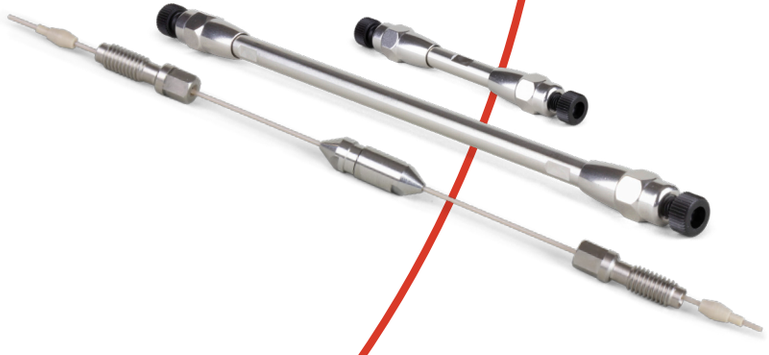
- Kinetex®
- Luna® Omega
- Synergi™
- Gemini®
- Luna

NEW Micro LC Columns & Traps

- Compatible with Your System
- Dependable and Available
- Wide Range of Selectivities



SMALL but MIGHTY

phenomenex®
. . . breaking with tradition℠

www.phenomenex.com/MicroLC

New Micro LC Columns & Traps

- Compatible with Your System
- Dependable and Available
- Wide Range of Selectivities

Phenomenex has extended its large range of high quality reversed phase selectivities to capillary and trap formats. These materials will allow you to achieve greater separation power for all your Micro LC applications.

Find the Right Micro LC Column and Trap Selectivity for Your Application!

General Selectivity and Popular Application Recommendations

General Purpose C18	Luna Omega C18 | MicroTrap C18
	Kinetex C18 | MicroTrap C18
Polar Bases	Luna Omega PS C18 | MicroTrap C18
	Synergi RP-Polar | MicroTrap Polar
Polar Acids	Luna Omega Polar C18 | MicroTrap C18
	Kinetex XB-C18 | MicroTrap PS
HILIC Conditions	Luna HILIC
	Luna NH_2
Intact Proteins	Jupiter C4 | MicroTrap WP C4
	Jupiter C18 | MicroTrap WP C4
Peptide Mapping	Luna Omega Polar C18 | MicroTrap C18
	Kinetex XB-C18 | MicroTrap PS

Very Hydrophobic Compounds	Luna C8(2) | MicroTrap PS
	Jupiter C4 | MicroTrap WP C4
Aromatic Compounds*	Kinetex Biphenyl | MicroTrap Polar
	Luna Phenyl-Hexyl | MicroTrap Polar
Isomers and Closely Related Compounds*	Kinetex F5 | MicroTrap Polar
	Kinetex Biphenyl | MicroTrap Polar
Alkaline Mobile Phase	Gemini C18
	Kinetex EVO C18
Peptide Quantitation	Luna Omega Polar C18 | MicroTrap C18
	Luna C18(2) | MicroTrap C18
Metabolomics Screening	Kinetex F5 | MicroTrap PS
	Luna NH_2

*Phenyl-based phases are generally recommended for both Aromatic and Closely Related Compounds.

See pages 8-9 for Micro LC Column & Trap ordering information.

Find the Micro LC Particle Morphology Built for Your Needs!

Phenomenex offers a full range of solid supports including core-shell, organo-silica fully porous, and thermally modified fully porous particles available in the Micro LC format. The morphology of the solid support has a significant impact on the resulting material characteristics and column performance.

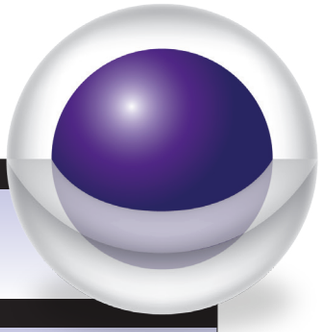
Core-Shell Technology

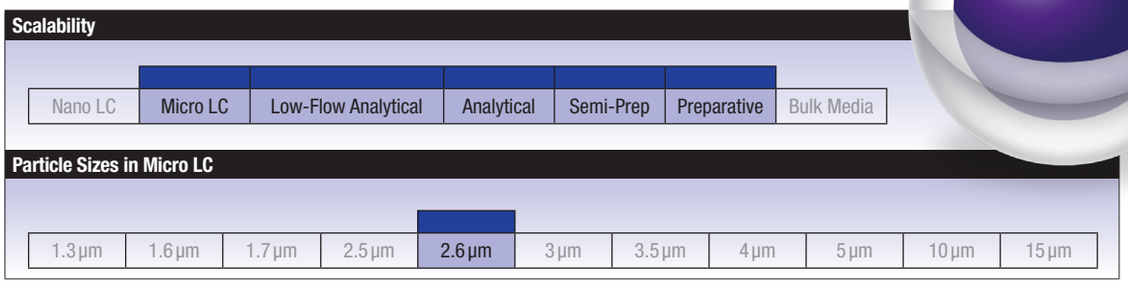
KINETEX® Core-Shell Technology

Unique solid silica core and porous shell that results in faster chromatography and higher efficiencies than conventional fully porous particles.

Well suited for:

- Performance gains on ANY Micro LC system
- Easy system-to-system and lab-to-lab method transfer
- Methods where increased sensitivity is required

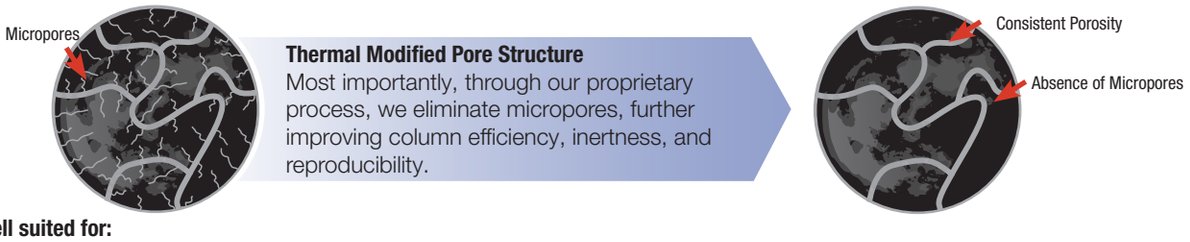




Fully Porous Thermally Modified Silica

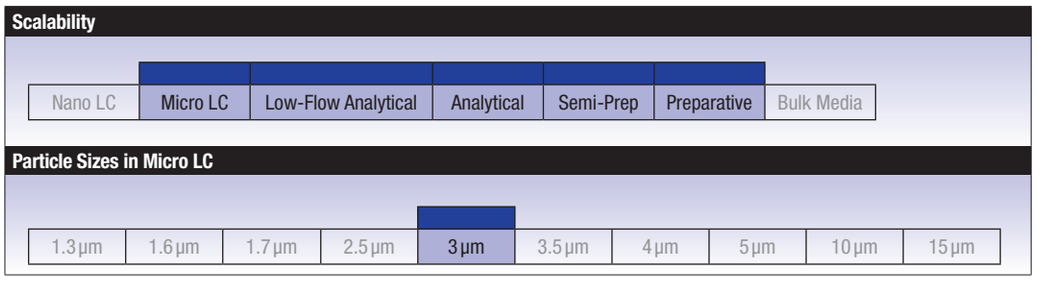
explore LUNA® OMEGA

Unique high efficiency and extremely robust fully porous silica that offers astounding performance and inertness alongside versatile selectivities.



Well suited for:

- Greater surface area and separation muscle
- Better peak shape through an inert foundation
- Extreme ruggedness and dependability



explore LUNA®

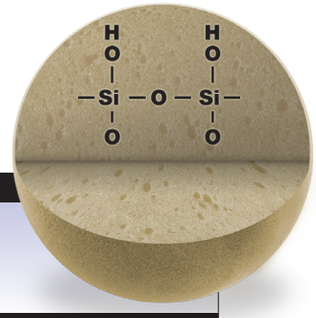
synergi™
Full Range Selectivity LC Columns

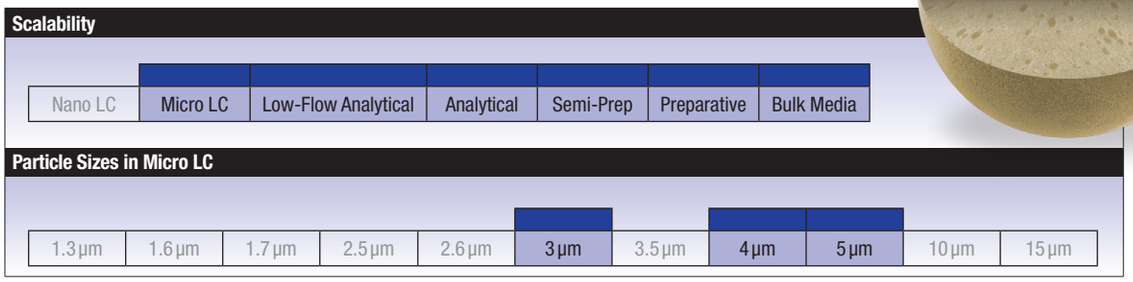
Fully Porous – Traditional Silica

Fully porous silica particles have higher surface area and provide excellent mechanical strength across a wide range of particle sizes and column dimensions.

Well suited for:

- Wide scalability with diverse particle size portfolio
- Unique selectivity options





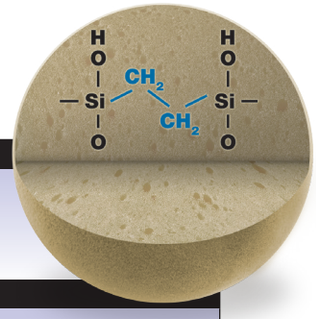
Fully Porous – Organo-Silica

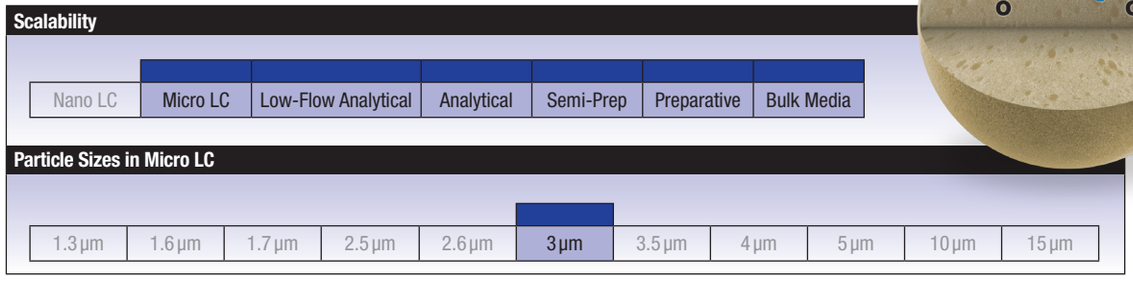
Gemini® pH Flexible LC

Organic groups are grafted into the layers of the silica particle making it more resistant to silica dissolution at higher pHs.

Well suited for:

- Extended column lifetime for methods run at pH extremes
- Improved peak shape for bases

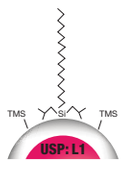
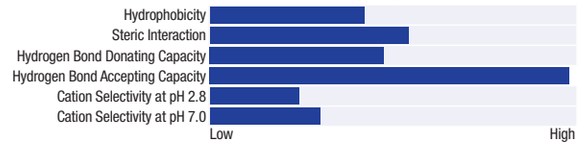
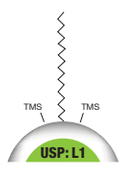
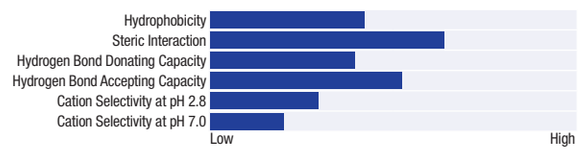
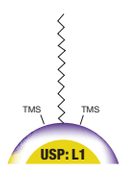
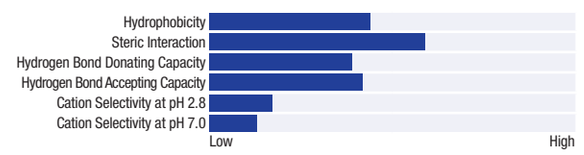
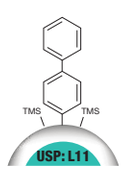
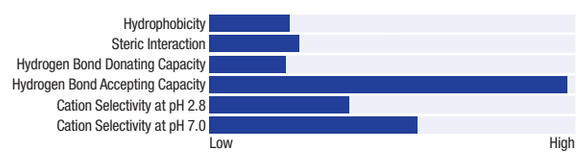
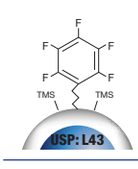




Kinetex
Core-Shell Technology

The finely tuned and unique core-shell manufacturing process delivers dramatic improvements in efficiency over conventional fully porous media which can be leveraged to increase resolution, greatly improve productivity, reduce solvent consumption, and decrease costs. The Kinetex core-shell family can deliver shockingly improved performance to your Micro LC separation.

Phases

Ligand	Description	Selectivity Profile
	**Kinetex XB-C18** Di-isobutyl side chains differentiate this C18 column. Low ligand density and an inactive surface make this column a great hydrogen acceptor. This phase will demonstrate improved peak shape for basic compounds and increased retention of acids.	
	**Kinetex C18** Very well balanced column providing some selectivity through steric, hydrogen, and cationic pathways. This is a great starting point for ultra-high efficiency separations.	
	**Kinetex EVO C18** Novel pH 1-12 stable C18 that delivers robust methods and improved peak shape for bases.	
	**Kinetex Biphenyl** 100% aqueous stable reversed phase chemistry with hydrophobic, aromatic, and enhanced polar selectivity.	
	**Kinetex F5** This pentafluorophenyl propyl column provides a very high degree of steric selectivity to separate structural isomers. The electronegative fluorine groups offer high selectivity for cationic compounds.	

Material Characteristics

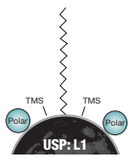
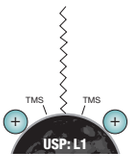
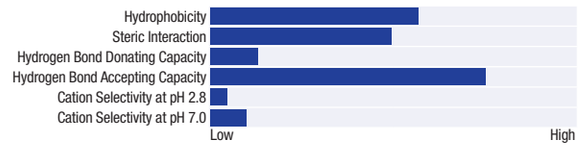
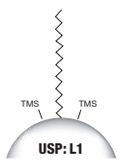
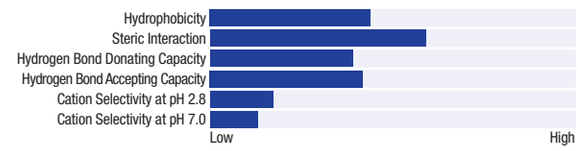
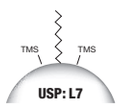
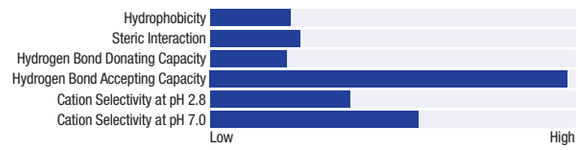
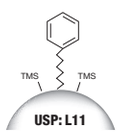
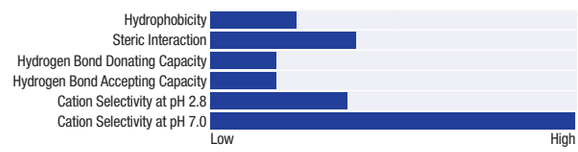
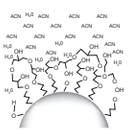
Packing Material	Total Particle Size (µm)	Pore Size (A)	Effective Surface Area (m^2/g)	Effective Carbon Load %	pH Stability	Pressure Stability
XB-C18	2.6	100	200	10	1.5-8.5*	1,000/600† bar
C18	2.6	100	200	12	1.5-8.5*	
EVO C18	2.6	100	200	11	1.0-12.0	
Biphenyl	2.6	100	200	11	1.5-8.5*	
F5	2.6	100	200	9	1.5-8.5*	

* pH stability under gradient conditions. pH stability is 1.5 - 10 under isocratic conditions.
† 2.1 mm ID Kinetex columns are pressure stable up to 1000 bar. 3.0 mm and 4.6 mm ID Kinetex 2.6 µm columns are stable up to 600 bar. When using Kinetex 1.3 µm or 1.7 µm, increased performance can be achieved, however high pressure-capable instrumentation is required.

Luna Omega
Cutting Edge Fully Porous Silica

One of the world's leading HPLC brands, now enhanced for incredible HPLC, UHPLC, and Micro LC performance! Luna Omega columns culminate over 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 chromatographic experience to a new level.

Phases

Ligand	Description	Selectivity Profile
	**Luna Omega Polar C18** 100 % aqueous stability and enhanced selectivity/retention for polar analytes without diminishing useful non-polar retention. The C18 ligand provides general hydrophobic interactions while a polar modified particle surface provides enhanced polar compound retention.	
	**Luna Omega PS C18** Unique, 100 % aqueous stable mixed-mode phase that provides both polar and non-polar retention. The surface contains a positive charged ligand which aids in the retention of acidic compounds through ionic interactions, while the C18 ligand promotes general reversed phase hydrophobic retention. The positively charged surface also improves basic compound peaks shape through ionic repulsion.	
	**Luna C18(2)** C18 phase is densely bonded to provide high hydrophobic retention and discriminating steric selectivity. High endcapping reduces electrostatic based selectivity to a minimum.	
	**Luna C8(2)** C8 column provides less hydrophobic retention than our C18, but the density of the ligand bonding creates more steric based selectivity. The C8 columns are generally better hydrogen bond acceptors, and better for acidic compounds.	
	**Luna Phenyl-Hexyl** Our most hydrophobic phenyl column and it will also provide good hydrogen accepting functionality for acidic retention.	
	**Luna HILIC** HILIC phase that provides excellent selectivity for polar compounds; and improved MS sensitivity with low bleed.	

Material Characteristics

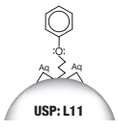
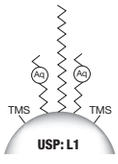
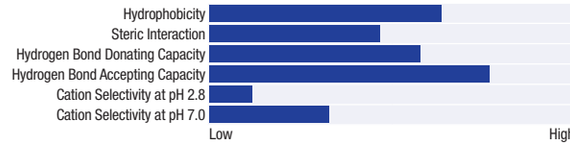
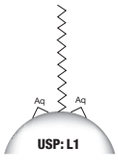
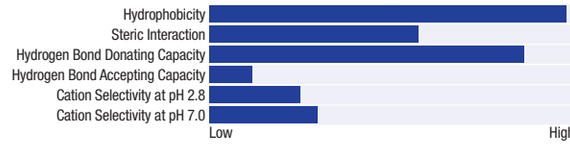
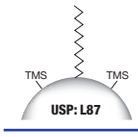
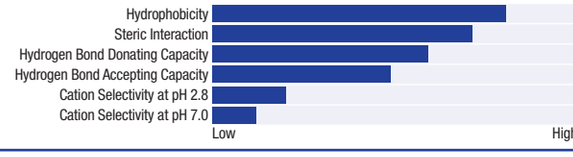
Packing Material	Particle Sizes (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load (%)	pH Stability
Polar C18	3, 5	100	260	9	1.5 - 8.5*
PS C18	3, 5	100	260	9	1.5 - 8.5*
C18(2)	3	100	400	17.5	1.5 - 9.0*
C8(2)	3	100	400	13.5	1.5 - 9.0*
Phenyl-Hexyl	3, 5	100	400	17.5	1.5 - 9.0*
HILIC	3, 5	200	200	5.7	1.5 - 8.0

* pH stability under gradient conditions. pH stability is 1.5 - 10.0 under isocratic conditions.

Synergi
Full Range Selectivity LC Columns

Four unique Synergi phases developed to provide different selectivity for successful separations of the most complex mixtures and challenging analytes. The Synergi's ultra-pure 4 µm particle brings both performance and unique selectivity to your Micro LC separation.

Phases

Ligand	Description	Selectivity Profile
	**Synergi Polar-RP** (100 % Aqueous Stable) This ether linked phenyl column is polar endcapped and offers high cation retention capabilities to improve retention for ionized bases.	
	**Synergi Fusion-RP** (100 % Aqueous Stable) A low ligand density polar embedded C18, this unique phase contributes to hydrogen bonding and donating. It provides balanced selectivity for acids and bases.	
	**Synergi Hydro-RP** (100 % Aqueous Stable) Polar endcapped C18 column that provides very high hydrophobic interactions and hydrogen donating capabilities make this column ideal for retaining polar bases.	
	**Synergi Max-RP** Densely bonded C12 contributes a lot of hydrophobic retention and steric based selectivity. Combined characteristics of the base silica and the bonded phase will also provide hydrogen bonding benefits.	

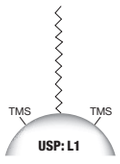
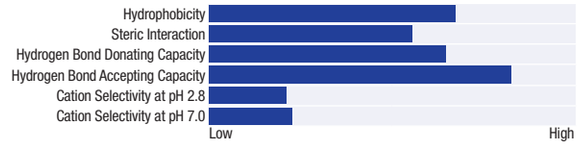
Material Characteristics

Packing Material	Particle Shape/Size (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load %	Endcapping	pH Range
Synergi Polar-RP	4	80	475	11	Hydrophilic	1.5 - 7.0
Synergi Fusion-RP	4	80	475	12	TMS	1.5 - 9.0*
Synergi Hydro-RP	4	80	475	19	Hydrophilic	1.5 - 7.5
Synergi Max-RP	4	80	475	17	TMS	1.5 - 9.0*

* pH stability under gradient conditions. pH stability is 1.5 - 10.0 under isocratic conditions.

Gemini
pH Flexible LC

Rugged HPLC columns that offer extended lifetime under extreme pH conditions (pH 1-12) and excellent stability for reproducible, high efficiency separations.

Phases		
Ligand	**Description**	**Selectivity Profile**
	**Gemini C18** This is a high loading, organo-silane particle column with pH stability 1-12. The patented procedure creates a surface that is a strong hydrogen donor and accepter. It is ideal for acids and bases.	

Material Characteristics

Packing Material	Particle Shape/Size (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load %	Endcapping	pH Range
Gemini C18	3	110	375	14	TMS	1.0 - 12.0

Micro LC
Trap Selectivities

Phenomenex has extended its large range of high-quality reversed phase selectivities to a new 10 mm, direct connect trap format. These high-recovery MicroTraps will allow you to get greater sensitivity power for your micro LC applications.

MicroTraps

Phase	10 x 0.3 mm	10 x 0.5 mm	Unit
MicroTrap C18	05N-4252-AC	05N-4252-AF	3/pk
MicroTrap Polar	05N-4754-AC	05N-4754-AF	3/pk
MicroTrap PS	05N-4753-AC	05N-4753-AF	3/pk
MicroTrap WP C4	05N-4167-AC	05N-4167-AF	3/pk

MicroTraps Fittings

Part No.	Description	Unit
AQ0-7602	PEEKLok™ fittings with 6-40 thread for 1/32" OD tubing (2 x fittings, 6 x ferrules and 1 x tightening tool)	ea
AQ0-7603	PEEKLok fittings with 6-32 thread for 1/32" OD tubing (2 x fittings, 6 x ferrules and 1 x tightening tool)	ea
AQ0-7601	PEEKLok fittings with 10-32 thread for 1/16" OD tubing with low profile hex head (2 x fittings, 6 x ferrules and 1 x wrench)	ea

Tip! It's recommended that you optimize the selectivity between your Micro LC trap and column configuration to maximize your separation performance. See page 2 for phase recommendations.

Micro LC Column Ordering Information

2.6 µm Micro LC Columns (mm)						
Phase	**30 x 0.3**	**50 x 0.3**	**100 x 0.3**	**150 x 0.3**	**50 x 0.5**	**150 x 0.5**
Kinetex® Biphenyl 100 Å	—	00B-4622-AC	—	00F-4622-AC	00B-4622-AF	00F-4622-AF
Kinetex C18 100 Å	—	00B-4462-AC	—	00F-4462-AC	00B-4462-AF	00F-4462-AF
Kinetex EVO C18 100 Å	—	00B-4725-AC	—	00F-4725-AC	00B-4725-AF	00F-4725-AF
Kinetex F5 100 Å	—	00B-4723-AC	00D-4723-AC	00F-4723-AC	00B-4723-AF	00F-4723-AF
Kinetex XB-C18 100 Å	00A-4496-AC	00B-4496-AC	—	00F-4496-AC	00B-4496-AF	00F-4496-AF

3 µm Micro LC Columns (mm)						
Phase	**50 x 0.3**	**100 x 0.3**	**150 x 0.3**	**50 x 0.5**	**100 x 0.5**	**150 x 0.5**
Luna® C8(2)100 Å	00B-4248-AC	00D-4248-AC	—	00B-4248-AF	—	00F-4248-AF
Luna C18(2) 100 Å	00B-4251-AC	00D-4251-AC	00F-4251-AC	00B-4251-AF	00D-4251-AF	00F-4251-AF
Luna NH2 100 Å	00B-4377-AC	—	00F-4377-AC	—	—	
Luna HILIC 200 Å	00B-4449-AC	—	—	—	00D-4449-AF	
Luna Omega PS C18 100 Å	00B-4758-AC	00D-4758-AC	00F-4758-AC	00B-4758-AF	00D-4758-AF	00F-4758-AF
Luna Omega Polar C18 100 Å	00B-4760-AC	00D-4760-AC	00F-4760-AC	00B-4760-AF	00D-4760-AF	00F-4760-AF
Luna Phenyl-Hexyl 100 Å	—	00D-4256-AC	00F-4256-AC	—	00D-4256-AF	
Gemini® C18 110 Å	00B-4439-AC	—	00F-4439-AC	00B-4439-AF	—	00F-4439-AF

4 µm Micro LC Columns (mm)							
Phase	**50 x 0.3**	**100 x 0.3**	**150 x 0.3**	**250 x 0.3**	**50 x 0.5**	**150 x 0.5**	**250 x 0.5**
Synergi™ Max-RP 80 Å	00B-4337-AC	—	—	—	00B-4337-AF	00F-4337-AF	—
Synergi Hydro-RP 80 Å	00B-4375-AC	00D-4375-AC	00F-4375-AC	00G-4375-AC	00B-4375-AF	—	00G-4375-AF
Synergi Fusion-RP 80 Å	00B-4424-AC	—	00F-4424-AC	—	—	00F-4424-AF	—
Synergi Polar-RP 80 Å	—	—	00F-4336-AC	—	—	00F-4336-AF	—
Jupiter® Proteo 90 Å	00B-4396-AC	—	00F-4396-AC	—	00B-4396-AF	00F-4396-AF	—

5 µm Micro LC Columns (mm)					
Phase	**50 x 0.3**	**150 x 0.3**	**50 x 0.5**	**150 x 0.5**	**250 x 0.5**
Luna C8(2) 100 Å	—	00F-4249-AC	—	—	—
Luna C18(2)100 Å	00B-4252-AC	00F-4252-AC	00B-4252-AF	00F-4252-AF	00G-4252-AF
Luna Omega Polar C18 100 Å	00B-4760-AC	00F-4760-AC	00B-4760-AF	00F-4760-AF	—
Luna Omega PS C18 100 Å	00B-4758-AC	00F-4758-AC	00B-4758-AF	00F-4758-AF	—
Luna Phenyl-Hexyl 100 Å	00B-4257-AC	—	00B-4257-AF	00F-4257-AF	—
Jupiter C18 300 Å	00B-4053-AC	00F-4053-AC	00B-4053-AF	00F-4053-AF	—
Jupiter C4 300 Å	00B-4167-AC	00F-4167-AC	00B-4167-AF	00F-4167-AF	—

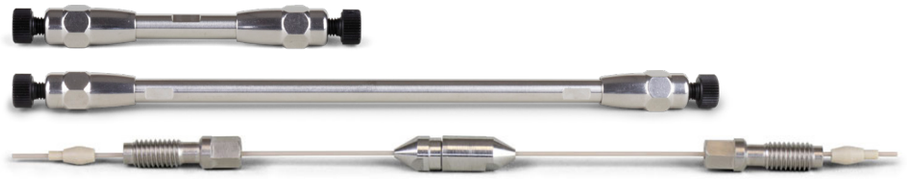
BE-HAPPY™ guarantee

Your happiness is our mission. Take 45 days to try our products. If you are not happy, we'll make it right.

www.phenomenex.com/behappy

- Kinetex®
- Luna® Omega
- Synergi™
- Gemini®
- Luna

SMALL but MIGHTY



NEW Micro LC Columns & Traps

- Compatible with Your System
- Dependable and Available
- Wide Range of Selectivities

Australia
t: +61 (0)2-9428-6444
auinfo@phenomenex.com

Austria
t: +43 (0)1-319-1301
anfrage@phenomenex.com

Belgium
t: +32 (0)2 503 4015 (French)
t: +32 (0)2 511 8666 (Dutch)
beinfo@phenomenex.com

Canada
t: +1 (800) 543-3681
info@phenomenex.com

China
t: +86 400-606-8099
cninfo@phenomenex.com

Denmark
t: +45 4824 8048
nordicinfo@phenomenex.com

Finland
t: +358 (0)9 4789 0063
nordicinfo@phenomenex.com

France
t: +33 (0)1 30 09 21 10
franceinfo@phenomenex.com

Germany
t: +49 (0)6021-58830-0
anfrage@phenomenex.com

India
t: +91 (0)40-3012 2400
indiainfo@phenomenex.com

Ireland
t: +353 (0)1 247 5405
eireinfo@phenomenex.com

Italy
t: +39 051 6327511
italiainfo@phenomenex.com

Luxembourg
t: +31 (0)30-2418700
nlinfo@phenomenex.com

Mexico
t: 01-800-844-5226
tecnicomx@phenomenex.com

The Netherlands
t: +31 (0)30-2418700
nlinfo@phenomenex.com

New Zealand
t: +64 (0)9-4780951
nzinfo@phenomenex.com
franceinfo@phenomenex.com

Norway
t: +47 810 02 005
nordicinfo@phenomenex.com

Poland
t: +48 (12) 881 0121
pl-info@phenomenex.com

Portugal
t: +351 221 450 488
ptinfo@phenomenex.com

Singapore
t: +65 800-852-3944
sginfo@phenomenex.com

Spain
t: +34 91-413-8613
espinfo@phenomenex.com

Sweden
t: +46 (0)8 611 6950
nordicinfo@phenomenex.com

Switzerland
t: +41 (0)61 692 20 20
swissinfo@phenomenex.com

Taiwan
t: +886 (0) 0801-49-1246
twinfo@phenomenex.com

United Kingdom
t: +44 (0)1625-501367
ukinfo@phenomenex.com

USA
t: +1 (310) 212-0555
info@phenomenex.com

All other countries/regions
Corporate Office USA
t: +1 (310) 212-0555
info@phenomenex.com
t: +1 (310) 212-0555
info@phenomenex.com

phenomenex®
...breaking with tradition℠

www.phenomenex.com

Phenomenex products are available worldwide. For the distributor in your country/region, contact Phenomenex USA, International Department at international@phenomenex.com

Terms and Conditions
Subject to Phenomenex Standard Terms & Conditions, which may be viewed at www.phenomenex.com/TermsAndConditions.

Trademarks
Kinetex, Luna, Jupiter, and Gemini are registered trademarks and Synergi, and BE-HAPPY are trademarks of Phenomenex. PEEKLok is a trademark of Trajan Scientific Australia Pty Ltd.

Gemini and Kinetex EVO are patented by Phenomenex. U.S. Patent Nos. 7,563,367 and 8,658,038 and foreign counterparts.

FOR RESEARCH USE ONLY. Not for use in clinical diagnostic procedures.

© 2020 Phenomenex, Inc. All rights reserved.

BR73800420_W