excellent first choice for chromatographers who are just starting method development or attempting to improve upon existing chromatographic results with other C18s. With its higher performance potential, excellent retention profile, and greater inertness, the Luna Omega C18 was designed to be the new all-purpose UHPLC solution for industries all over the world.

Phase	C18
Particle Size	1.6 μm
Pore Size	100 Å
pH Range	1.5 - 8.5*
Surface Area	260 m ² /g
Carbon Load	11 %
Pressure Limit	1000 bar
USP Listing	L1

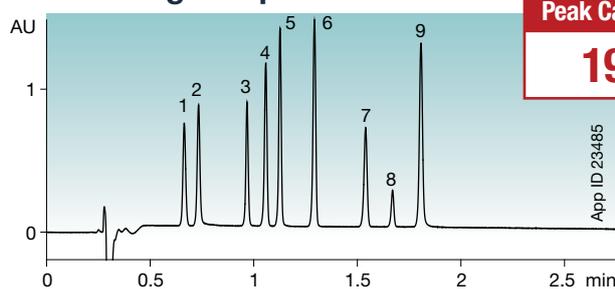
*pH stability under gradient conditions. pH stability is 1.5-10 under isocratic conditions.



Greater Retention and Better Results

Higher efficiency levels in combination with excellent stationary phase coverage and greater particle inertness, translates to improved separation power for you. Now you can utilize the greater retention of Luna Omega C18 to tackle both easy and difficult separations.

Luna Omega 1.6 μm C18



Peak Capacity

196

Greater Peak Capacity and Retention

Conditions for all columns:

Columns: Luna Omega 1.6 μm C18
ACQUITY BEH 1.7 μm C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: 0.1 % Formic Acid in Water
B: 0.1 % Formic Acid in Acetonitrile

Gradient	Time (min)	% B
	0	10
	3	55
	3.5	55
	3.51	10
	5	10

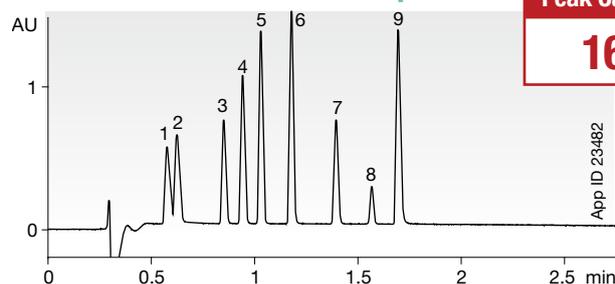
Flow Rate: 0.4 mL/min

Temperature: Ambient

Detection: UV @ 205 nm

Sample: 1. Acetaminophen
2. 4-Aminobenzoic Acid
3. 4-Hydroxybenzoic Acid
4. 2-Acetaminophenol
5. 3-Hydroxybenzoic Acid
6. Salicylicamide
7. Phenol
8. Benzoic Acid
9. Salicylic Acid

Waters® ACQUITY® BEH 1.7 μm C18



Peak Capacity

160

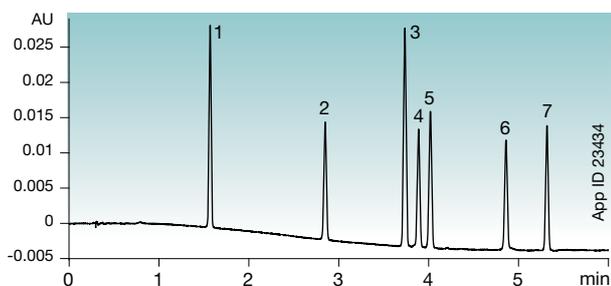
Comparative separations may not be representative of all applications.

Small and Large Compound Mixtures

Strong and focused hydrophobic retention, incredible efficiency and valuable inertness of Luna® Omega C18 columns make them an excellent choice for small mixtures of compounds differing in hydrophobicity as well as large mixtures of compounds like impurity/degradation profiles and peptide maps.

Luna Omega C18

Phenols

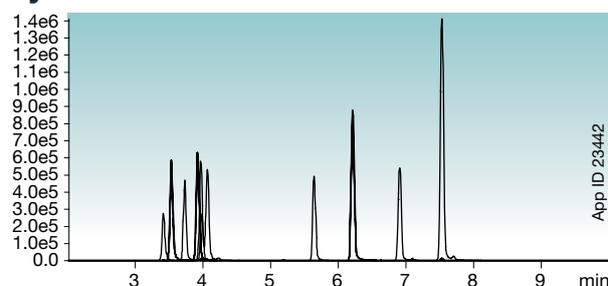


Columns: Luna Omega 1.6µm C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4742-AN
Mobile Phase: A: 0.1% Formic Acid in Water
 B: 0.1% Formic Acid in Acetonitrile

Gradient:	Time (min)	% B
	0	5
	6	50
	7	50
	7.1	5
	9	5

Flow Rate: 0.4 mL/min
Temperature: 22°C
Detection: UV @ 270 nm
Sample: 1. 3-Hydroxyphenol
 2. Phenol
 3. 4-Nitrophenol
 4. 4-Methylphenol
 5. 2-Methylphenol
 6. 2,4-Dimethylphenol
 7. 1-Naphthol

Synthetic Cannabinoids

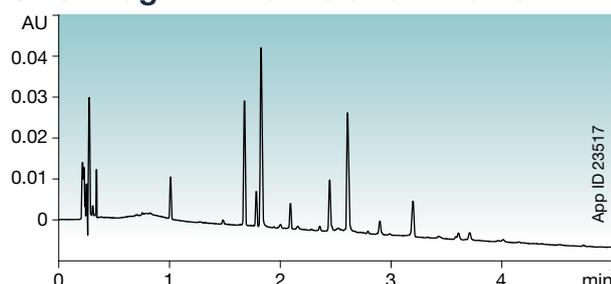


Columns: Luna Omega 1.6µm C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4742-AN
Mobile Phase: A: 0.1% Formic Acid in Water
 B: 0.1% Formic Acid in Acetonitrile

Gradient:	Time (min)	% B
	0	50
	6	100

Flow Rate: 0.3 mL/min
Temperature: 30°C
Detection: MS/MS (SCIEX API 4000™)
Sample: 1. JWH-073 Butanoic acid metabolite
 2. JWH-073 3-hydroxybutyl metabolite
 3. JWH-018 Pentanoic acid metabolite
 4. JWH-073 4-hydroxybutyl metabolite
 5. JWH-018 4-hydroxypentyl metabolite
 6. AM-2201 4-hydroxypentyl metabolite
 7. JWH-018 5-hydroxypentyl metabolite
 8. AM-694
 9. AM-2201
 10. JWH-073
 11. JWH-018

OTC Drug - Pill Formulation Profile

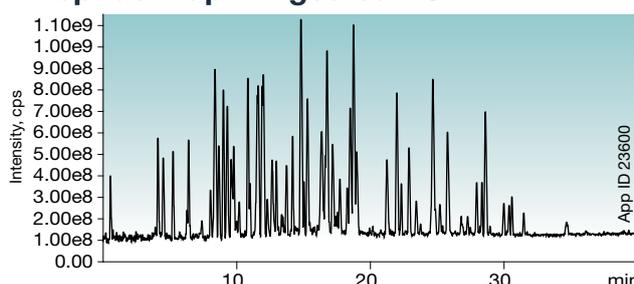


Columns: Luna Omega 1.6µm C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4742-AN
Mobile Phase: A: 20 mM Potassium Phosphate pH 7.2
 B: Acetonitrile

Gradient:	Time (min)	% B
	0	5
	5	70
	6	70
	6.1	5
	8	5

Flow Rate: 0.4 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: OTC Drug Pill

Peptide Map - Digested BSA



Columns: Luna Omega 1.6µm C18
Dimension: 100 x 2.1 mm
Part No.: 00D-4742-AN
Mobile Phase: A: 0.1% Formic Acid in Water
 B: 0.1% Formic Acid in Acetonitrile

Gradient:	Time (min)	% B
	0	3
	50	50
	50.1	3

Flow Rate: 0.4 mL/min
Temperature: 40°C
Detection: MS/MS (SCIEX API 4000)
Sample: Tryptic digest of BSA

Comparative separations may not be representative of all applications.

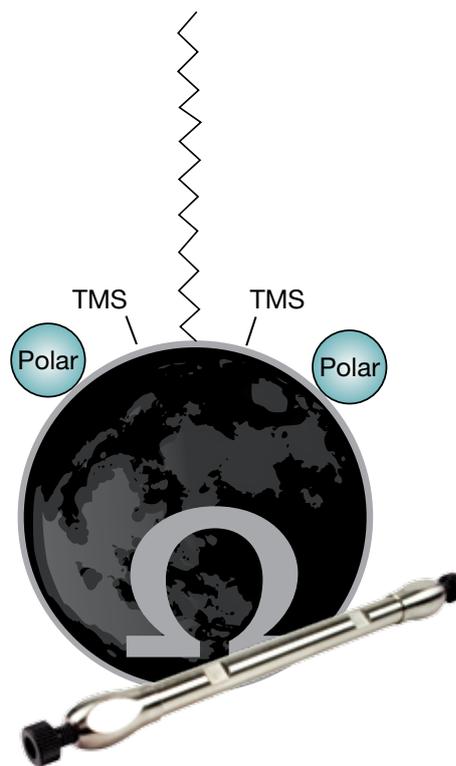
Ω Selectivity Highlight Luna Omega Polar C18

Luna Omega Polar C18

Luna® Omega Polar C18 is a novel UHPLC stationary phase capable of providing a unique selectivity within a wide elution window and increased retention for both polar and non-polar analytes. The all-purpose C18 ligand provides hydrophobic interactions while a polar modified particle surface provides enhanced polar retention and also aqueous stability. These attributes make the Luna Omega Polar C18 an excellent choice for balanced retention of polar and hydrophobic compounds as well as to solely enhance retention of highly polar compounds.

Phase	Polar C18
Particle Size	1.6 µm, 3 µm, 5 µm
Pore Size	100 Å
pH Range	1.5 - 8.5*
Surface Area	260 m ² /g
Carbon Load	9%
Pressure Limit	1000 bar
USP Listing	L1

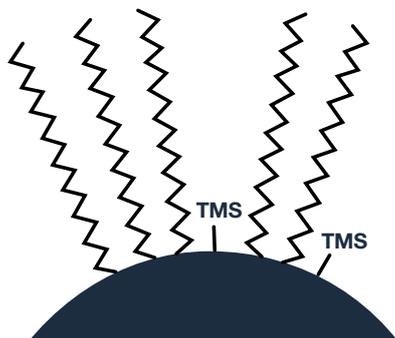
*pH stability under gradient conditions. pH stability is 1.5-10 under isocratic conditions.



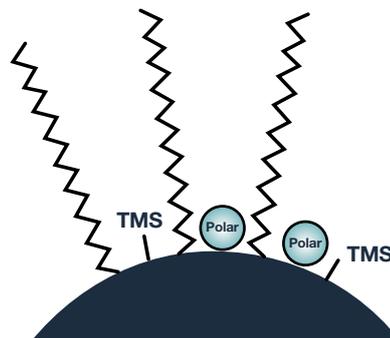
A C18, But Different

Luna Omega Polar C18 is a uniquely modified C18-based chemistry that has been optimized to improve the performance of polar analyses. This new particle surface chemistry makes the Polar C18 applicable to all industries that utilize UHPLC for mixtures of polar and non-polar compounds.

Luna Omega C18 silica surface



Luna Omega Polar C18 silica surface

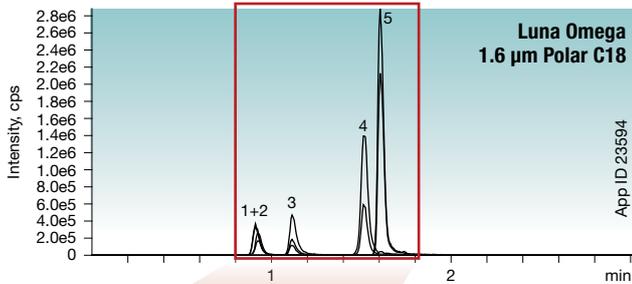




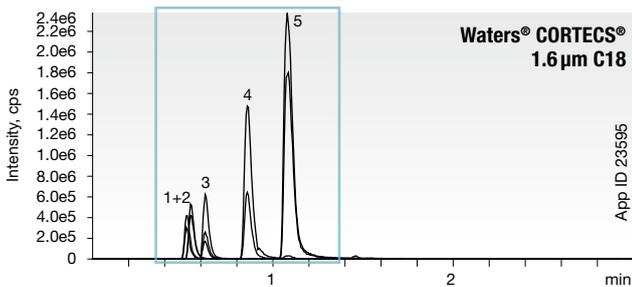
With its polar modified surface, the Luna® Omega Polar C18 offers UHPLC users enhanced separation power that can greatly improve resolution values for target compounds.

Luna Omega Polar C18

Nicotine and Metabolites



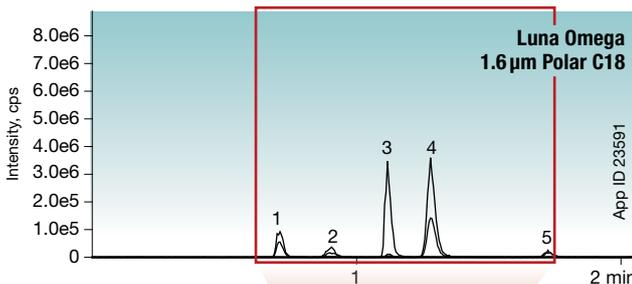
Greater Retention



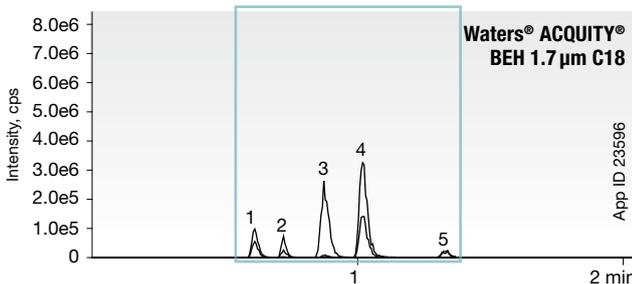
Conditions for all columns:

- Columns:** Luna Omega 1.6 µm Polar C18
CORTECS 1.6 µm C18
- Dimension:** 50 x 2.1 mm
- Mobile Phase:** A: 10 mM Ammonium Formate with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid
- | Gradient: | Time (min) | % B |
|-----------|------------|-----|
| | 0 | 2 |
| | 3 | 90 |
| | 3.1 | 2 |
- Flow Rate:** 0.4 mL/min
- Temperature:** 25 °C
- Detection:** MS/MS (SCIEX API 4000™)
- Sample:** 1. Nicotine
2. 3-Hydroxycotinine
3. Nicotine
4. Cotinine
5. Anabasine

Catecholamines



Greater Retention



Conditions for all columns:

- Columns:** Luna Omega 1.6 µm Polar C18
ACQUITY BEH 1.7 µm C18
- Dimension:** 100 x 2.1 mm
- Mobile Phase:** A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid
- | Gradient: | Time (min) | % B |
|-----------|------------|-----|
| | 0 | 0 |
| | 3 | 90 |
| | 3.1 | 0 |
- Flow Rate:** 0.4 mL/min
- Temperature:** 50 °C
- Detection:** MS/MS (SCIEX API 4000)
- Sample:** 1. Norepinephrine
2. Epinephrine
3. Normetanephrine
4. Dopamine
5. Metanephrine

Comparative separations may not be representative of all applications.



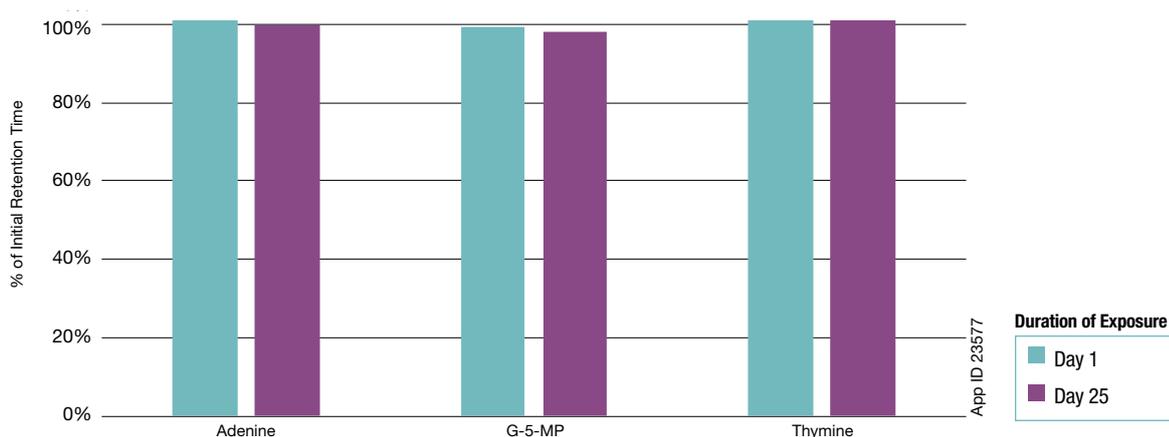
100% Aqueous Stability

Luna Omega Polar C18

No Stationary Phase Collapse

Traditional C18 phases are known to collapse under 100% aqueous conditions, causing retention loss of compounds and a method development headaches. That is why an advanced proprietary bonding technology was used for the Luna® Omega Polar C18 in order to ensure aqueous stability. The graph below displays the excellent stability of Polar C18 in 100% aqueous buffer conditions for over 2 weeks.

Aqueous Stability of Luna Omega Polar C18



Conditions for all columns:

Columns: Luna Omega 1.6 µm Polar C18

Dimension: 50 x 2.1 mm

Part No.: 00B-4748-AN

Mobile Phase: 10 mM Ammonium Formate with 0.1 % Formic Acid

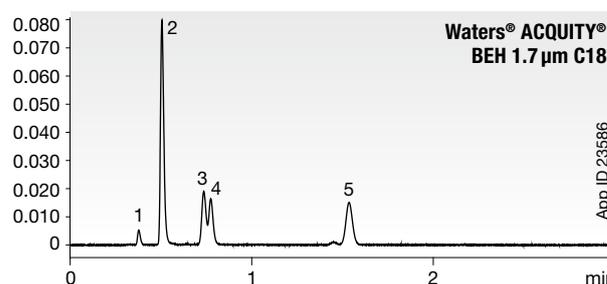
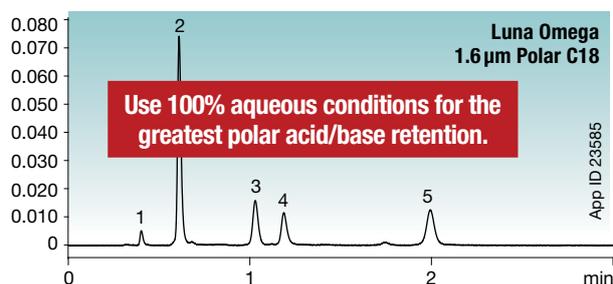
Flow Rate: 0.4 mL/min

Temperature: 22 °C

Detection: UV @ 254 nm

Sample: 1. Adenine
2. Guanosine-5-Monophosphate
3. Thymine

Nucleosides in 100 % Aqueous Conditions



Conditions for all columns:

Columns: Luna Omega 1.6 µm Polar C18
ACQUITY BEH 1.7 µm C18

Dimension: 50 x 2.1 mm

Mobile Phase: 20 mM Ammonium Formate pH 3.0

Flow Rate: 0.4 mL/min

Temperature: 22 °C

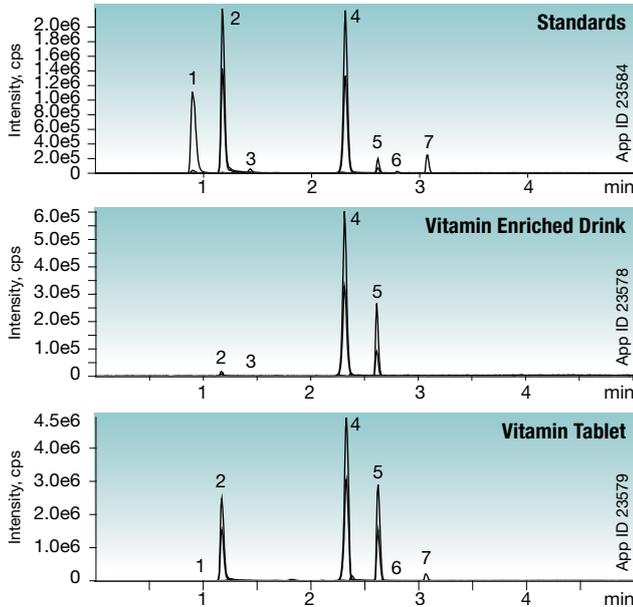
Detection: UV @ 285 nm

Sample: 1. Thiourea
2. 5-Fluorocytosine
3. Guanosine-5-Monophosphate
4. Adenine
5. Thymine

Comparative separations may not be representative of all applications.

Combined retention of polars and non-polars by the Luna® Omega Polar C18 gives you an incredible range of potential success when working with methods from just about any industry. Here we illustrate the usefulness of these interaction mechanisms with water soluble vitamins from drink and tablet, a multi-compound antibiotic screen, and a UHPLC/MS/MS separation of algal toxins.

Water Soluble Vitamins



Conditions for all columns:

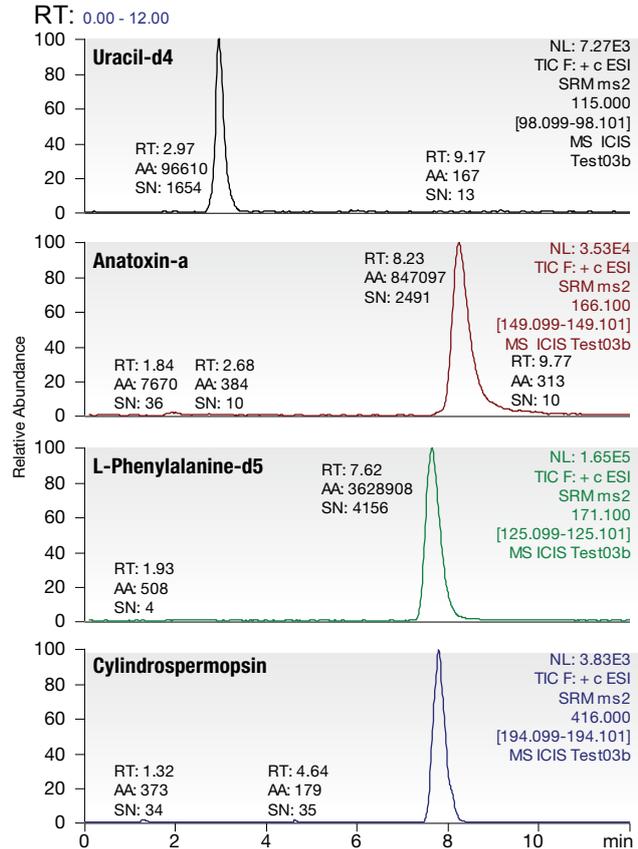
Columns: Luna Omega 1.6µm Polar C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4748-AN
Mobile Phase: A: 10 mM Ammonium Formate with 0.1% Formic Acid
 B: Acetonitrile with 0.1% Formic Acid

Gradient	Time (min)	% B
	0	0
	4	90
	4.1	0
	7	0

Flow Rate: 0.4 mL/min
Temperature: 40 °C
Detection: MS/MS (SCIEX API 4000™)

Sample: 1. Pyridoxamine 5. Pantothenic acid
 2. Thiamine 6. Folic acid
 3. Nicotinic acid 7. Riboflavin
 4. Pyridoxine

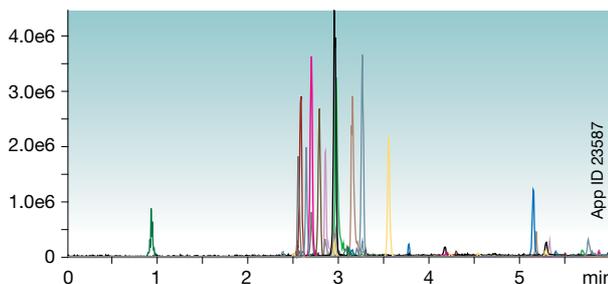
Algal Toxins (EPA 545)



Find complete method at Phenomenex.com

Application ID: 23569

Antibiotic Screen



Columns: Luna Omega 1.6µm Polar C18
Dimension: 50 x 2.1 mm
Part No.: 00B-4748-AN
Mobile Phase: A: 10 mM Ammonium Formate with 0.1% Formic Acid
 B: Acetonitrile with 0.1% Formic Acid

Gradient	Time (min)	% B
	0	0
	0.5	95
	5	0
	5.1	0

Flow Rate: 0.5 mL/min
Temperature: 40 °C
Detection: MS/MS (SCIEX API 4000)

- Sulfaguanidine
- Sulfadiazine
- Cefalexin
- Lincomycin
- Amoxicillin
- Sulfathiazole
- Sulfapyridine
- Cefazolin
- Sulfamerazine
- Ciprofloxacin
- Sulfamethazine
- Sulfamonomethoxine
- Enrofloxacin
- Diffloxacin
- Chlortetracycline
- Sulfamethoxazole
- Florfenicol
- Sulfaquinoxaline
- Oxacillin
- Sulfadimethoxine

Comparative separations may not be representative of all applications.

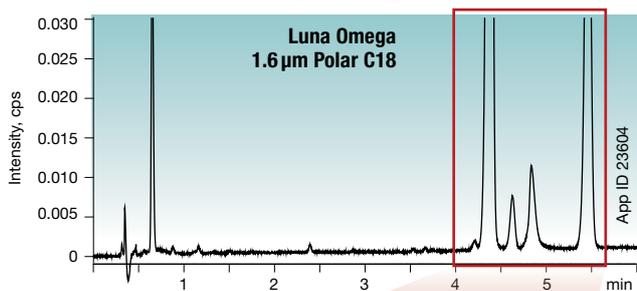


Highly Useful Alternative to the Common C18

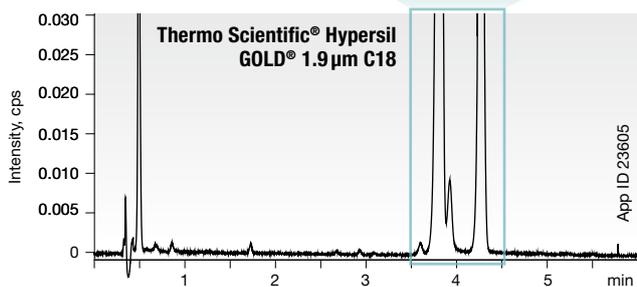
Luna Omega Polar C18

Unlike traditional UHPLC C18 stationary phases, the polar and hydrophobic versatility of Polar C18 combined with its high efficiency levels allow for enhanced separation power. Combine that with 100% aqueous stability and you can really see how the Luna® Omega Polar C18 can potentially lead to more separation success compared to traditional C18 columns.

Ketotifen Impurity Profile



Greater retention and resolution of impurities



Conditions for all columns:

Columns: Luna Omega 1.6µm Polar C18
Hypersil GOLD 1.9µm C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	5
	2.5	15
	6	20
	10	30
	10.01	5
	13	5

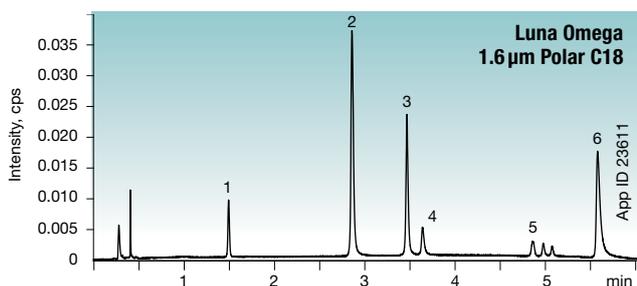
Flow Rate: 0.4 mL/min

Temperature: Ambient

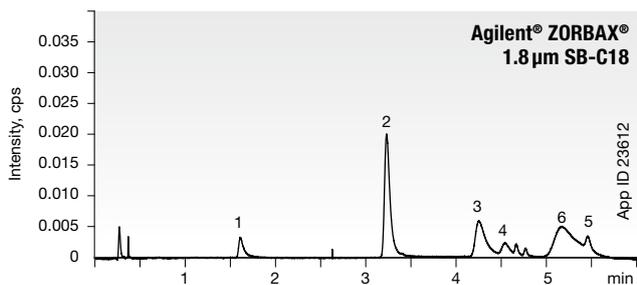
Detection: UV @ 254 nm

Sample: Ketotifen

Beta Blockers



Clean, sharp peaks and excellent resolution



Conditions for all columns:

Columns: Luna Omega 1.6µm Polar C18
ZORBAX 1.8µm SB-C18

Dimension: 100 x 2.1 mm

Mobile Phase: A: 20 mM Potassium Phosphate pH 7.2
B: Acetonitrile

Gradient:	Time (min)	% B
	0	5
	2.5	35

Flow Rate: 0.4 mL/min

Temperature: Ambient

Detection: UV @ 280 nm

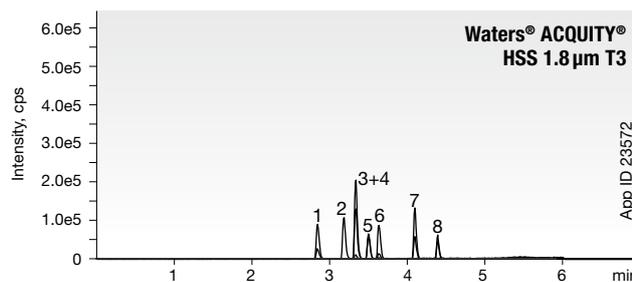
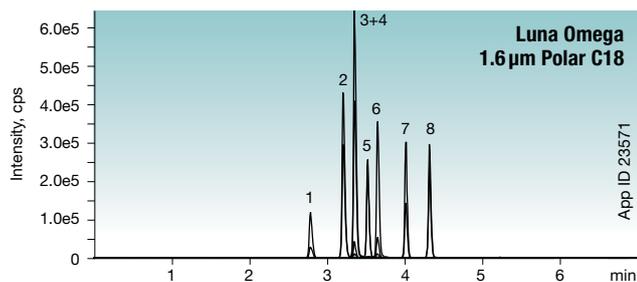
Sample: 1. Atenolol
2. Pindolol
3. Timolol
4. Metoprolol
5. Labetolol
6. Propranolol

Comparative separations may not be representative of all applications.

Excellent Alternative to Existing Polar Columns

Luna® Omega Polar C18 is an incredibly high performing UHPLC column with a unique selectivity profile that can be used to upgrade existing methods or jumpstart new method development. Realize lower limits of detection with the increase in sensitivity levels or just utilize the efficiency gains to help resolve closely eluting peaks.

Mycotoxins Screen



Conditions same for all columns:

Columns: Luna Omega 1.6 µm Polar C18
ACQUITY HSS 1.8 µm T3

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	20
	4	90
	4.1	20
	6	20

Flow Rate: 0.4 mL/min

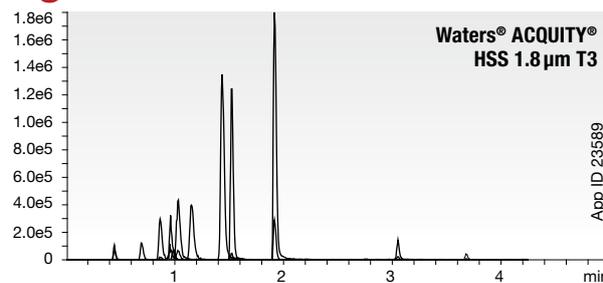
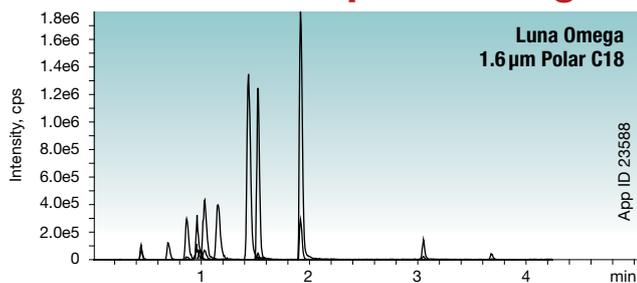
Temperature: 40 °C

Detection: MS/MS (SCIEX API 4000™)

Sample: Positive Mode (ESI+)

1. 15-Acetyldeoxynivalenol
2. Aflatoxin G2
3. Aflatoxin G1
4. Aflatoxin B2
5. Aflatoxin B1
6. Aflatoxin M1
7. HT2 Toxin
8. T2 Toxin

SAMHSA Workplace Drug Testing Screen



Conditions same for all columns:

Columns: Luna Omega 1.6 µm Polar C18
ACQUITY HSS 1.8 µm T3

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	15
	2	100
	3	100
	3.1	15

Flow Rate: 0.4 mL/min

Temperature: 25 °C

Detection: MS/MS (SCIEX API 4000)

Sample:

1. Morphine
2. Codeine
3. Amphetamine
4. MDA
5. Methamphetamine
6. 6-MAM
7. MDMA
8. MDEA
9. BZE
10. PCP
11. THC-COOH
12. THC

Comparative separations may not be representative of all applications.

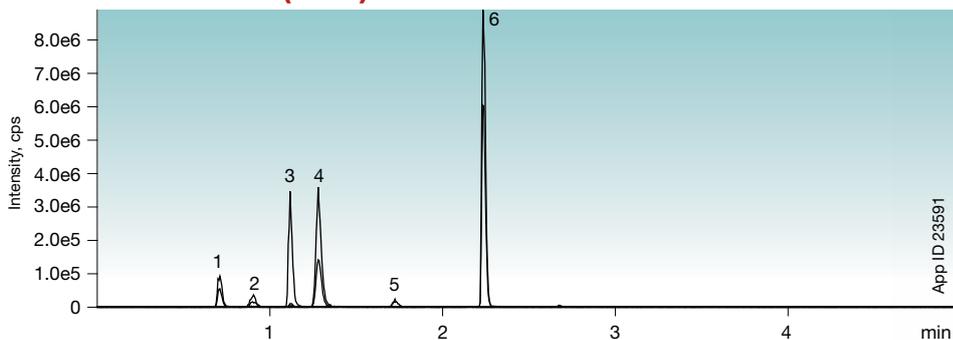


Polar Case Study Catecholamines and Metabolites

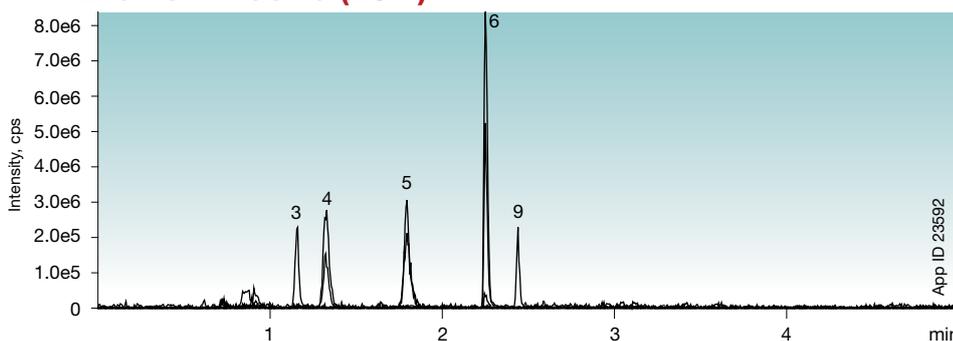
Luna Omega Polar C18

Current analytical tests for pheochromocytoma (tumor of chromaffin cells of the adrenal medulla) focus on measuring for elevated levels of plasma free metanephrine and normetanephrine, which are continually secreted by the tumors. Supplementary methods also analyze the metabolites of metanephrine and normetanephrine, including vanillylmandelic acid. With such a range of polar compounds, the aqueous stability and enhanced polar retention of the Luna® Omega Polar C18, both play an strong part in generating excellent separation between all these important analytes.

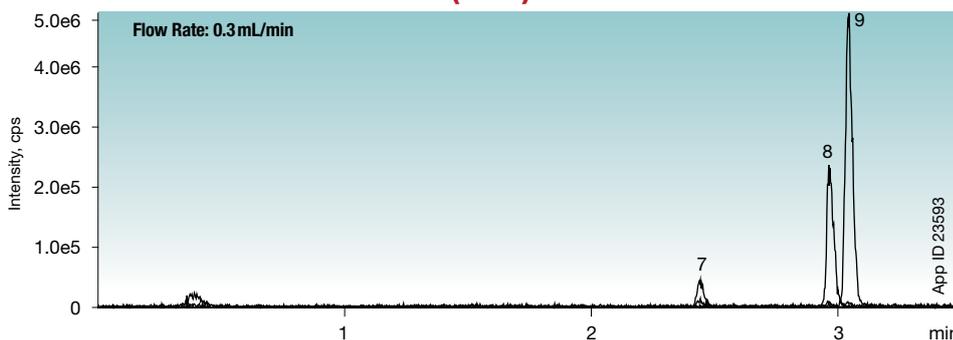
Catecholamines (ESI+)



PMETs from Plasma (ESI+)



Catecholamine Metabolites (ESI-)



Conditions for all columns unless otherwise noted:

Columns: Luna Omega 1.6 µm Polar C18
Dimension: 100 x 2.1 mm
Part No.: 00D-4748-AN
Mobile Phase: A: Water with 0.1% Formic Acid
 B: Acetonitrile with 0.1% Formic Acid
Gradient:

Time (min)	% B
0	0
3	90
3.1	0

Flow Rate: 0.4 mL/min
Temperature: 50 °C

Detection: MS/MS (SCIEX API 4000™)

Sample: Positive Mode (ESI+)

1. Norepinephrine
2. Epinephrine
3. Normetanephrine
4. Dopamine
5. Metanephrine
6. 3-Methoxytyramine

Negative Mode (ESI-)

7. Vanillylmandelic acid (VMA)
8. 5-Hydroxyindoleacetic acid (5-HIAA)
9. Homovanillic acid (HVA)

Recommended Sample Preparation Method

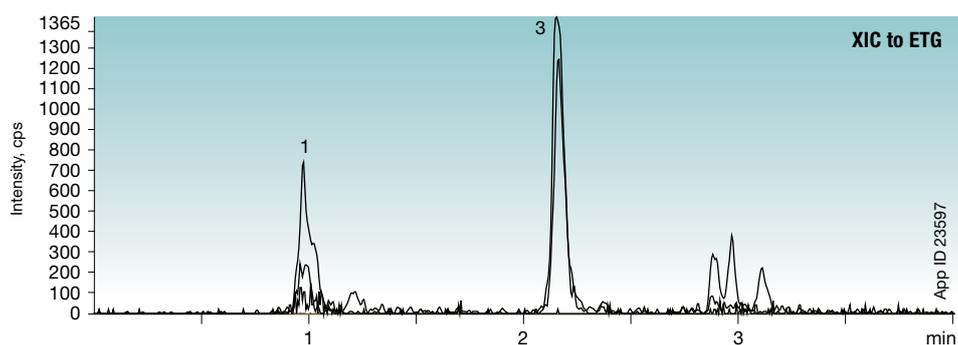
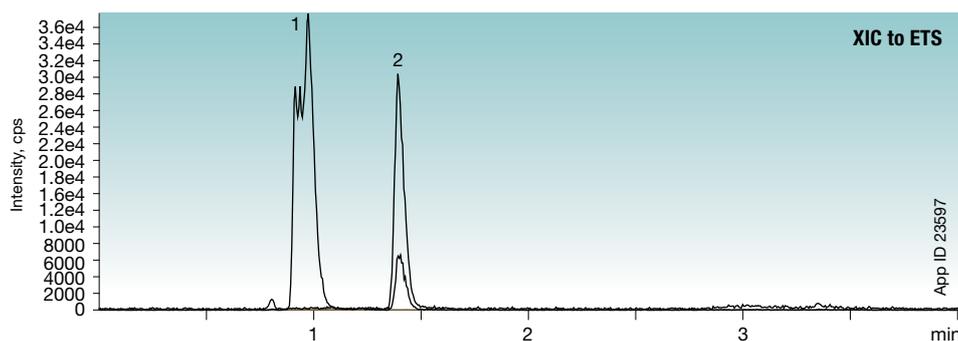
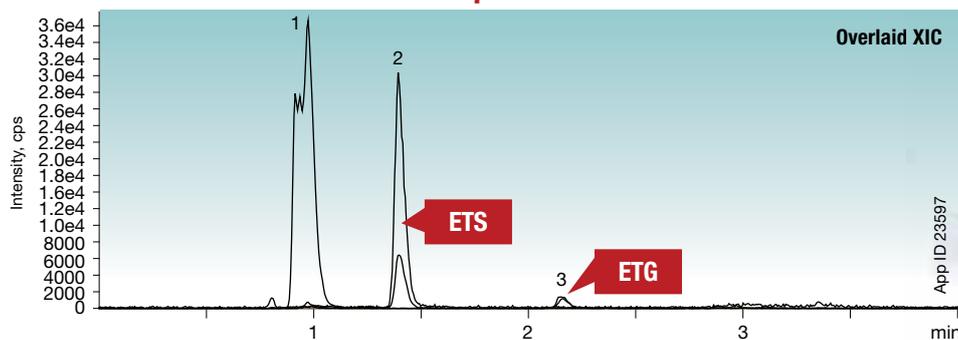
Product: Strata®-X-CW Microelution 96-Well Plate
Part No.: 8M-S035-4GA
Condition: 200 µL Methanol
Equilibrate: 200 µL Water
Load Sample: 250 µL Plasma diluted with 250 µL Water
Wash 1: 200 µL Water
Wash 2: 200 µL 50:50 Acetonitrile/IPA
 Dry for 1 minute at 10" Hg to remove excess wash solvent
Elute: 2 x 25 µL 85:15 Acetonitrile/Water with 2% Formic acid



Ethyl glucuronide (EtG) and ethyl sulfate (EtS) are metabolites of ethanol that are used by analytical laboratories to detect recent ethanol ingestion. In this application, the Luna® Omega Polar C18 provides excellent separation between EtG and EtS, along with valuable separation from a urine interference peak and where other matrix suppression is common. Additionally, the high efficiency levels provided by the Luna Omega 1.6µm allow for a highly sensitive, yet rapid method.

Luna Omega Polar C18

ETG and ETS from Urine Sample



Conditions for all columns:

Columns: Luna Omega 1.6µm Polar C18
Dimension: 100 x 2.1 mm
Part No.: 00D-4748-AN
Mobile Phase: A: 10 mM Ammonium Formate with 0.1 % Formic Acid
 B: Acetonitrile with 0.1 % Formic Acid

Gradient	Time (min)	% B
	0	0
	1	50
	1.1	0
	5	0

Flow Rate: 0.3 mL/min
Temperature: 25 °C
Detection: MS/MS (SCIEX API 4000™)
Sample: Negative Mode (ESI-)
 1. Urine interference
 2. ETS
 3. ETG

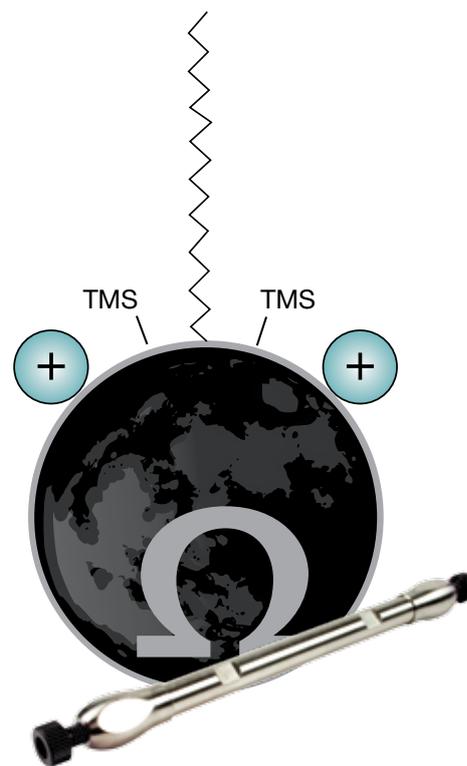
Ω Selectivity Highlight Luna Omega PS C18

Luna Omega PS C18

Luna® Omega PS C18 is a unique mixed-mode stationary phase that provides incredibly useful polar and non-polar retention. The surface of the PS C18 contains a positive charge which aids in the retention of acidic compounds through ionic interactions, while the C18 ligand promotes general reversed phase retention. This mixed-mode selectivity allows for greater separation between compounds with varying functional groups.

Phase	PS C18
Particle Size	1.6 µm, 3 µm, 5 µm
Pore Size	100 Å
pH Range	1.5 - 8.5*
Surface Area	260 m ² /g
Carbon Load	9%
Pressure Limit	1000 bar
USP Listing	L1

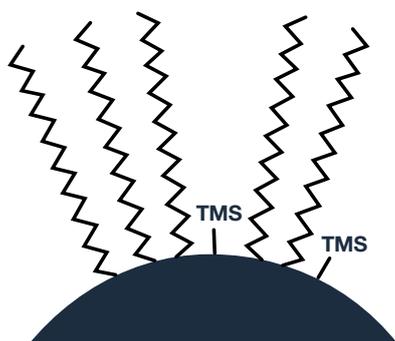
*pH stability under gradient conditions. pH stability is 1.5-10 under isocratic conditions.



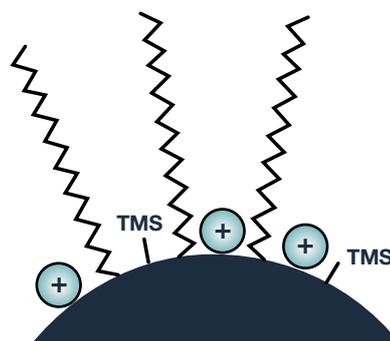
A C18, But More Positive

Luna Omega PS C18 has been fine-tuned and manufactured by Phenomenex to provide a mixed selectivity that is highly useful for method development involving either combinations of polars and non-polars, or just one single compound class with small changes in functional groups.

Luna Omega C18 silica surface



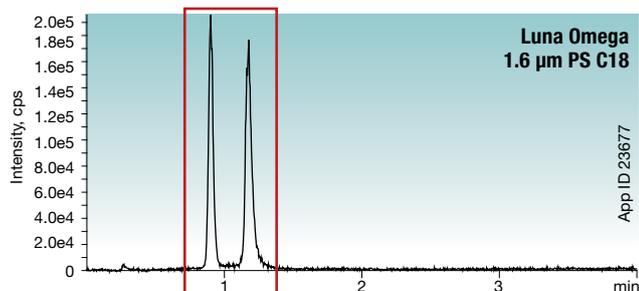
Luna Omega PS C18 silica surface



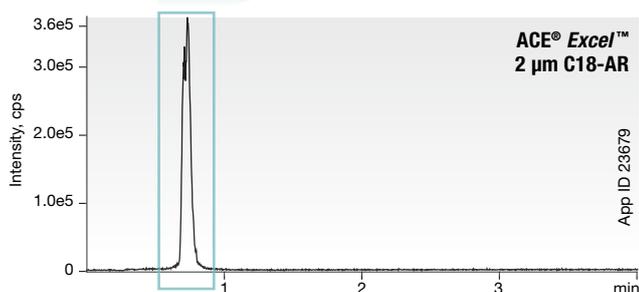


With its positive surface (PS) the Luna® Omega PS C18 provides valuable increase in retention of acids through ionic/polar interactions. In addition, the C18 ligand also stimulates hydrophobic retention that greatly promotes increased resolution between analytes of interest.

MMA and Succinic Acid



Greater Retention and Resolution



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
ACE Excel 2 µm C18-AR

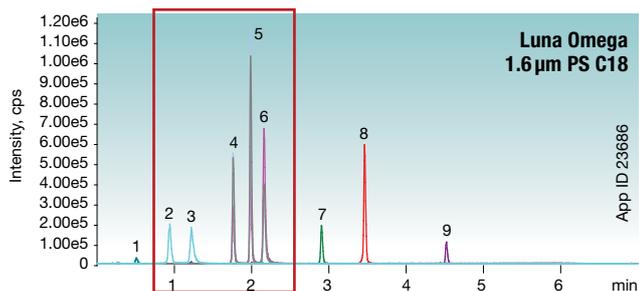
Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

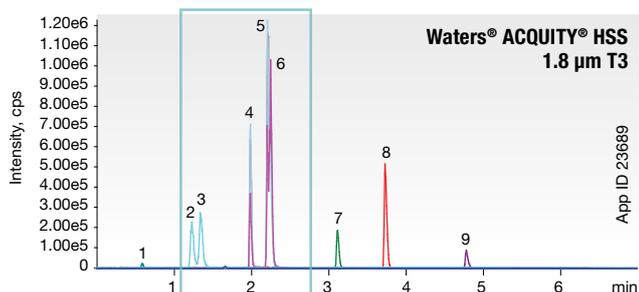
Gradient	Time (min)	% B
	0	0
	5	50
	5.1	0
	7	0

Flow Rate: 0.5 mL/min
Temperature: 22 °C
Detection: MS/MS (SCIEX API 4000™)
Sample: 1. Succinic acid
2. MMA

Organic Acids



Increased Resolution



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
ACQUITY HSS 1.8 µm T3

Dimension: 100 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient	Time (min)	% B
	0	0
	5	50
	5.1	0
	7	0

Flow Rate: 0.5 mL/min
Temperature: 22 °C
Detection: MS/MS (SCIEX API 4000)
Sample: 1. Lactic acid
2. Succinic acid
3. MMA
4. Glutaric acid
5. Ethylmalonic acid
6. Methyl succinate
7. Hippuric acid
8. Suberic acid
9. Sebacic acid

Comparative separations may not be representative of all applications.

Luna Omega PS C18

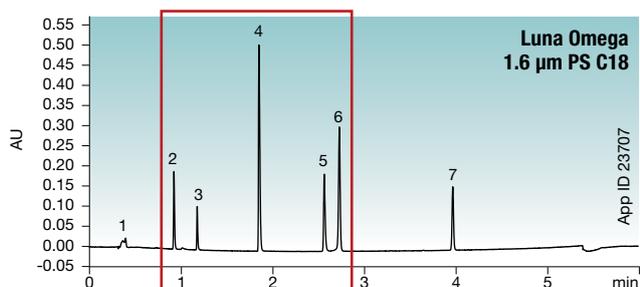


Better Peak Shape for Bases

Luna Omega PS C18

While traditional alkyl phases are prone to show tailing for basic compounds because of secondary interactions occurring at the silica surface, the surface of the Luna® Omega PS C18 was designed with positive charges that serve to repel strong basic species and consistently display sharp peak shape.

Pharmaceutical Compound Mixture



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
ACQUITY BEH 1.7 µm C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	5
	5	95
	5.1	5
	8	5

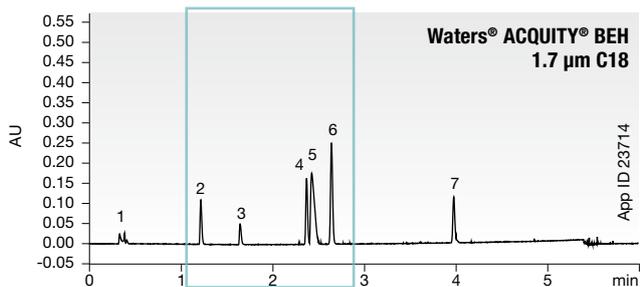
Flow Rate: 0.4 mL/min

Temperature: 22 °C

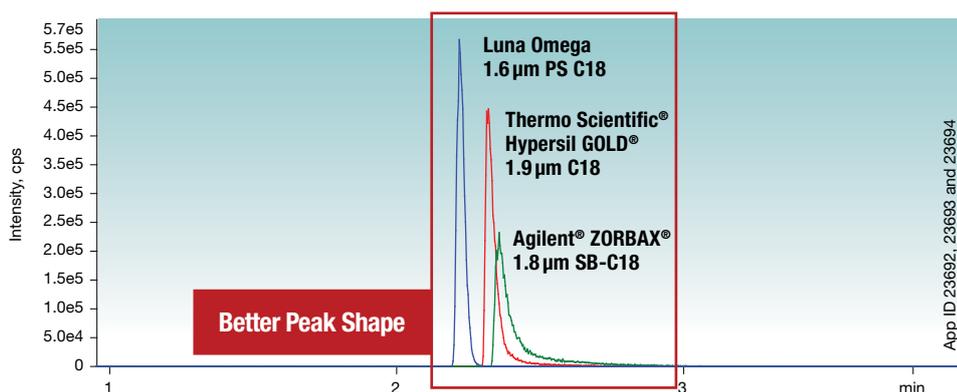
Detection: MS/MS (SCIEX API 4000™)

Sample:

1. Uracil
2. Pindolol
3. Chlorpheniramine
4. Nortriptyline
5. 3-Methyl-4-nitrobenzoic acid
6. 5-Methyl salicylaldehyde
7. Hexanophenone



Intact Insulin



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
Hypersil GOLD 1.9 µm C18
ZORBAX 1.8 µm SB-C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	3
	3	80
	3.1	3
	5	3

Flow Rate: 0.5 mL/min

Temperature: 22 °C

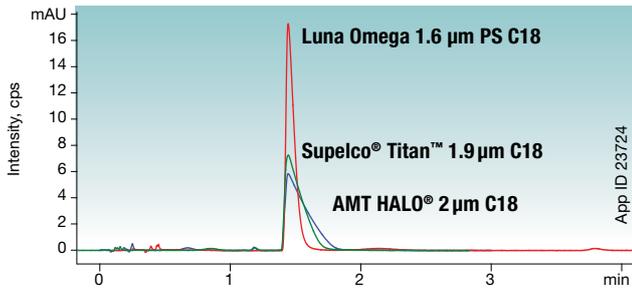
Detection: MS/MS (SCIEX API 4000)

Sample: Insulin

Comparative separations may not be representative of all applications.

The combination of great surface coverage and novel surface chemistry results in narrow peak shapes for an extended amount of sample loaded on the Luna® Omega PS C18. This can visually be seen in the examples below where the excellent peak shape at different loads is kept relatively constant on the Luna Omega PS C18, while more conventional UHPLC columns show tailing and much greater peak broadening as more sample is loaded.

Amitriptyline 1µg Load



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
Titan 1.9 µm C18
HALO 2 µm C18

Dimension: 50 x 2.1 mm

Mobile Phase: Water with 0.1% Formic Acid / Acetonitrile with 0.1% Formic Acid (78:22)

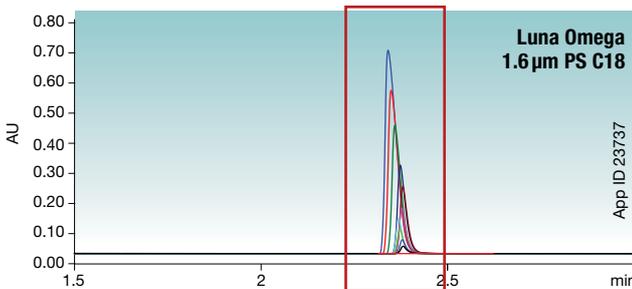
Flow Rate: 0.5 mL/min

Temperature: 22 °C

Detection: UV @ 254 nm

Sample: Amitriptyline

Amitriptyline Loading Study



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
ACQUITY BEH 1.7 µm C18

Dimension: 100 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient	Time (min)	% B
	0	5
	5	80

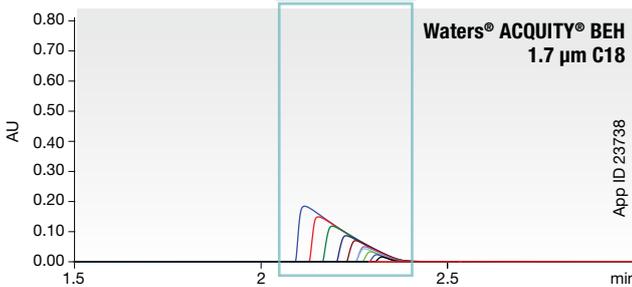
Flow Rate: 0.4 mL/min

Temperature: 22 °C

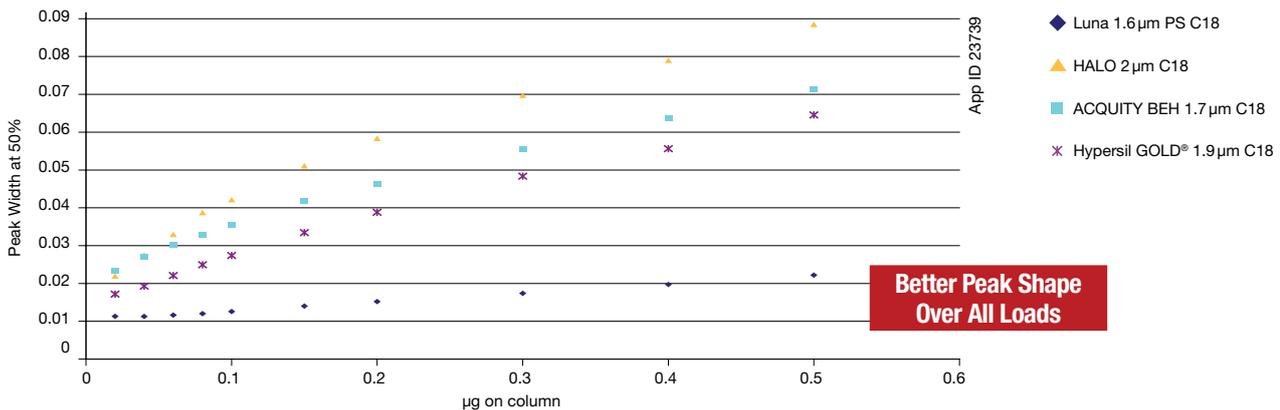
Detection: UV @ 254 nm

Sample: Amitriptyline

Better Peak Shape Over All Loads



Luna Omega PS C18 and Competitors 50 x 2.1 mm



Better Peak Shape Over All Loads

Comparative separations may not be representative of all applications.

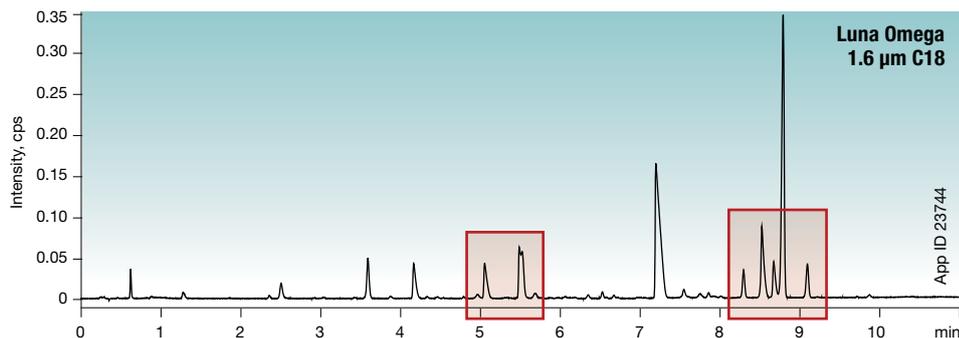
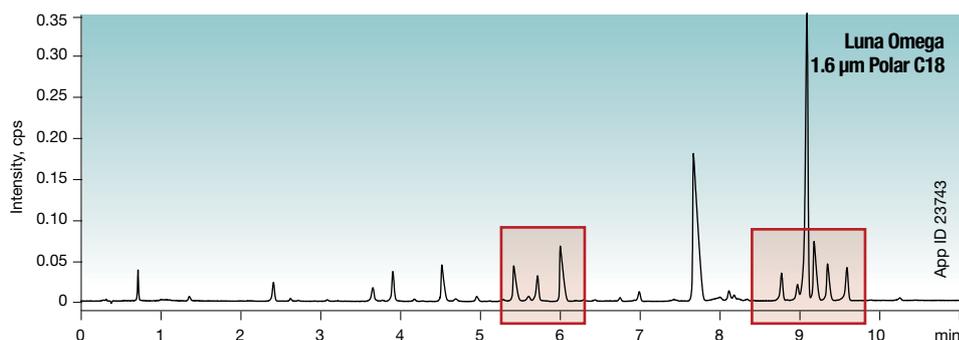
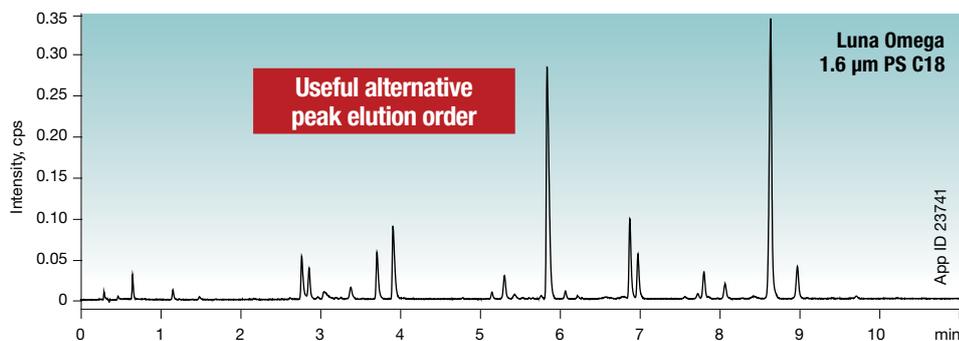


Method Development Flexibility

Luna Omega PS C18

The combination of available Luna® Omega stationary phases represent an outstanding tool set for the separation of acids, bases, neutrals or mixtures. Use the C18 to focus on hydrophobic interactions or the mixed-mode functionality of the Polar C18 and PS C18 to get enhanced retention of both polars and non-polars.

Pharmaceutical Drug Impurity Profile



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
Luna Omega 1.6 µm Polar C18
Luna Omega 1.6 µm C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	5
	10	40

Flow Rate: 0.4 mL/min

Temperature: 22 °C

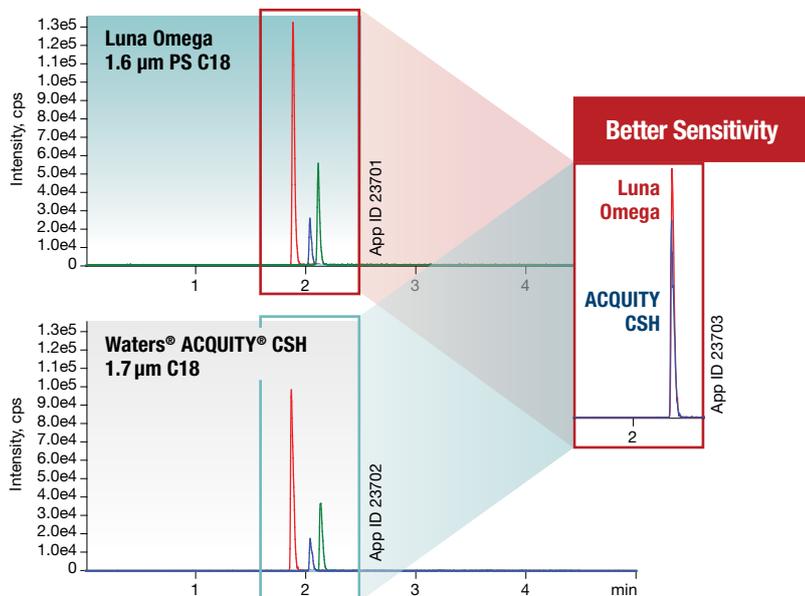
Detection: UV @ 254 nm

Sample: Proprietary drug impurity profile

Improving Existing Basic Compound Methods

Luna® Omega PS C18 is a brilliant UHPLC stationary phase with a distinctive selectivity profile that can spur new method development. At the same time, this versatile phase can also upgrade existing methods by way of increases in sensitivity and efficiency levels to help resolve closely eluting peaks.

Peptides by LC/MS



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
ACQUITY CSH 1.7 µm C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid

Gradient:	Time (min)	% B
	0	3
	3	95
	3.1	3
	5	3

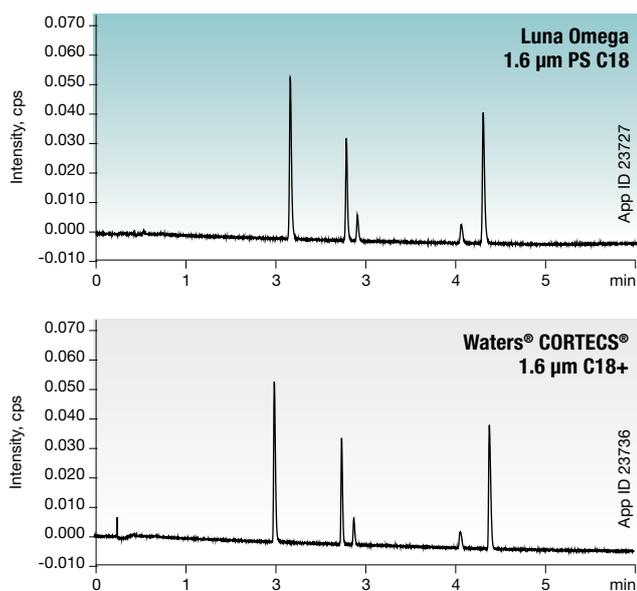
Flow Rate: 0.4 mL/min

Temperature: 22°C

Detection: MS/MS (SCIEX API 4000™)

Sample: 1. Angiotensin II
2. Met-Enkephalin
3. Leu-Enkephalin

Beta-Blockers



Conditions for all columns:

Columns: Luna Omega 1.6 µm PS C18
CORTECS 1.6 µm C18+

Dimension: 50 x 2.1 mm

Mobile Phase: A: 10 mM Ammonium Formate pH 3.0
B: Acetonitrile

Gradient:	Time (min)	% B
	0	2
	6	35

Flow Rate: 0.4 mL/min

Temperature: 22°C

Detection: UV @ 280 nm

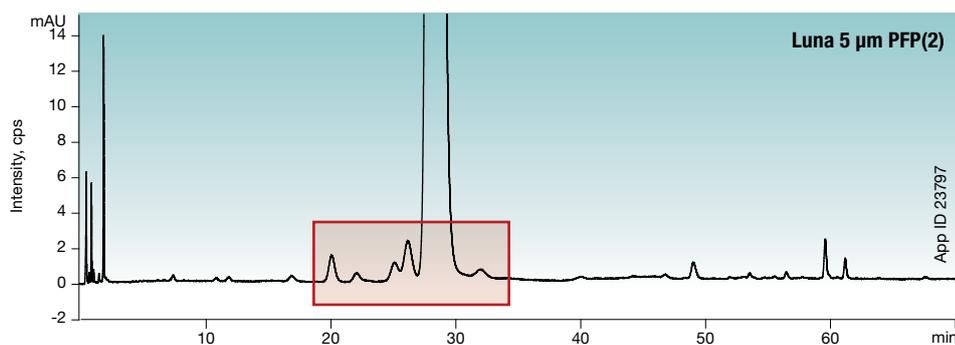
Sample: 1. Pindolol
2. Timolol
3. Metoprolol
4. Labetolol
5. Propranolol

Comparative separations may not be representative of all applications.

Use Luna and Luna Omega Phases Together

Combine the new Luna® Omega 5 µm Polar C18 and PS C18 with Luna 5 µm phases like Phenyl-Hexyl and PFP(2) to expand your HPLC method development choices or try different separation modes with Luna phases such as Silica(2), NH₂, and HILIC.

Ezetimibe Degradation Profile



Conditions for all columns:

Columns: Luna 5 µm PFP(2)
Luna Omega 5 µm Polar C18
Luna 5 µm Phenyl-Hexyl
Luna 5 µm C18(2)

Dimension: 250 x 4.6 mm

Mobile Phase: A: Water
B: Acetonitrile

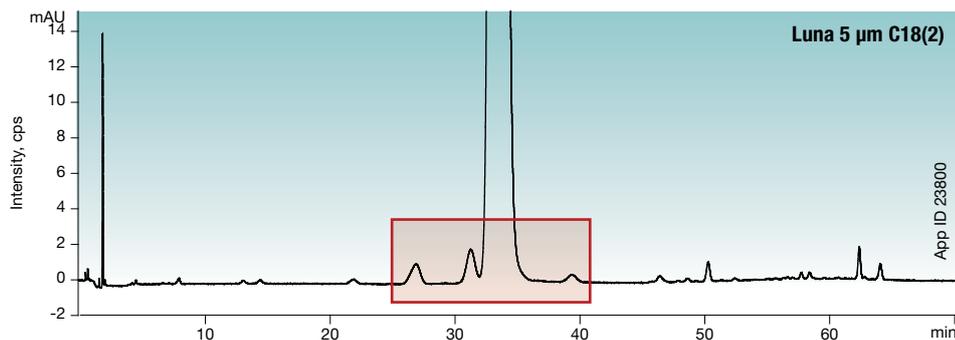
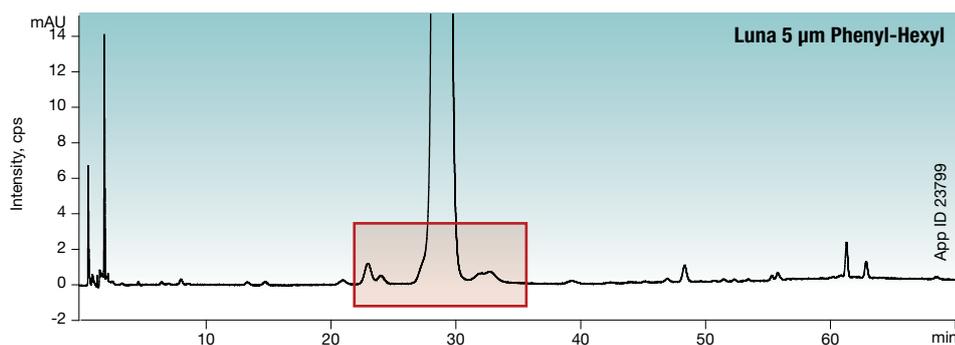
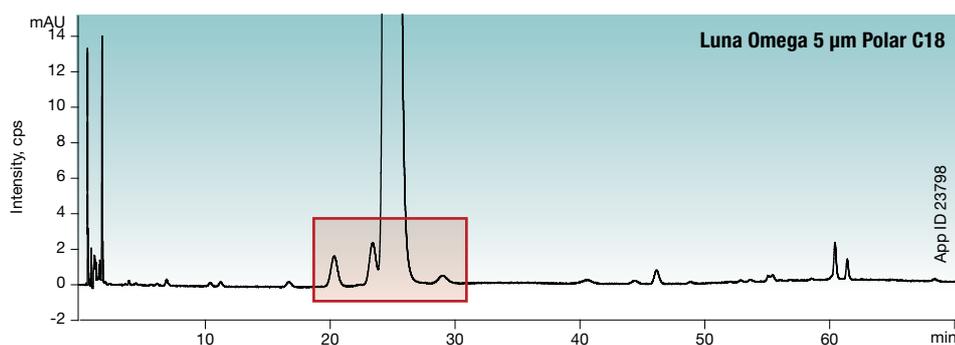
Gradient:	Time (min)	% B
	0	32
	37	32
	60	55

Flow Rate: 2 mL/min

Temperature: 22 °C

Detection: UV @ 215 nm

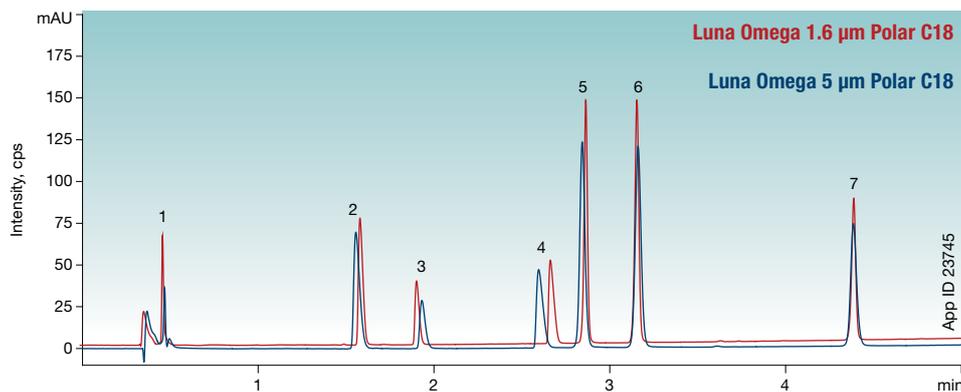
Sample: Ezetimibe Degradation Profile



UHPLC to HPLC to PREP Scalability

With direct selectivity scalability from Luna® Omega 1.6µm to 5µm you can fluidly transfer methods from UHPLC platforms to HPLC and preparative instrumentation. Additionally, you can easily go in reverse and use a Luna Omega 1.6µm to analyze fractions taken from a Luna Omega 5µm preparative column.

Direct Scalability 1.6 µm to 5 µm

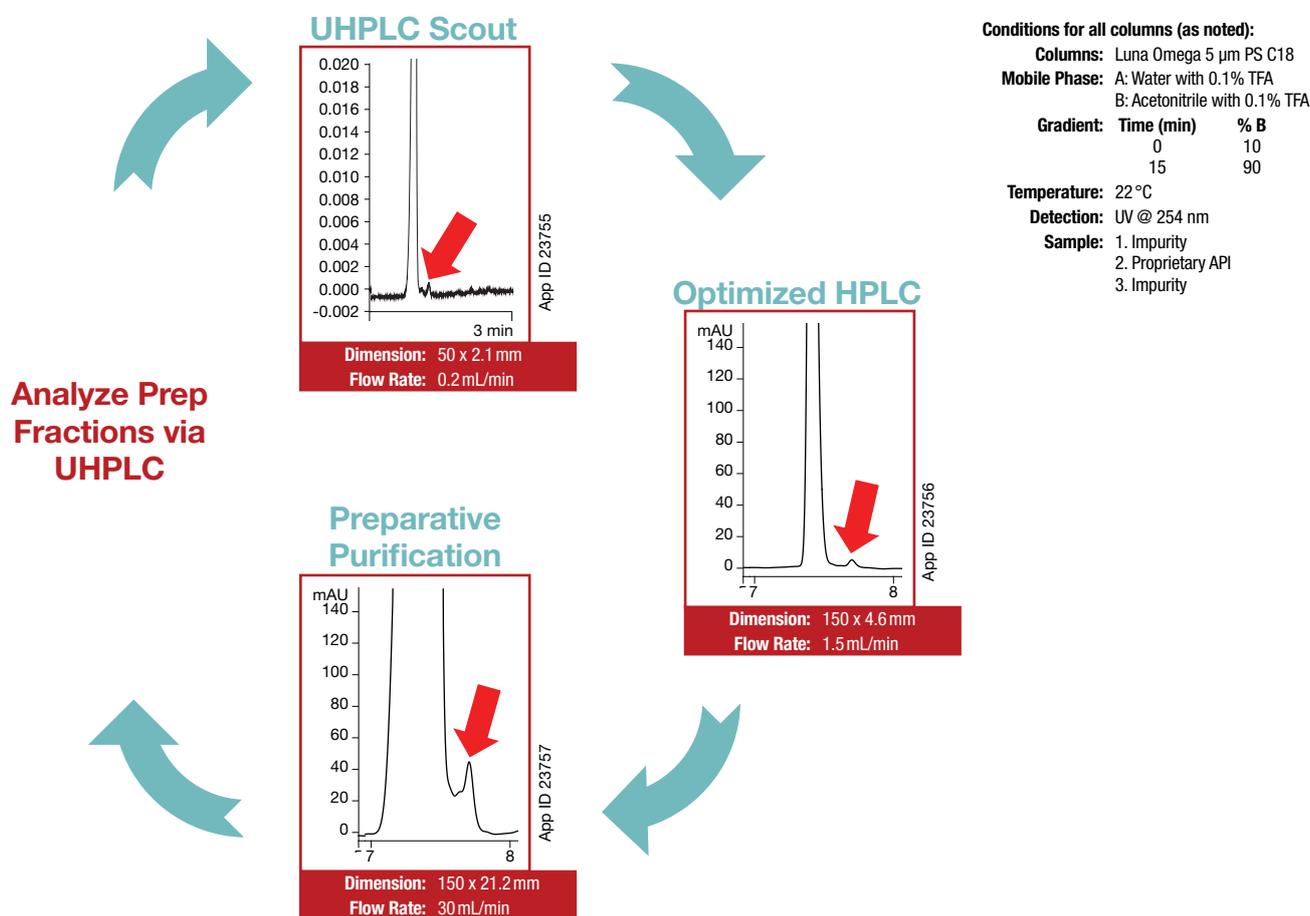


Conditions for all columns:

- Columns:** Luna Omega 1.6 µm Polar C18
Luna Omega 5 µm Polar C18
- Dimension:** 50 x 2.1 mm
- Mobile Phase:** A: Water with 0.1% Formic Acid
B: Acetonitrile with 0.1% Formic Acid
- Gradient:**

Time (min)	% B
0	5
5	95
- Flow Rate:** 0.4 mL/min
- Temperature:** 30 °C
- Detection:** UV @ 254 nm
- Sample:**
 1. Uracil
 2. Pindolol
 3. Chlorpheniramine
 4. Nortriptyline
 5. 3-Methyl-4-nitrobenzoic acid
 6. 5-Methyl salicylaldehyde
 7. Hexanophenone

UHPLC to HPLC to PREP



Conditions for all columns (as noted):

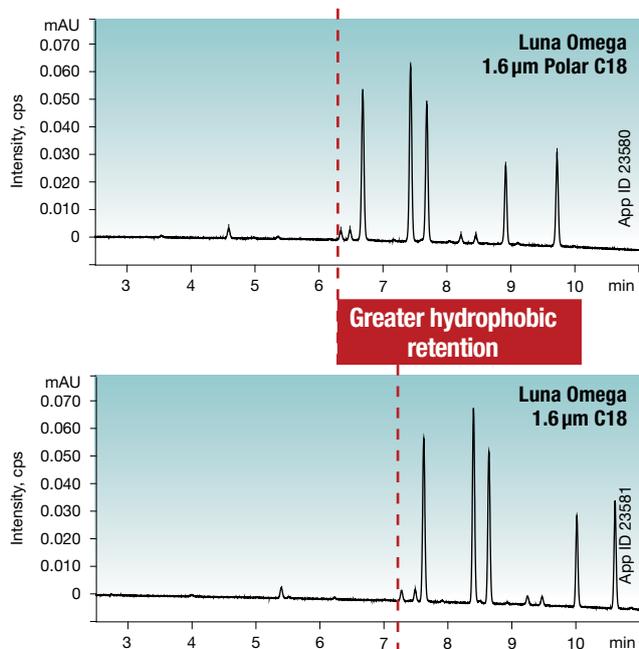
- Columns:** Luna Omega 5 µm PS C18
- Mobile Phase:** A: Water with 0.1% TFA
B: Acetonitrile with 0.1% TFA
- Gradient:**

Time (min)	% B
0	10
15	90
- Temperature:** 22 °C
- Detection:** UV @ 254 nm
- Sample:**
 1. Impurity
 2. Proprietary API
 3. Impurity

Comparative separations may not be representative of all applications.

Combine the versatile interaction mechanisms of the Luna® Omega C18 and Polar C18 to achieve successful separations and improve upon challenging existing methods.

Natural Cannabinoids



Conditions for all columns:

Columns: Luna Omega 1.6 μm Polar C18
Luna Omega 1.6 μm C18

Dimension: 100 x 2.1 mm

Mobile Phase: A: 20 mM Ammonium Formate pH 3.2
B: Acetonitrile

Gradient:	Time (min)	% B
	0	60
	12	95
	13	95
	13.01	60
	15	60

Flow Rate: 0.4 mL/min

Temperature: 40 °C

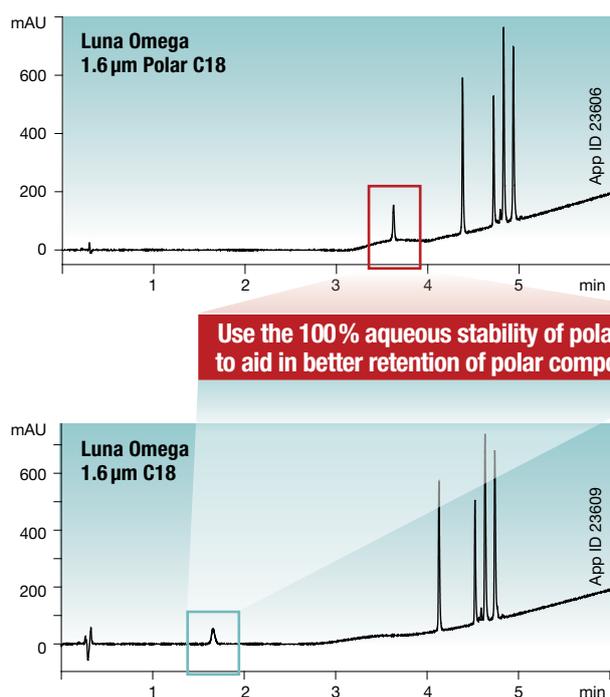
Detection: UV @ 256 nm

- Sample:**
1. CBDV
 2. Cannabidiol
 3. CBG
 4. Cannabidiolic Acid
 5. CBG-A
 6. Cannabinol
 7. Delta 9 THC
 8. Delta 8 THC
 9. CBC
 10. THCA-A



Influence Selectivity with 100 % Aqueous Stability and Polar Interactions

Intact Peptides



Conditions for all columns except where noted:

Columns: Luna Omega 1.6 μm Polar C18
Luna Omega 1.6 μm C18

Dimension: 50 x 2.1 mm

Mobile Phase: A: Water with 0.1 % TFA
B: Acetonitrile with 0.1 % TFA

Gradient:	Time (min)	% B
	0	0
	1	0
	5	65

Flow Rate: 0.6 mL/min

Temperature: 25 °C

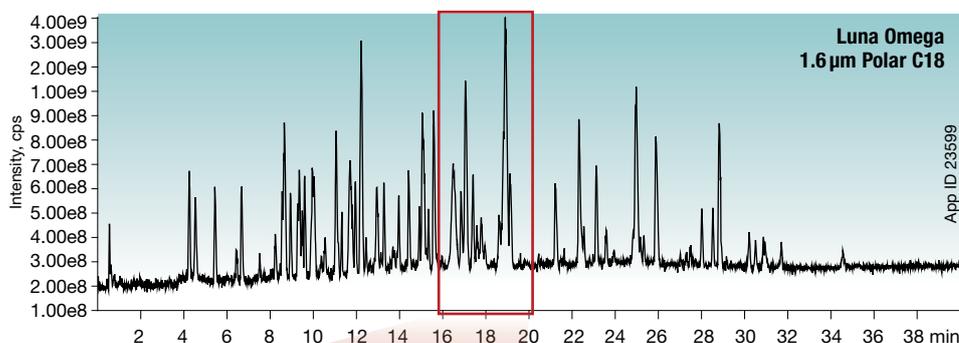
Detection: UV @ 210 nm

- Sample:**
1. Gly-Tyr
 2. Val-Tyr-Val
 3. Met-Enkephalin
 4. Leu-Enkephalin
 5. Angiotensin II

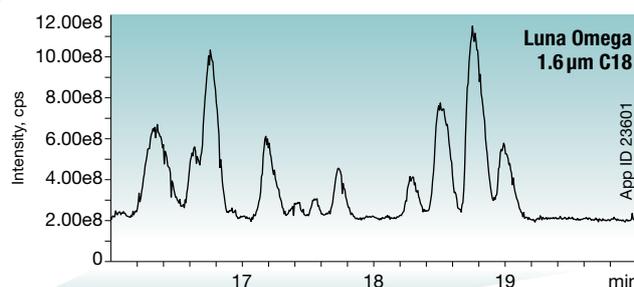
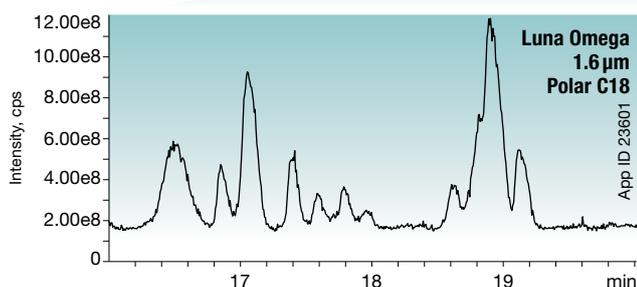
Comparative separations may not be representative of all applications.

For the analysis of a large screen or mixture of compounds, you can benefit greatly from utilizing both the Luna® Omega C18 and Polar C18 during method development. The strong focused hydrophobic retention of the C18 will provide excellent non-polar retention and separation, while the Polar C18 provides a complementary hydrophobic/polar combined selectivity that can retain and separate typically early eluting compounds

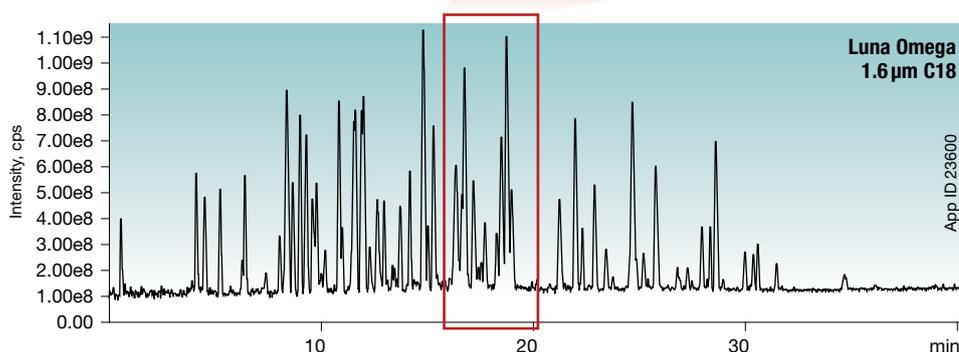
Tryptic Digest - Peptide Map of BSA



Greater resolution of early, more polar eluters



Better resolution of more hydrophobic compounds



Conditions same for all columns:

Columns: Luna Omega 1.6 µm C18
Luna Omega 1.6 µm Polar C18
Dimension: 100 x 2.1 mm
Mobile Phase: A: 0.1 % Formic Acid in Water
B: 0.1 % Formic Acid in Acetonitrile
Gradient:

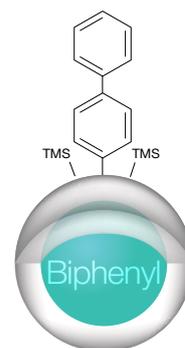
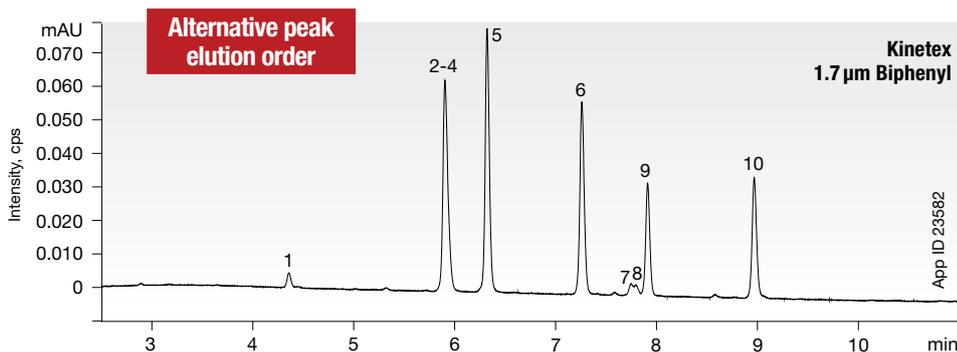
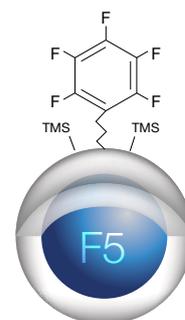
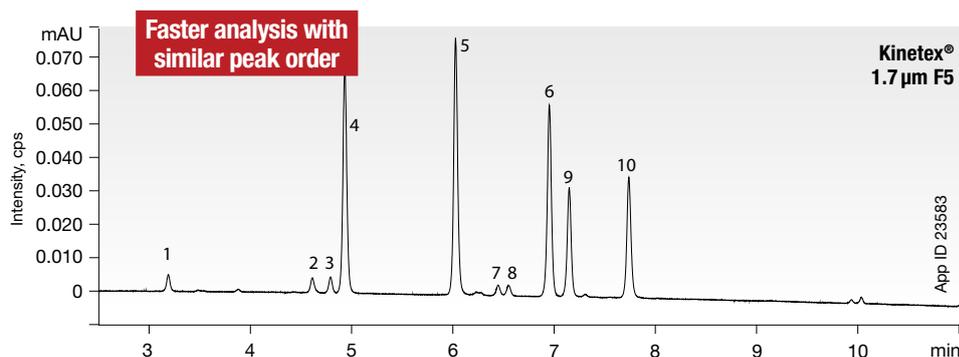
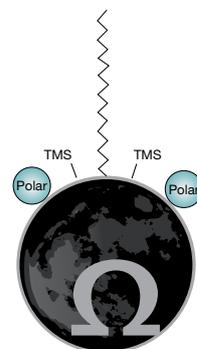
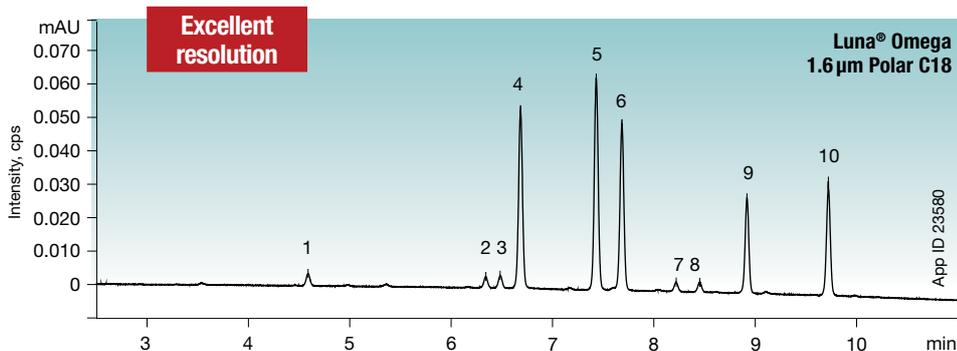
Time (min)	% B
0	3
50	50
50.1	3

Flow Rate: 0.4 mL/min
Temperature: 40 °C
Detection: MS/MS (SCIEX API 4000™)
Sample: Digested BSA

Ω Luna Omega + Kinetex = Happy UHPLC

Increase your method development options by screening a combination of core-shell and fully porous selectivities.

Natural Cannabinoids



Conditions for all columns:

Columns: Luna Omega 1.6 μm Polar C18
Kinetex 1.7 μm Biphenyl
Kinetex 1.7 μm F5

Dimension: 100 x 2.1 mm

Mobile Phase: A: 20 mM Ammonium Formate pH 3.2
B: Acetonitrile

Gradient:	Time (min)	% B
	0	60
	12	95
	13	95
	13.01	60
	15	60

Flow Rate: 0.4 mL/min

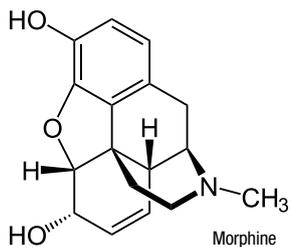
Temperature: 40 °C

Detection: UV @ 256 nm

Sample: 1. CBDV
2. Cannabidiol
3. CBG
4. Cannabidiolic Acid
5. CBG-A
6. Cannabinol
7. Delta 9 THC
8. Delta 8 THC
9. CBC
10. THCA-A

Comparative separations may not be representative of all applications.

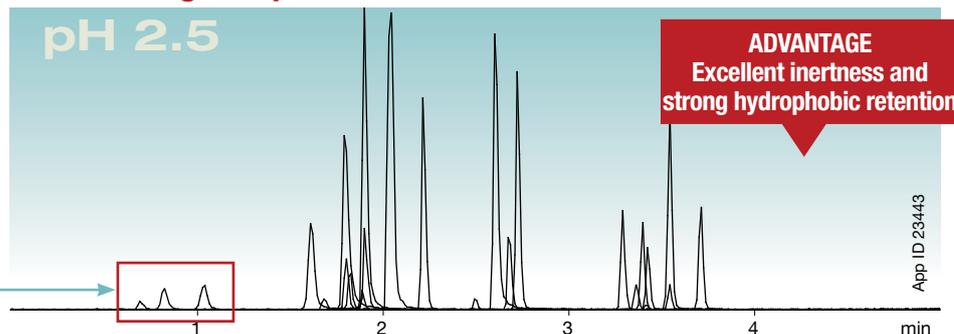
Luna Omega + Kinetex = Happy UHPLC Ω



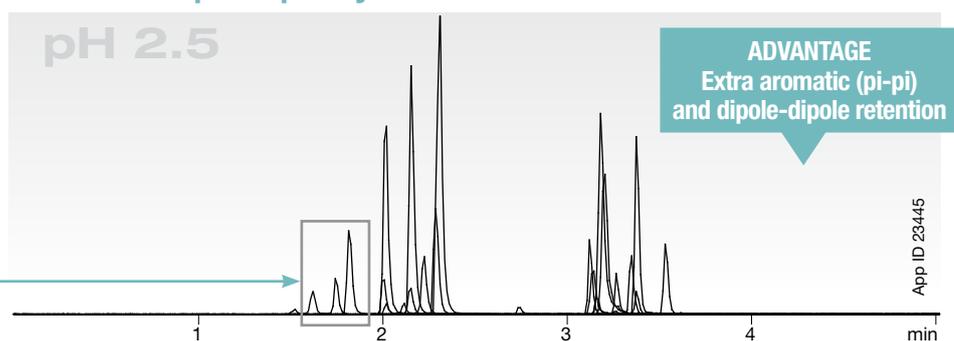
Drugs of Abuse Analysis

Combining orthogonal UHPLC particle morphologies and selectivities like the Luna Omega C18, Kinetex Biphenyl, and Kinetex EVO C18 will drastically increase your probability of separation success!

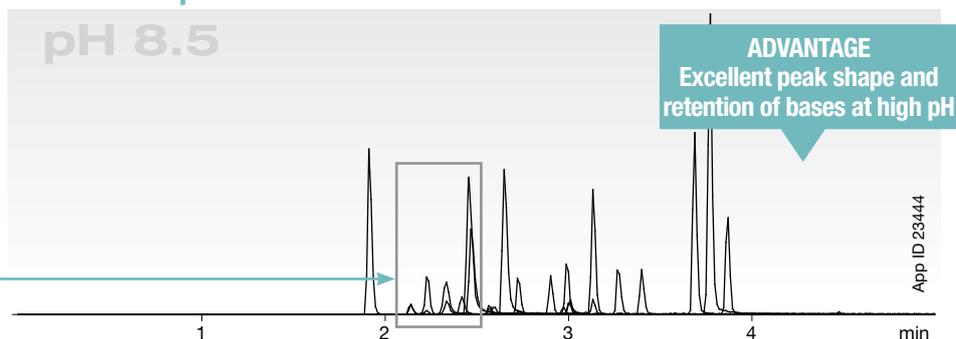
Luna® Omega 1.6µm C18



Kinetex® 1.7µm Biphenyl



Kinetex 1.7µm EVO C18



Conditions for all columns except where noted:

Columns: Luna Omega 1.6µm C18
Kinetex 1.7µm Biphenyl
Kinetex 1.7µm EVO C18

Dimension: 50 x 2.1 mm

Mobile Phase: Luna Omega 1.6µm C18 and Kinetex 1.7µm Biphenyl
A: 0.1% Formic Acid in Water
B: 0.1% Formic Acid in Acetonitrile
Kinetex 1.7µm EVO C18
A: 10 mM Ammonium Bicarbonate pH 10
B: Acetonitrile

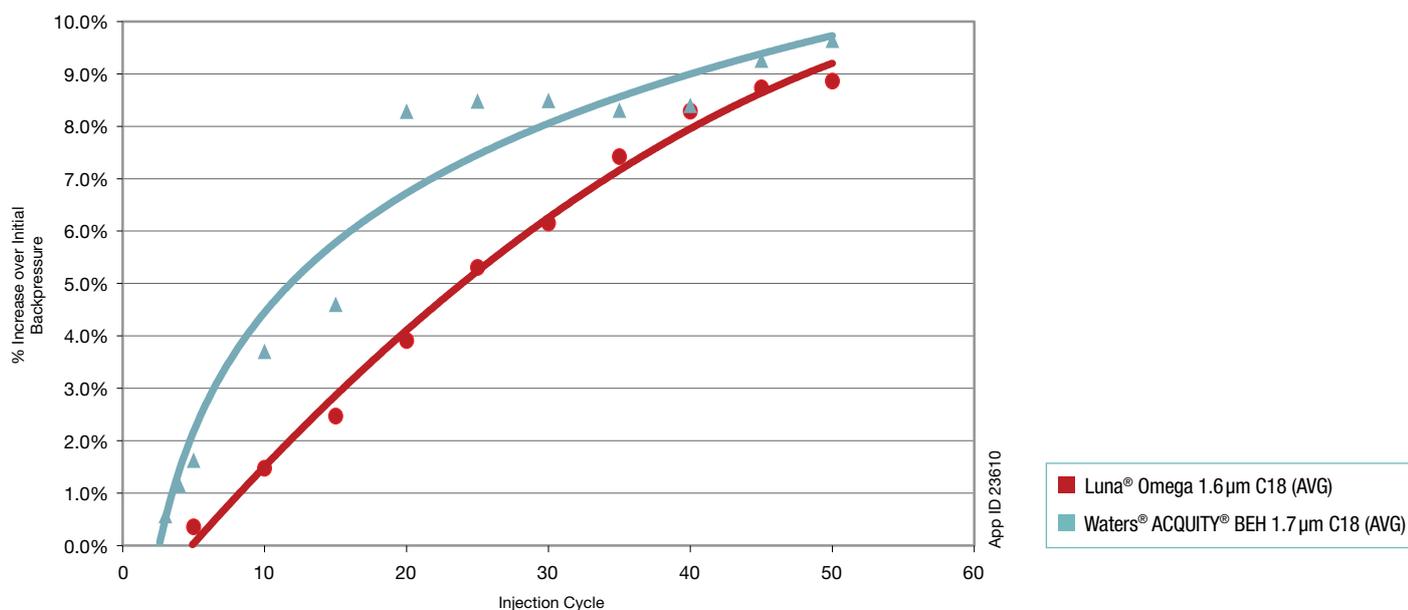
Gradient:

Time (min)	% B
0	5
4	95
5	95
5.1	5

Flow Rate: 0.4 mL/min
Temperature: 40 °C
Detection: MS/MS (SCIEX API 4000™)
Sample: Drugs of Abuse

Luna Omega 1.6 μm media was designed to be durable and withstand the high pressures and rigors of UHPLC work in combination with providing excellent performance.

Accelerated Lifetime Study



Conditions same for both columns:

- Columns:** Luna Omega 1.6 μm C18
ACQUITY BEH 1.7 μm C18
- Dimension:** 50 x 2.1 mm
- Mobile Phase:** A: 0.1% Formic Acid in Water
B: 0.1% Formic Acid in Acetonitrile
- Gradient:**

Time (min)	% B
0	5
4	95
4.1	5
- Flow Rate:** 0.4 mL/min
- Temperature:** 25 °C
- Detection:** UV @ 210 nm
- Sample:** Protein Matrix

Extend UHPLC Column Lifetime Even More with SecurityGuard™ ULTRA

See page 34 for details



Comparative separations may not be representative of all applications.

Further Improve Lifetime with Sample Preparation

Both UHPLC instrumentation and columns can benefit from consistent removal of microparticulates/contaminants that may appear in solvents, samples or specific matrices. Over time these problematic compounds can build up on instrumentation and columns, leading to the need for costly maintenance and repair. Strata-X polymeric SPE, Novum liquid extraction, and Phenex syringe filters are excellent options to try.



Very targeted form of sample preparation that allows you to isolate your analyte of interest while removing any interfering compounds in your sample

www.phenomenex.com/StrataX



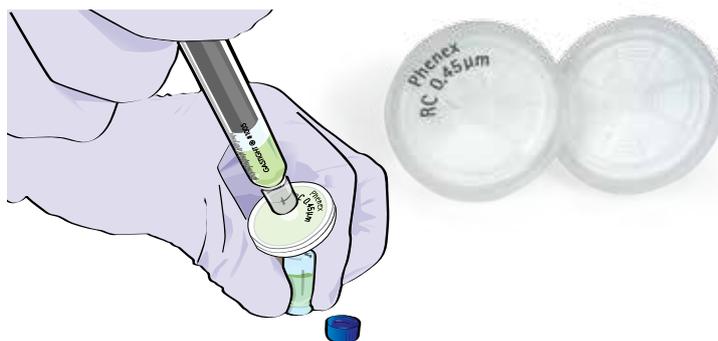
Remove interferences such as proteins, phospholipids, salts, and more in a quick and simple procedure

www.phenomenex.com/Novum



Convenient and inexpensive way to remove particulates from LC samples

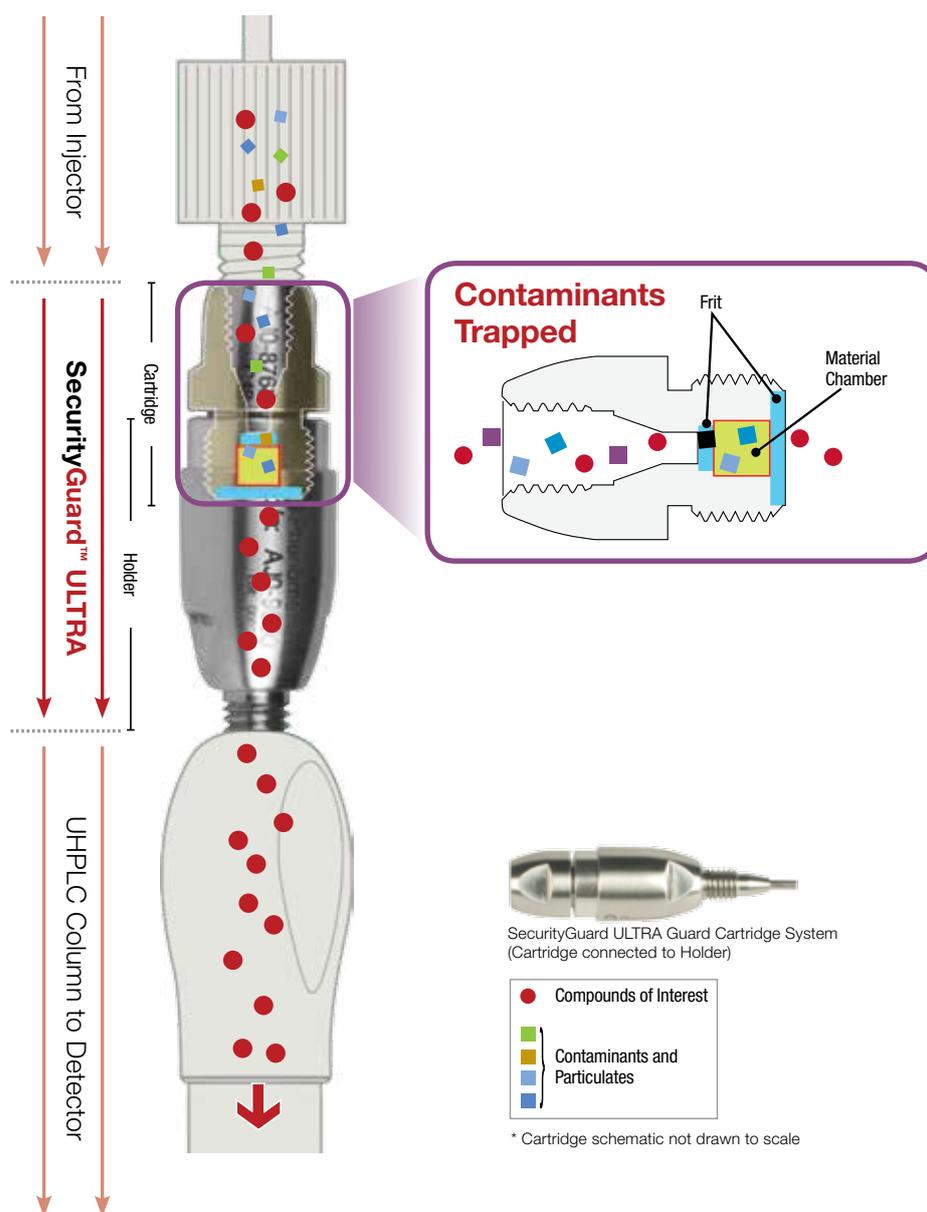
www.phenomenex.com/Phenex



Ω Protect any UHPLC Column

Protect your UHPLC column, including Luna® Omega 1.6µm columns, from damaging contaminants and microparticulates with the SecurityGuard ULTRA guard cartridge system!

- Simple to use
- Extend column lifetime
- Pressure rated to 20,000 psi (1,378 bar)
- Fits virtually all manufacturers' columns 2.1 to 4.6 mm ID



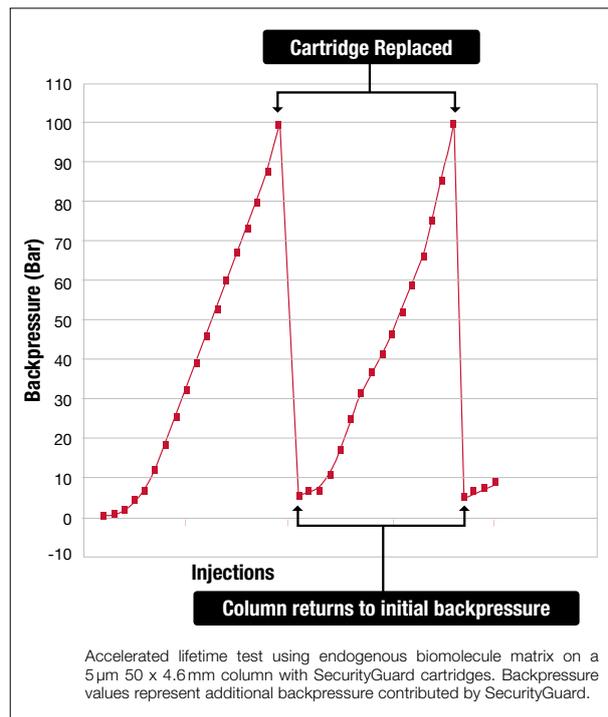
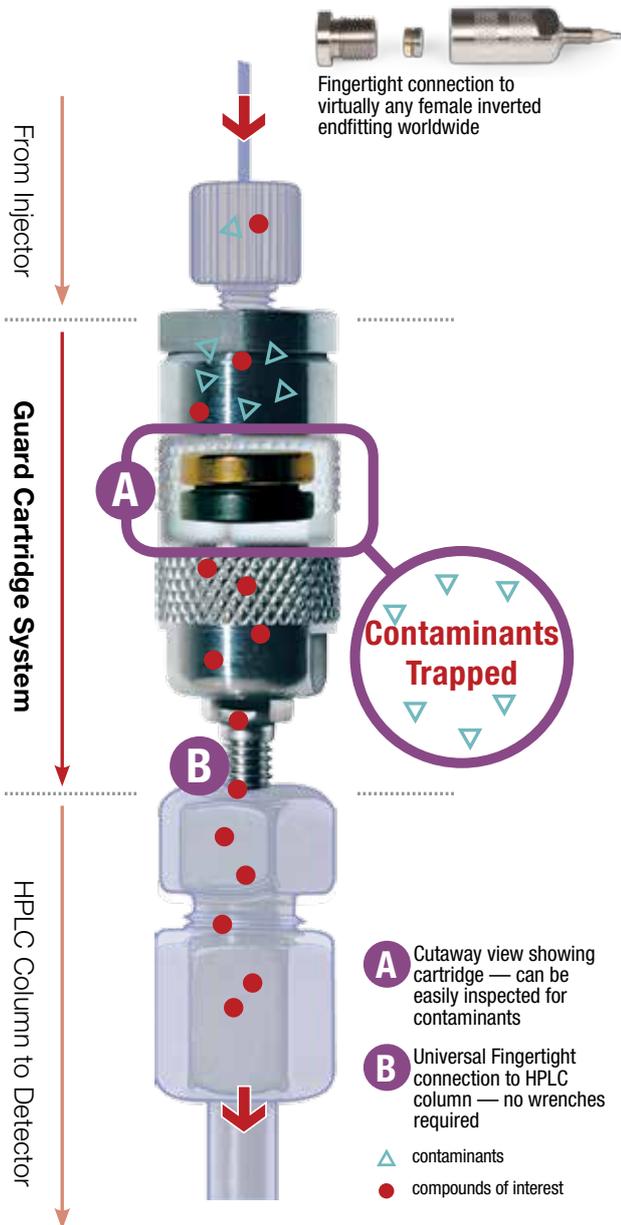
See it in action:
www.phenomenex.com/SecurityGuardULTRA

Protect any HPLC Column

The easiest way to extend column performance is to prevent contaminants and particulates from getting into your Luna® Omega 5 µm column with the SecurityGuard Standard guard cartridge system.



- Protects and extends column lifetimes
- Virtually no change in chromatography
- Simple to use



The SecurityGuard analytical cartridge holder (patented) directly finger-tightens into virtually any manufacturer's column endfitting. Contaminants are retained by an inexpensive disposable cartridge instead of damaging your valuable HPLC and SFC column investment. Simply replace SecurityGuard cartridges instead of your expensive columns. In this graph, once the expired SecurityGuard cartridge was replaced, the pressure immediately dropped and the column performance was restored allowing for extended column use.

See it in action:
www.phenomenex.com/SecurityGuard

Luna and Luna Omega Column Characteristics

Luna® Omega Phases	Description	Particle Sizes (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)	pH Stability	Reversed Phase	Normal Phase	HILIC	IEX
C18	C18 ligand optimized for improved peak shape	1.6	100	260	11	1.5 - 8.5*	☾			
Polar C18	Enhanced selectivity/retention for polar analytes without diminishing useful non-polar retention	1.6, 3, 5	100	260	9	1.5 - 8.5*	☾			
PS C18	Mixed-mode functionality offering enhanced retention of polar acids along with improved peak shape for strong bases	1.6, 3, 5	100	260	9	1.5 - 8.5*	☾		☾	

* pH stability under gradient conditions. pH stability is 1.5 - 10 under isocratic conditions.

Luna Phases	Description	Particle Sizes (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)	pH Stability	Reversed Phase	Normal Phase	HILIC	IEX
Silica(2)	Unbonded silica	3, 5, 10, 10-PREP, 15	100	400	—	2.0 - 7.5		☾	☾	
C5	5 Carbon ligand	5, 10	100	440	12.5	1.5 - 9.0*	☾			
C8(2)	C8 ligand optimized for improved peak shape	3, 5, 10, 10-PREP, 15	100	400	13.5	1.5 - 9.0*	☾			
C18(2)	C18 ligand optimized for improved peak shape	2.5, 3, 5, 10, 10-PREP, 15	100	400	17.5	1.5 - 9.0*	☾			
CN	Versatile CN phase	3, 5, 10	100	400	7.0	1.5 - 7.0	☾	☾		
NH₂	Rugged and reproducible NH ₂	3, 5, 10	100	400	9.5	1.5 - 11	☾	☾	☾	☾
Phenyl-Hexyl	Phenyl phase attached to C6 (hexyl) ligand	3, 5, 10, 10-PREP, 15	100	400	17.5	1.5 - 9.0*	☾			
SCX	Benzene sulfonic acid	5, 10	100	400	Binding Capacity: 0.15 meq/g	2.0 - 7.0				☾
HILIC	Reproducible, cross-linked diol	3, 5	200	200	5.7	1.5 - 8.0			☾	
PPF(2)	Pentafluorophenyl with a C3 (propyl) linkage	3, 5	100	400	11.5	1.5 - 8.0	☾		☾	

* pH range is 1.5 - 9 under gradient conditions. pH range is 1.5 - 10 under isocratic conditions.

Find more information on all these phases online at www.phenomenex.com/Luna

Buy Luna[®] Omega Now

1.6 μ m Microbore Columns (mm)			
Phases	50 x 1.0	100 x 1.0	150 x 1.0
Polar C18	00B-4748-A0	00D-4748-A0	00F-4748-A0
C18	00B-4742-A0	00D-4742-A0	00F-4742-A0



1.6 μ m Minibore Columns (mm)					SecurityGuard [™] ULTRA Cartridges [‡]
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
Polar C18	00A-4748-AN	00B-4748-AN	00D-4748-AN	00F-4748-AN	AJO-9505
PS C18	00A-4752-AN	00B-4752-AN	00D-4752-AN	00F-4752-AN	AJO-9508
C18	00A-4742-AN	00B-4742-AN	00D-4742-AN	00F-4742-AN	AJO-9502

for 2.1 mm ID

3 μ m Minibore and MidBore [™] Columns (mm)								SecurityGuard [™] Cartridges (mm)
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	50 x 3.0	100 x 3.0	150 x 3.0	4 x 2.0* /10 pk
Polar C18	00A-4760-AN	00B-4760-AN	00D-4760-AN	00F-4760-AN	00B-4760-Y0	00D-4760-Y0	00F-4760-Y0	AJO-7600
PS C18	00A-4758-AN	00B-4758-AN	00D-4758-AN	00F-4758-AN	00B-4758-Y0	00D-4758-Y0	00F-4758-Y0	AJO-7605

for ID: 2.0-3.0 mm

3 μ m Analytical Columns (mm)					SecurityGuard [™] Cartridges (mm)
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0* /10 pk
Polar C18	00B-4760-E0	00D-4760-E0	00F-4760-E0	00G-4760-E0	AJO-7601
PS C18	00B-4758-E0	00D-4758-E0	00F-4758-E0	00G-4758-E0	AJO-7606

for ID: 3.1-8.0 mm

5 μ m Minibore and MidBore [™] Columns (mm)								SecurityGuard [™] Cartridges (mm)
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	50 x 3.0	100 x 3.0	150 x 3.0	4 x 2.0* /10 pk
Polar C18	00A-4754-AN	00B-4754-AN	00D-4754-AN	00F-4754-AN	00B-4754-Y0	00D-4754-Y0	00F-4754-Y0	AJO-7600
PS C18	00A-4753-AN	00B-4753-AN	00D-4753-AN	00F-4753-AN	00B-4753-Y0	00D-4753-Y0	00F-4753-Y0	AJO-7605

for ID: 2.0 - 3.0 mm

5 μ m Analytical Columns (mm)					SecurityGuard [™] Cartridges (mm)
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0* /10 pk
Polar C18	00B-4754-E0	00D-4754-E0	00F-4754-E0	00G-4754-E0	AJO-7601
PS C18	00B-4753-E0	00D-4753-E0	00F-4753-E0	00G-4753-E0	AJO-7606

for ID: 3.1-8.0 mm

5 μ m Axia [™] Packed Preparative Columns (mm)						SecurityGuard [™] Cartridges (mm)	
Phases	150 x 21.2	250 x 21.2	150 x 30	250 x 30	250 x 50	15 x 21.2** /ea	15 x 30.0 [◆] /ea
Polar C18	00F-4754-P0-AX	00G-4754-P0-AX	00F-4754-U0-AX	00G-4754-U0-AX	00G-4754-V0-AX	AJO-7603	AJO-7604
PS C18	00F-4753-P0-AX	00G-4753-P0-AX	00F-4753-U0-AX	00G-4753-U0-AX	00G-4753-V0-AX	AJO-7608	AJO-7609

for ID: 21.2 mm for ID: 30 mm

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJO-9000

* SecurityGuard Analytical Cartridges require holder, Part No.: KJO-4282

** PREP SecurityGuard Cartridges require holder, Part No.: AJO-8223

◆ PREP SecurityGuard Cartridges require holder, Part No.: AJO-8277



If Luna analytical columns do not provide at least an equivalent separation as compared to a competing column of the same particle size, similar phase and dimensions, return the column with comparative data within 45 days FOR A FULL REFUND.

Ordering Information

Buy Luna® Now

5 µm Microbore and Minibore Columns (mm)								SecurityGuard™ Cartridges (mm)
Phases	50 x 1.0	150 x 1.0	250 x 1.0	30 x 2.0	50 x 2.0	150 x 2.0	250 x 2.0	4 x 2.0*
Silica(2)	—	—	—	00A-4274-B0	00B-4274-B0	00F-4274-B0	00G-4274-B0	/10 pk
C5	—	—	—	00A-4043-B0	00B-4043-B0	00F-4043-B0	—	AJO-4347
C8 (2)	—	00F-4249-A0	—	00A-4249-B0	00B-4249-B0	00F-4249-B0	00G-4249-B0	AJO-4292
C18 (2)	00B-4252-A0	00F-4252-A0	00G-4252-A0	00A-4252-B0	00B-4252-B0	00F-4252-B0	00G-4252-B0	AJO-4289
CN	—	—	—	—	00B-4255-B0	00F-4255-B0	—	AJO-4286
Phenyl-Hexyl	00B-4257-A0	—	—	00A-4257-B0	00B-4257-B0	00F-4257-B0	00G-4257-B0	AJO-4304
NH ₂	00B-4378-A0	00F-4378-A0	—	00A-4378-B0	00B-4378-B0	00F-4378-B0	00G-4378-B0	AJO-4350
PPF(2)	—	—	—	00A-4448-B0	00B-4448-B0	00F-4448-B0	—	AJO-4301
								AJO-8326

for ID: 2.0 - 3.0 mm

5 µm MidBore™ Columns (mm)					SecurityGuard Cartridges (mm)
Phases	30 x 3.0	50 x 3.0	150 x 3.0	250 x 3.0	4 x 2.0*
Silica(2)	—	00B-4274-Y0	00F-4274-Y0	—	/10 pk
C5	—	—	00F-4043-Y0	—	AJO-4347
C8(2)	00A-4249-Y0	00B-4249-Y0	00F-4249-Y0	00G-4249-Y0	AJO-4292
C18(2)	00A-4252-Y0	00B-4252-Y0	00F-4252-Y0	00G-4252-Y0	AJO-4289
CN	—	00B-4255-Y0	00F-4255-Y0	00G-4255-Y0	AJO-4286
Phenyl-Hexyl	—	00B-4257-Y0	00F-4257-Y0	00G-4257-Y0	AJO-4304
NH ₂	—	00B-4378-Y0	00F-4378-Y0	00G-4378-Y0	AJO-4350
SCX	—	—	00F-4398-Y0	—	AJO-4301
HILIC	—	—	00F-4450-Y0	—	AJO-8307
PPF(2)	—	00B-4448-Y0	00F-4448-Y0	—	AJO-8328
					AJO-8326

for ID: 2.0 - 3.0 mm

5 µm Analytical Columns (mm)				SecurityGuard Cartridges (mm)
Phases	30 x 4.6	50 x 4.6	75 x 4.6	4 x 3.0*
Silica(2)	—	00B-4274-E0	—	/10 pk
C5	—	00B-4043-E0	—	AJO-4348
C8(2)	00A-4249-E0	00B-4249-E0	00C-4249-E0	AJO-4293
C18(2)	00A-4252-E0	00B-4252-E0	00C-4252-E0	AJO-4290
CN	00A-4255-E0	00B-4255-E0	00C-4255-E0	AJO-4287
Phenyl-Hexyl	00A-4257-E0	00B-4257-E0	—	AJO-4305
NH ₂	—	00B-4378-E0	—	AJO-4351
SCX	—	00B-4398-E0	—	AJO-4302
HILIC	—	—	—	AJO-4308
PPF(2)	—	00B-4448-E0	—	AJO-8329
				AJO-8327

for ID: 3.2-8.0 mm

*SecurityGuard™ Analytical Cartridges require holder, Part No.: KJ0-4282



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5 µm Analytical and Semi-Prep Columns (mm)					SecurityGuard™ Cartridges (mm)	
Phases	100 x 4.6	150 x 4.6	250 x 4.6	250 x 10	4 x 3.0 [*]	10 x 10 [†]
					/10 pk	/3 pk
Silica(2)	00D-4274-E0	00F-4274-E0	00G-4274-E0	00G-4274-N0	AJO-4348	AJO-7223
C5	00D-4043-E0	00F-4043-E0	00G-4043-E0	00G-4043-N0	AJO-4293	AJO-7372
C8(2)	00D-4249-E0	00F-4249-E0	00G-4249-E0	00G-4249-N0	AJO-4290	AJO-7222
C18(2)	00D-4252-E0	00F-4252-E0	00G-4252-E0	00G-4252-N0	AJO-4287	AJO-7221
CN	00D-4255-E0	00F-4255-E0	00G-4255-E0	00G-4255-N0	AJO-4305	AJO-7313
Phenyl-Hexyl	00D-4257-E0	00F-4257-E0	00G-4257-E0	00G-4257-N0	AJO-4351	AJO-7314
NH₂	00D-4378-E0	00F-4378-E0	00G-4378-E0	00G-4378-N0	AJO-4302	AJO-7364
SCX	00D-4398-E0	00F-4398-E0	00G-4398-E0	00G-4398-N0	AJO-4308	AJO-7369
HILIC	00D-4450-E0	00F-4450-E0	00G-4450-E0	00G-4450-N0	AJO-8329	AJO-8902
PFP(2)	00D-4448-E0	00F-4448-E0	00G-4448-E0	00G-4448-N0	AJO-8327	AJO-8376

for ID: 3.2 - 8.0 mm 9 - 16 mm

5 µm Axia™ Packed Preparative Columns (mm)					SecurityGuard Cartridges (mm)
Phases	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	15 x 21.2 ^{**}
					/ea
Silica(2)	—	00D-4274-P0-AX	00F-4274-P0-AX	00G-4274-P0-AX	AJO-7229
C5	—	—	—	00G-4043-P0-AX	—
C8(2)	—	—	00F-4249-P0-AX	00G-4249-P0-AX	AJO-7840
C18(2)	00B-4252-P0-AX	00D-4252-P0-AX	00F-4252-P0-AX	00G-4252-P0-AX	AJO-7839
CN	—	—	—	00G-4255-P0-AX	AJO-8220
Phenyl-Hexyl	—	00D-4257-P0-AX	00F-4257-P0-AX	00G-4257-P0-AX	AJO-7841
NH₂	—	—	00F-4378-P0-AX	00G-4378-P0-AX	AJO-8162
PFP(2)	—	00D-4448-P0-AX	00F-4448-P0-AX	00G-4448-P0-AX	AJO-8377
HILIC	—	00D-4450-P0-AX	00F-4450-P0-AX	00G-4450-P0-AX	AJO-8829

for ID: 18 - 29 mm

5 µm Axia™ Packed Preparative Columns (mm) (cont'd)				SecurityGuard Cartridges (mm)
Phases	50 x 30	100 x 30	250 x 30	15 x 30 [‡]
				/ea
Silica(2)	—	—	00G-4274-U0-AX	AJO-8312
C8(2)	—	00D-4249-U0-AX	—	AJO-8302
C18(2)	00B-4252-U0-AX	00D-4252-U0-AX	00G-4252-U0-AX	AJO-8301
Phenyl-Hexyl	—	—	00G-4257-U0-AX	AJO-8303
PFP(2)	—	00D-4448-U0-AX	—	AJO-8378
HILIC	—	—	00G-4450-U0-AX	AJO-8830

for ID: 30 - 49 mm

* SecurityGuard Analytical Cartridges require holder, Part No.: KJO-4282

† SemiPrep SecurityGuard Cartridges require holder, Part No.: AJO-9281

** PREP SecurityGuard Cartridges require holder, Part No.: AJO-8223

‡ PREP SecurityGuard Cartridges require holder, Part No.: AJO-8277



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Axia column and packing technology is patented by Phenomenex. U.S. Patent No. 7, 674, 383
 Kinetex EVO is patented by Phenomenex. U.S. Patent Nos. 7,563,367 and 8,658,038 and foreign counterparts.

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362
 CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

Strata-X is patented by Phenomenex. U.S. Patent No. 7,119,145

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