



HPLC Column Selection Guide for Small Molecule Separation

We offer the highest quality consumables for the U/HPLC analysis workflow. Our selection of columns, solvents, standards and sample preparation products are designed for HPLC and LC-MS to make your analysis quick, easy and accurate every time.

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Maximum resolution for fast results in HPLC or UHPLC

Fused-Core® (Superficially porous silica particles, SPP)

- Analytical scale Micro / UHPLC / HPLC
- Highest efficiency (Resolution)

Ascentis® Express

BEST Fused-Core UHPLC column! Fast on any System! The Lab Work-horse column!

1.2 µm	1.7 µm	2.0 µm	2.7 µm	3.3 µm	5.0 µm
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Rapid, Robust and Cost-efficient results with high matrix-tolerance

Monolithic silica

- Scalable from Micro-LC to Semi-Preparative
- Outstanding matrix tolerance, extended lifetime
- Rapid separations at high flow rates and very low column backpressure

Type B Silica

Chromolith®

Average pore size	Macropores	Micropores
Chromolith® Performance (130 Å)	13 nm	2 µm
Chromolith® 2 mm ID (130 Å)	13 nm	1.5 µm
Chromolith® HR (150 Å)	15 nm	1.15 µm

Outstanding reliability and performance in HPLC or UHPLC

Fully porous silica particles (FPP)

- Scalable from Micro-LC to Preparative LC
- High loadability

Type A Silica

Purosphere® STAR Discovery®/Ascentis® Titan®

LiChrospher® Superspher® Supelcosil®

1.9 µm	2 µm	3 µm	3.5 µm	4 µm	5 µm	10 µm
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High pH stability

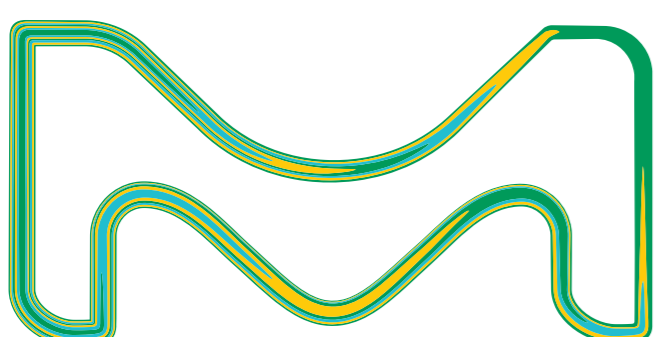
Fully porous polymeric particles

- Analytical HPLC
- pH stability from 0-14

Coming Soon: New Supel™ Carbon LC Column

3 µm	3.5 µm	4 µm
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Retention/Selectivity	Sample Type	Column	Particle Size	MS	Other	
HYDROPHOBIC	Hydrophobic, long chain, structurally related isomers	C30 USP L62	2.7 µm	MS		
		C18 USP L1	2.7, 5 µm	MS	aphera C18 5 µm	
	If too much retention on C18	C8 USP L7	2.7, 5 µm	MS	aphera C8 5 µm	
		RP-Amide USP L60	2.7, 5 µm	MS		
	If poor Peak Shape (Basic Compounds)	F5 (PFP) USP L43	2.7, 5 µm	MS		
		Phenyl USP L11	2.7, 5 µm	MS		
	For aromatic compounds	Pi-Pi Interactions	C1 (Methyl) USP L13			Supelcosil® LC-1, 5 µm
			AQ C18 USP L1	2.7, 5 µm	MS	
	HYDROPHILIC	For polar compounds when elution starts with high water content	Amide USP L68			Supelcosil® Suplex pKb-100, 5 µm
			OHS (Penta) USP L95	2.7, 5 µm	MS	
When retention too short or inadequate Separation on C18		HILIC	Diol USP L20		MS	LiChrospher® Diol, 5, 10 µm
			Cyano USP L10	2.7, 5 µm	MS	LiChrospher® CN, 5, 10 µm
			Amino USP L8		MS	LiChrospher® NH2, 5 µm
			Si USP L3	2.7, 5 µm	MS	LiChrospher® Si 60, 5, 10 µm
For polar, hydrophilic, ionic compounds		Ion Exchange	ZIC-HILIC USP L114 USP L122		MS	USP 122 SeQuant® ZIC-pHILIC 3, 5 µm
			ZIC-cHILIC		MS	
		Ion Exclusion	SCX USP L9/ L52			Supelcosil® LC-SCX, 5 µm
			SAX USP L14			Supelcosil® SAX1, 5 µm
		Ca USP L19			SUPELCOGEL™ Ca, 9 µm	
		H USP L17			SUPELCOGEL™ H, 9 µm	
		Pb USP L34			SUPELCOGEL™ Pb, 9 µm	



MS Preferred column for LC-MS use

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