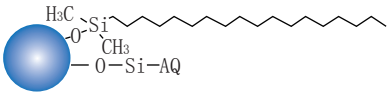
Ultisil® AQ-C18
--The most widely used column in food industry

Ultisil® AQ-C18 columns are designed to have extended retention and selectivity for hydrophilic and polar compounds, which are poorly or not at all retained on other phases. A proprietary bonding chemistry, Ultisil® AQ-C18 avoids so-called "phase collapse", even when 100% water is used, a phenomenon that conventional C18 columns typically exhibit at high water content in the mobile phase. Ultisil® AQ-C18 phase is fully end-capped to ensure the best peak shapes of polar and basic compounds and longer lifetime. Typical applications are separations of water soluble compounds that cannot be retained on traditional C18 phase. Examples include biomolecules, metabolites, and pharmaceutical degradants such as organic acids, water-soluble vitamins, oligosaccharides, amino acids, and small peptides and nucleotides.

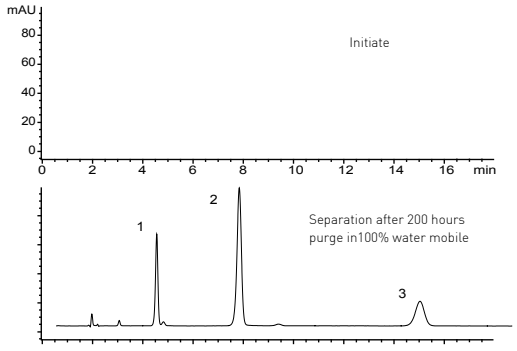
Features:

- **No phase collapse, suitable for high aqueous mobile phase**
- **Less retentive than XB-C18 for non-polar compounds**
- **Increased retention for polar and water-soluble compounds**

Ultisil® AQ-C18

Structural Formula	
pH Range	1.5-10.0
Particle Size	3 μm, 5 μm, 10 μm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	12(120 Å)
USP List	L1/L96
Endcapped	Yes

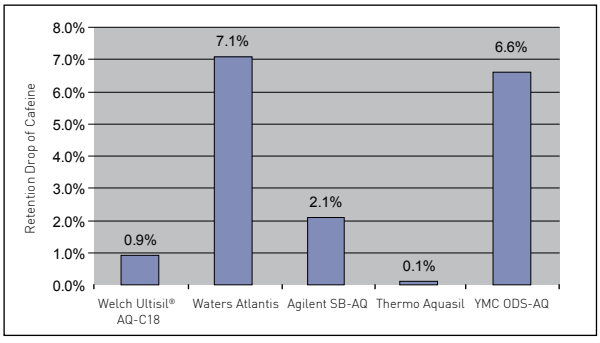
Phase collapse research



Column:	Ultisil® AQ-C18, 4.6 ×100 mm, 5 μm
Mobile Phase:	Acetonitrile/50 mM phosphate(pH 3.5)=10/90
Detector:	215nm
Temperature:	25°C
Flow Rate:	1.0 mL/min
Samples:	1.Theophylline 2.Caffeine 3.Phenol

Phase Collapse Comparison with Other Brands

Peak shape is excellent for acid, basic and neutral samples on AQ-C18. When in highly aqueous mobile phase, retention for polar compounds such as organic acids, peptides, nucleosides and water soluble vitamins is strong.
Under the same condition, when compared with other brands in highly aqueous mobile phase, Ultisil® AQ-C18 shows excellent resistance to phase collapse.



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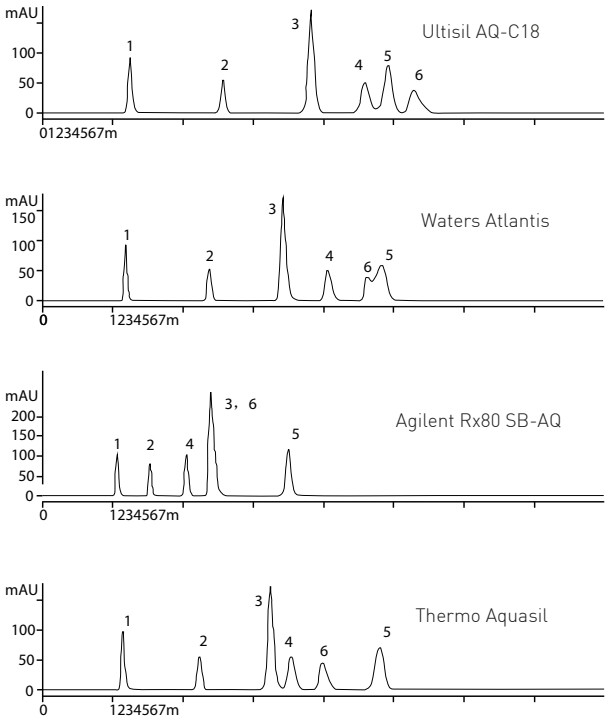
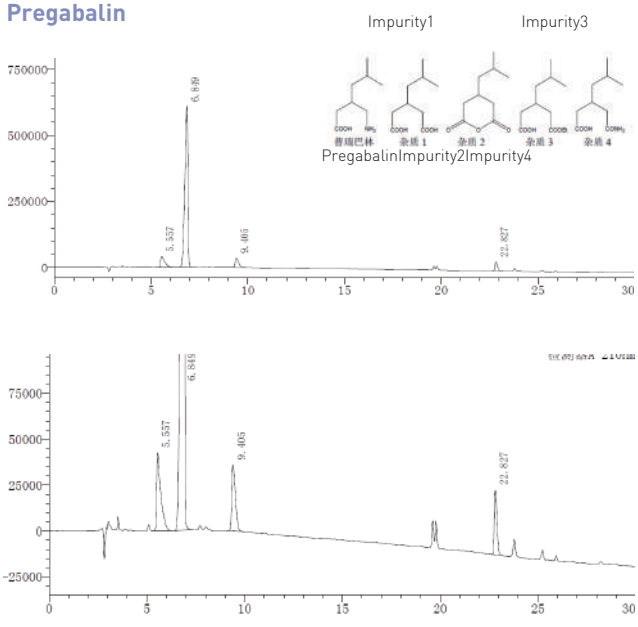


Column:	Ultisil® AQ-C18, 4.6 ×100 mm, 5 µm
Mobile Phase:	50 mM phosphate, pH2.5
Detector:	210 nm
Temperature:	25°C
Flow Rate:	1.0 mL/min
Samples:	1.Oxalic acid 2.Lactic acid 3.Maleic acid 4.Citric acid 5.Fumaric acid 6.Succinic acid

How to choose XB-C18 and AQ-C18?

XB-C18	AQ-C18
• Suitable for separation of most pharmaceuticals, environment and chemical compounds • Excellent peak shape for basic and polar samples	• Suitable for water soluble strong polar samples, such as traditional Chinese medicine ingredients, food, beverage, organic acids, peptides, nucleosides and water solution vitamins • Best choice for mobile phase that contains≤20% organic content

Pregabalin



Column:	Ultisil® AQ-C18, 4.6 ×250 mm, 5 µm
Mobile Phase:	A: 40 mm $(NH_4)_2HPO_4$/methanol=80/20 B: acetonitrile/methanol=90/10
Gradient Program:	Time(min) AB 0 9 8 2 5 9 8 2 30 5 0 50 31 5 0 2
Flow Rate:	1.0 mL/min
Detector:	210 nm
Temperature:	35°C
Injection Volume:	20 µL

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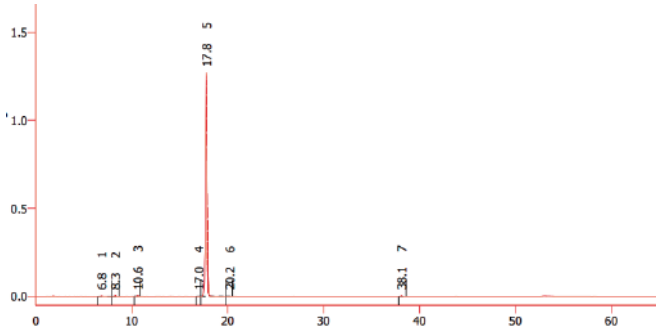
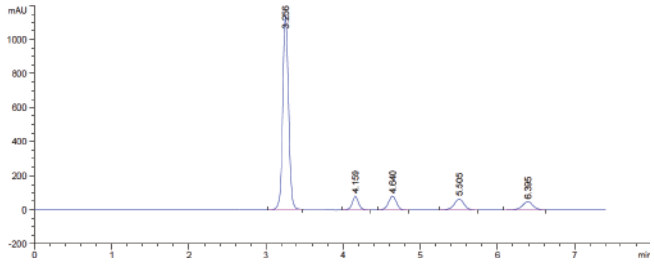
Vilazodone hydrochloride



Column:	Ultisil® AQ-C18, 4.6 ×250 mm, 5 μm
Mobile Phase:	Mobile phase A: 0.025 mol/L K_2HPO_4, adjust pH 6.0 with H_3PO_4 Mobile Phase B: acetonitrile
Gradient Program:	Time(min) AB 07525 37525 256040 403565 503565 50.17525 657525
Flow Rate:	1.0 mL/min
Detector:	240 nm
Temperature:	40°C
Injection Volume:	20 μL

NMN(nicotinamide mononucleotide)



Column:	Ultisil® AQ-C18, 4.6 ×250 mm, 5 μm
Mobile Phase:	40mM KH_2PO_4 solution*/methanol=68/32 *Dissolve 2.72 g of KH_2PO_4 and 0.85 g of TBAHS in 500 mL water, adjust pH 6.2 with 1 mol/L KOH
Detector :	259 nm
Temperature :	25 °C
Flow Rate :	1.0 mL/min
Injection Volume	10 μL
Samples:	1.NMN 2.nicotinamide 3.AMP 4.ADP 5.ATP

Ordering Information

Ultisil® AQ-C18

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300	10mm length	
3 μm 120 Å	2.1	H00207-21009	H09207-21009	H00207-21010	H00207-21011	H00207-21012	H00207-21013	H00207-21014	H00207-21015	H00207-21016	-	H00808-23003	00808-01107
	3.0	H00207-21018	-	H00207-21019	H00207-21020	H00207-21021	H00207-21022	H00207-21023	H00207-21024	H00207-21025	-	H00808-23003	00808-01107
	4.0	H00207-21027	-	H00207-21028	H00207-21029	H00207-21030	H00207-21031	H00207-21032	H00207-21033	H00207-21034	-	H00808-03003	00808-01101
	4.6	H00207-21036	H11207-21036	H00207-21037	H00207-21038	H00207-21039	H00207-21040	H00207-21041	H00207-21042	H00207-21043	-	H00808-03003	00808-01101
5μm 120Å	2.1	H00207-31009	H09207-31009	H00207-31010	H00207-31011	H00207-31012	H00207-31013	H00207-31014	H00207-31015	H00207-31016	-	H00808-24003	00808-01107
	3.0	H00207-31018	-	H00207-31019	H00207-31020	H00207-31021	H00207-31022	H00207-31023	H00207-31024	H00207-31025	-	H00808-24003	00808-01107
	4.0	H00207-31027	-	H00207-31028	H00207-31029	H00207-31030	H00207-31031	H00207-31032	H00207-31033	H00207-31034	H00207-31035	H00808-04003	00808-01101
	4.6	H00207-31036	H11207-31036	H00207-31037	H00207-31038	H00207-31039	H00207-31040	H00207-31041	H00207-31042	H00207-31043	H00207-31044	H00808-04003	00808-01101
10 μm 120Å	4.0	-	-	-	-	-	-	H00207-41032	H00207-41033	H00207-41034	H00207-41035	H00808-05003	00808-01101
	4.6	-	-	-	-	-	-	H00207-41041	H00207-41042	H00207-41043	H00207-41044	H00808-05003	00808-01101

Don't see your needed size or format? Contact Welch or your local distributor for other dimensions.

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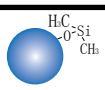
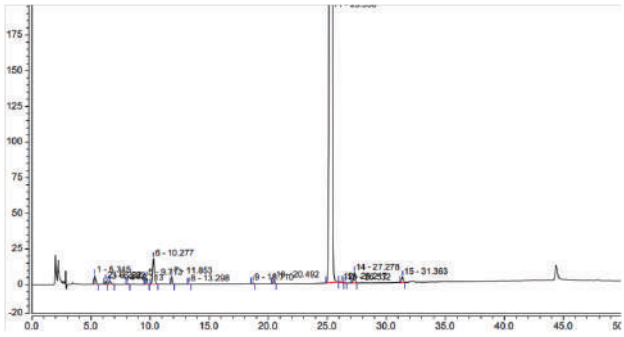
Ultisil® Plus C18

Ultisil® Plus C18 HPLC Column is a new generation of C18 column introduced by Welch. Plus C18 adopts unique bonding technique and double endcapping technique, leading to excellent peak shape, separation efficiency, stability and reproducibility.

Ultisil® Plus C18

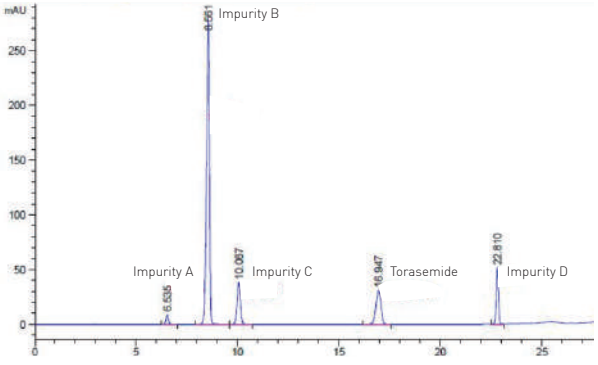
Structural Formula			
pH Range	2.0-8.0	Carbon Loading(%)	10(130 Å)
Particle Size	3.5 μm, 5 μm	USP List	L1
Surface Area(m^2/g)	160(130 Å)	Endcapped	Yes

Lansoprazole



Column:	Ultisil® Plus C18, 4.6 ×150 mm, 5 μm
Mobile Phase:	A: water B: acetonitrile/water/ triethylamine=160 /40/1(%)(adjust pH 7.0 with H_3PO_4)
Gradient Program:	Time(min) A(%) B(%) 0 90 10 40 20 80 50 20 80 51 90 10 65 90 10
Flow Rate:	0.8 mL/min
Detector:	285 nm
Temperature:	25°C
Injection Volume:	40 μL

Torasemide



Column:	Ultisil® Plus C18, 4.6 ×250 mm, 5 μm
Mobile Phase:	A: 0.02 mol/L KH_2PO_4, adjust pH 3.5 with H_3PO_4 B: methanol
Gradient Program:	Time(min) A(%) B(%) 0 60 40 13 60 40 27 20 80 31 60 40 35 60 40
Flow Rate:	1 mL/min
Detector:	288 nm
Temperature:	40°C
Injection Volume:	20 μL

Ordering Information

Ultisil® Plus C18

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300	10mm length	
3.5 μm 120 Å	2.1	H00260-20009	H09260-20009	H00260-20010	H00260-20011	H00260-20012	H00260-20013	H00260-20014	H00260-20015	H00260-20016	-	H00808-23024	00808-01107
	3.0	H00260-20018	-	H00260-20019	H00260-20020	H00260-20021	H00260-20022	H00260-20023	H00260-20024	H00260-20025	-	H00808-23024	00808-01107
	4.0	H00260-20027	-	H00260-20028	H00260-20029	H00260-20030	H00260-20031	H00260-20032	H00260-20033	H00260-20034	-	H00808-03036	00808-01101
	4.6	H00260-20036	H11260-20036	H00260-20037	H00260-20038	H00260-20039	H00260-20040	H00260-20041	H00260-20042	H00260-20043	-	H00808-03036	00808-01101
5 μm 120 Å	2.1	H00260-31009	H09260-31009	H00260-31010	H00260-31011	H00260-31012	H00260-31013	H00260-31014	H00260-31015	H00260-31016	-	H00808-24029	00808-01107
	3.0	H00260-31018	-	H00260-31019	H00260-31020	H00260-31021	H00260-31022	H00260-31023	H00260-31024	H00260-31025	-	H00808-24029	00808-01107
	4.0	H00260-31027	-	H00260-31028	H00260-31029	H00260-31030	H00260-31031	H00260-31032	H00260-31033	H00260-31034	H00260-31035	H00808-04036	00808-01101
	4.6	H00260-31036	H11260-31036	H00260-31037	H00260-31038	H00260-31039	H00260-31040	H00260-31041	H00260-31042	H00260-31043	H00260-31044	H00808-04036	00808-01101

Don't see your needed size or format? Contact Welch or your local distributor for other dimensions.

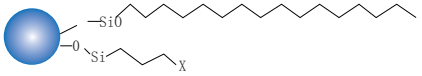
Ultisil® ALK-C18

Ultisil® ALK-C18 is a new generation of C18 column introduced by Welch. In this column, hydrophilic groups are bonded into the silica surface, where large number of silanol groups are replaced, reducing the interactions between basic samples and the silanol groups. As a consequence, the selectivity of ALK-C18 is different from that of traditional C18.

Features:

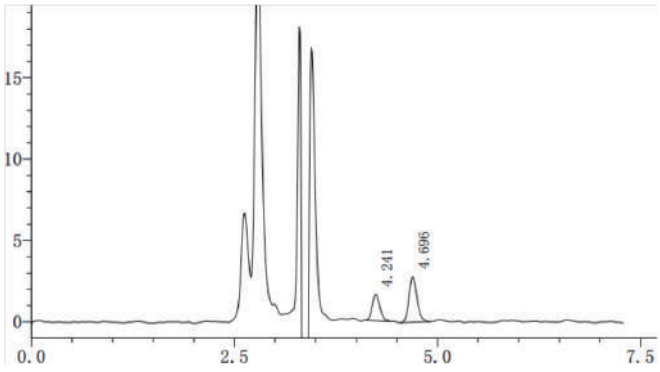
- **Mixed solid phase with both hydrophobic and electrostatic interactions**
- **Excellent peak shape for basic compounds**
- **Fast separation of similar samples on a column**

Ultisil® ALK-C18

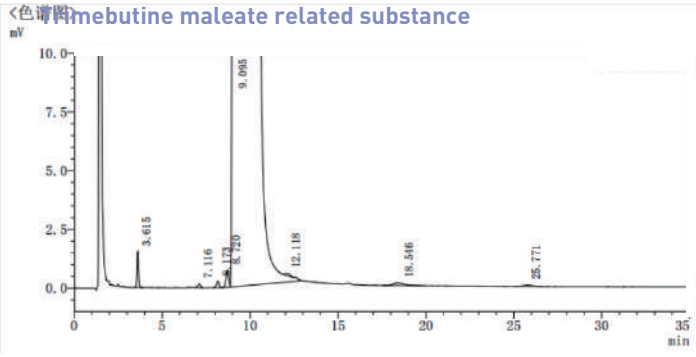
Structural Formula	
pH Range	1.5-10.0
Particle Size	5 μm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	12(120 Å)
USP List	L1
Endcapped	Yes

AspartanL-aspartyl-L-phenylalanine

Column:	Ultisil® ALK-C18, 4.6 ×250 mm, 5 μm
Mobile Phase:	Citrate buffer/methanol=67/33
Flow Rate:	1.0 mL/min
Detector:	254 nm
Temperature:	30°C
Injection Volume:	20 μl



Trimebutine maleate related substance



Column:	Ultisil® ALK-C18, 4.6 ×150 mm, 5 μm
Mobile Phase:	Perchloric acid buffer/acetonitrile=66/35
Flow Rate:	1.1 mL/min
Detector:	254 nm
Temperature:	40°C
Injection Volume:	20 μl

Ordering Information

Ultisil® ALK-C18

Particle size	Column ID (mm)	Column Length (mm)			Guard Cartridge	Cartridge holder
		150	200	250	10mm length	
5 μm	4.6	H00253-31041	H00253-31042	H00253-31043	H00808-0403300808-01101	

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