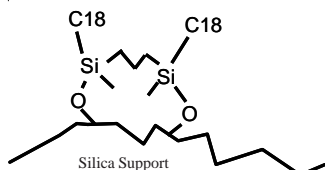


Agilent HPLC Columns – Zorbax Extend-C18

- High efficiency and long life at high pH – up to pH 11.5
- Unique bidentate bonding and double endcapping provides high pH stability
- More efficiency and better peak shape than polymer-based columns
- Improve retention, resolution and peak shape of basic compounds
- High sensitivity for LC/MS separations of peptides



New bidentate C18-C18 bonding for Extend-C18 bonded phase

The Agilent Zorbax Extend-C18 column uses a new bidentate C18-C18 column bonding technology to make high pH separations a good choice with a silica-based column. At high pH, non-charged basic compounds will not interact with the silica, so it is possible to do separations with high efficiency, superior peak shape and improved resolution. Some of the mobile phase buffer options for high pH include triethylamine, pyrrolidine, glycine, borate and ammonium hydroxide. Ammonium hydroxide at pH 10.5 is an excellent mobile phase modifier for the LC/MS of peptides and small molecules with improved sensitivity compared with TFA containing mobile phase at low pH.

Zorbax Extend-C18 Column Specifications

Bonded Phase	Pore Size	Surface Area	Temp Limits*	pH Range	Carbon Endcapped	Carbon Load
Extend-C18 **	180m ² /g	60° C	2.0 - 11.5	Double	12.5%	

*Temperature limits are 60° C up to pH 8, 40° C for pH 8-11.5.

**80Å or 300Å, as indicated in ordering information table below.

Zorbax Extend-C18 Columns

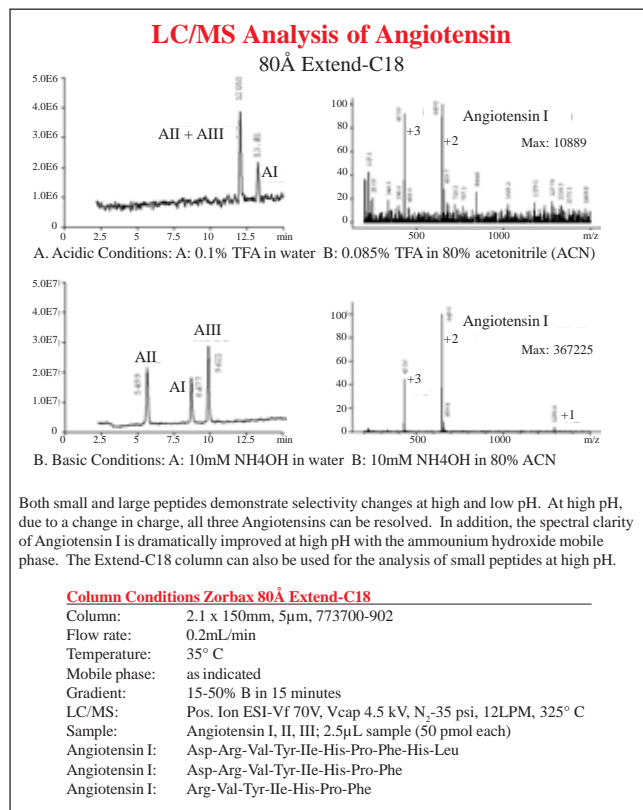
Dimensions (mm)	Particle Size (µm)	80Å Extend-C18	300Å Extend-C18
4.6 x 250	5	770450-902	770995-902
4.6 x 150	5	773450-902	773995-902
4.6 x 50	5	746450-902	
4.6 x 150	3.5	763953-902	763973-902
4.6 x 100	3.5	764953-902	761973-902
4.6 x 75	3.5	766953-902	
4.6 x 50	3.5	735953-902	765973-902
3.0 x 150	3.5	763954-302	
3.0 x 50	3.5	735954-302	
2.1 x 150	5	773700-902	
2.1 x 50	5	760450-902	
2.1 x 100	3.5	761753-902	761775-902
2.1 x 50	3.5	735700-902	765750-902
1.0 x 150	3.5	763600-902	
1.0 x 50	3.5	765600-902	
1.0 x 30	3.5	761600-902	
1.0 x 17, 3/pk	5	5185-5923	

Guard Cartridges (requires hardware kit 820888-901)

4.6 x 12.5, 4/pk	5	820950-930	820950-932
2.1 x 12.5, 4/pk	5	821125-930	821125-932

Guard Hardware Kit (fits 4.6 and 2.1mm ID cartridges)

Hardware kit	-	820888-901	820888-901
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Extend-C18 Provides Good Peak Shape at Low pH

These basic compounds are separated on the Extend-C18 at low pH with excellent peak shape. The Extend-C18 column can be used at high and low pH.

Column Conditions Zorbax Extend-C18

Column: 4.6 x 150mm, 5µm, 773450-902

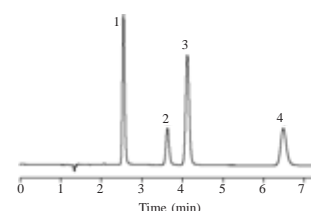
Mobile phase: 80% 25mM NaH₂PO₄, pH 3.0, 20% MeOH

Flow rate: 1.0mL/min

Temperature: 35° C

Detection: UV 254 nm

Sample: 1. Theobromine
2. Dimethylxanthine
3. Theophylline
4. Caffeine



Improved Retention, Resolution and Peak Shape of Basic Antihistamines on Extend-C18 at High pH

Pseudoephedrine and scopolamine are difficult to retain at low and mid pH. Pseudoephedrine is often analyzed by ion exchange methods. The Extend-C18 column retains these compounds in a noncharged form at high pH and improves resolution.

Column Conditions Zorbax Extend-C18

Column: 4.6 x 150mm, 5µm, 773450-902

Mobile phase: **pH 7:** 30% 20mM Na₂HPO₄, 70% MeOH
pH 11: 30% 20mM TEA, 70% MeOH

Flow rate: 1.0mL/min

Temperature: Ambient

Detection: UV 254 nm

Sample: 1. Maleate 5. Chlorpheniramine
2. Scopolamine 6. Triprolidine
3. Pseudoephedrine 7. Diphenhydramine
4. Doxylamine

