



# 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, 2.0 µm, 2.7 µm, 3.3 µm, 5.0 µm

**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®**

1.9 µm, 2 µm, 3 µm, 3.5 µm, 4 µm, 5 µm, 10 µm

**High pH stability**

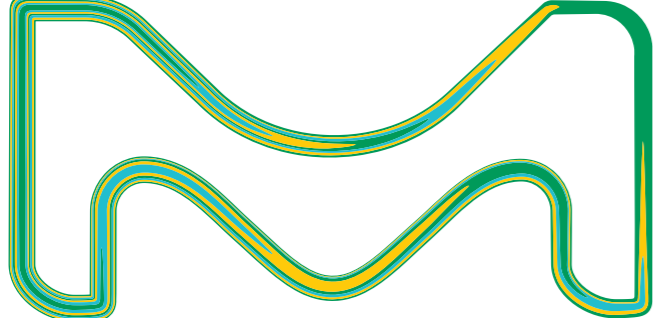
**Fully porous polymeric particles**

- Analytical HPLC
- pH stability from 0-14

**Coming Soon: New Supel™ Carbon LC Column**

3 µm, 3.5 µm, 4 µm

Retention/Selectivity	Sample Type	Column	Particle Size	MS	Other		
HYDROPHOBIC	Fat soluble vitamins (A, D, E, K) Lipids Carotenoid isomers	C30 USP L62	2.7 µm	MS	Ascentis Express® C30		
	Diverse analytes ranging from medium polar to non-polar	C18 USP L1	2.7, 5 µm	MS	Ascentis Express® C18, Ascentis Express® Peptide C18	Chromolith® RP-18 endcapped, Chromolith® HR RP-18 endcapped	
		C8 USP L7	2.7, 5 µm	MS	Ascentis Express® C8	Chromolith® RP-8 endcapped, Chromolith® HR RP-8 endcapped	
	If too much retention on C18	Amino Acids Esters	C8 USP L7	2.7, 5 µm	MS	Ascentis Express® C8	Chromolith® RP-8 endcapped, Chromolith® HR RP-8 endcapped
			RP-Amide USP L60	2.7, 5 µm	MS	Ascentis Express® RP-Amide	Discovery® RP-AmideC16, Ascentis® RP-Amide
	If poor Peak Shape (Basic Compounds)	Closely related compounds	RP-Amide USP L60	2.7, 5 µm	MS	Ascentis Express® RP-Amide	Discovery® RP-AmideC16, Ascentis® RP-Amide
			F5 (PFP) USP L43	2.7, 5 µm	MS	Ascentis Express® F5	Discovery® HS F5
	For aromatic compounds	Pi-Pi Interactions	Phenyl USP L11	2.7, 5 µm	MS	Ascentis Express® Phenyl-Hexyl, Ascentis Express® Biphenyl	Chromolith® Phenyl, Purosphere® STAR Phenyl, Ascentis® Phenyl
			C1 (Methyl) USP L13			Supelcosil® LC-1	
	HYDROPHILIC	For polar compounds when elution starts with high water content	AQ C18 USP L1	2.7, 5 µm	MS	Ascentis Express® AQ C18	Purosphere® STAR RP-18 endcapped
Amide USP L68					Supelcosil® Suplex pKb-100		
When retention too short or inadequate Separation on C18		HILIC	OHS (Penta) USP L95	2.7, 5 µm	MS	Ascentis Express® OHS	
			Diol USP L20	2.7, 5 µm	MS	Ascentis Express® Diol	Chromolith® Diol, GreenSep® Diol, Astec® Diol
Polar analytes and sugars		Cyano USP L10	2.7, 5 µm	MS	Ascentis Express® ES-Cyano	Chromolith® CN, Discovery® CN, Ascentis® ES-Cyano	
		Amino USP L8	2.7, 5 µm	MS	Ascentis Express® Amino	Chromolith® NH2, Purosphere® STAR NH2	
Polar and very polar bases, acids and neutrals, especially with Log P < 0.5		Si USP L3	Si USP L3	2.7, 5 µm	MS	Ascentis Express® HILIC	Chromolith® Si, Purosphere® STAR Si, Ascentis® Si
			ZIC-HILIC USP L114 USP L122	3.5, 5 µm	MS	USP 114 (Sulfobetain) SeQuant® ZIC-HILIC	USP 122 SeQuant® ZIC-pHILIC
For polar, hydrophilic, ionic compounds		Ion Exchange	SCX USP L9/ L52			Supelcosil® LC-SCX	
			SAX USP L14			Supelcosil® SAX1	
	Ion Exclusion	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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