

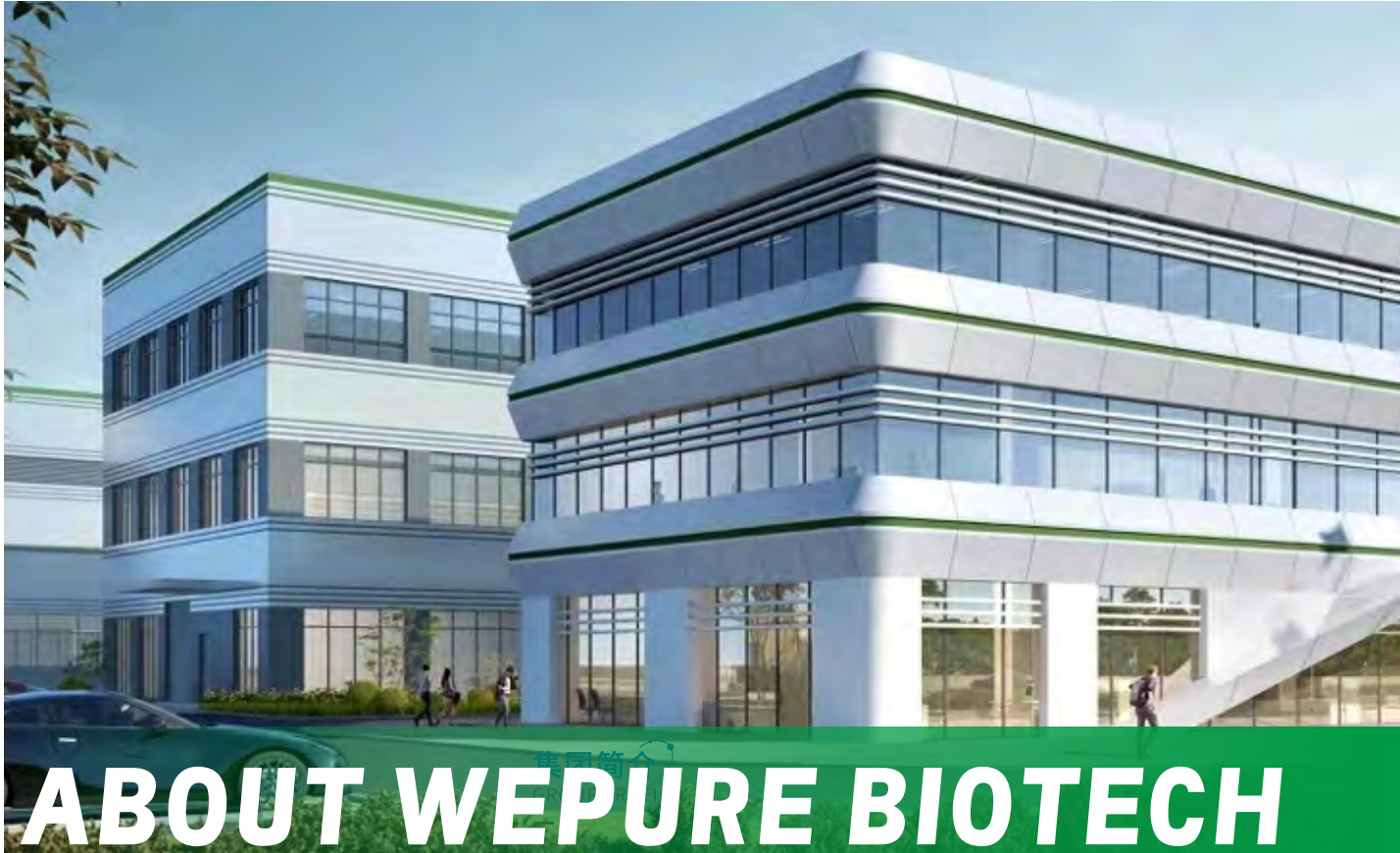


**WE PURE**  
微纯生物科技



# CHROMATOGRAPHIC PRODUCT MANUAL

**微纯生物科技(广州)有限公司**  
WePure Biotech (Guangzhou) Co., Ltd.



WePure Biotech is committed to "Becoming an excellent supplier of Global Analysis, Testing, Separation & Purification Solution". It is one of the few manufacturers in the world that fully masters the preparation technology of liquid chromatography silica gel and resin material. With more than 20 years of industry experience, the team has accumulated rich product application and method development experience. The company possesses a complete industrial chain that covers the production of raw material monomers for silica gel and resin microspheres, internationally leading surface bonding modification technology, analytical column, semi-prep column, and preparation packing material. It provides high-quality, cost-effective, stable supply, and rapid delivery of products and services to industries, such as pharmaceutical, biotechnology, food safety, chemical, and environment.

The company's main products include MicroPulite<sup>®</sup> analytical Columns, BioPulite<sup>®</sup> Bioanalytical column, PrePulite<sup>®</sup> Semi-Prep Columns/Semi-prep and Industrial Preparative Material, Upulite<sup>®</sup> Sample Pre-Prep Packing Material/SPE, and WeChromlite<sup>®</sup> Guard Column of analytical /Semi-Prep column.

WePure has a 1,950 square meter R&D, production and application development base in the Guangdong Medical Valley National Incubation Park in Nansha District, Guangzhou, China, and a 5,000 square meter production base in a subsidiary of WePure Biotech (Foshan). The Company purchased 40 acres of M3 industrial land in Guangdong Wengyuan Innovative API Industrial Park in December 2023, and is building its own 21,000 square meters production base.



"WePure" Headquarter located in Guangdong



"WePure" production base in Foshan



"WePure" production base in Shaoguan Guangdong



## **3 WePure Biotech's three technology platforms**

### **■ Stable porous microsphere syntheses technology**

WePure can produce microsphere in a stable and large scale, includes 17 $\mu$ m-100 $\mu$ m high-purity silica, organic-inorganic structure hybrid silica ( XP ) and high-strength silica ( HSS )、inorganic-inorganic structure hybridized SiZ microspheres and so on.

### **■ Advanced surface modification technology**

WePure provides triple bond C18/C8, double bond C18/C8, single bond C18/C8,  $\text{NH}_2$ , Amide, Hexyl-Phenyl, Fluoro-Phenyl ( PFP ) , Diol, RP18/18 Plus, PHS charged modification technology, unique T3 bond technology, mix mode bond technology, meet the needs of analysis, separation and purification.

### **■ High efficient and stable columns packing platform**

WePure products cover UPLC、UHPLC、HPLC and semi-preparative columns, with stable production technology and strict testing, ensure excellent stability and reproducibility of column to column, batch to batch.

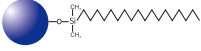
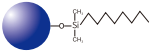
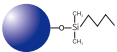


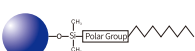
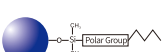


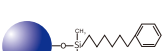
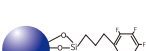

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## Columns Parameter Guide

Column Series	Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
MicroPulite® Gold	C18		18%	300	Yes	120Å	3, 3.5, 5, 10µm	L1	2-8	60°C (Low pH) 40°C (High pH)
	C8		12%	300	Yes	120Å	3, 3.5, 5, 10µm	L7	2-8	60°C (Low pH) 40°C (High pH)
	C4		3.9%	300	Yes	120Å	3, 3.5, 5µm	L26	2-8	60°C (Low pH) 40°C (High pH)
	RP C18		20%	300	Yes	120Å	3, 3.5, 5µm	L1	1-8	60°C (Low pH) 40°C (High pH)
	RP18 Plus		17%	300	Yes	120Å	3, 3.5, 5µm	L1	2-8	60°C (Low pH) 40°C (High pH)
	RP8 Plus		15%	300	Yes	120Å	3, 3.5, 5µm	L7	2-8	60°C (Low pH) 40°C (High pH)
	RP4 Plus		3.9%	300	Yes	120Å	3, 3.5, 5µm	L26	2-8	60°C (Low pH) 40°C (High pH)
	NH <sub>2</sub>		3.8%	300	Yes	120Å	3.5, 5µm	L8	2-8	60°C (Low pH) 40°C (High pH)
	HILIC		-	300	Yes	120Å	3, 3.5, 5µm	L3	2-7	60°C (Low pH) 40°C (High pH)
	Phenyl-Hexyl		13%	300	Yes	120Å	3, 3.5, 5µm	L11	2-8	60°C (Low pH) 40°C (High pH)
	PFP		10%	300	Yes	120Å	3, 3.5, 5µm	L43	2-8	60°C (Low pH) 40°C (High pH)
	CN		5%	300	Yes	120Å	5µm	L10	2-8	45°C (Low pH) 45°C (High pH)
	MicroPulite® Platinum	C18	Special C18	16%	320	Yes	100Å	3.5, 5µm	L1	1-8
C8		Special C8	12%	320	Yes	100Å	3.5, 5µm	L7	1-8	40°C (Low pH) 40°C (High pH)

Column Series	Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
MicroPulite® XP	tC18		18%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)
	tC8		13%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L7	1-12	60°C (Low pH) 60°C (High pH)
	tc4		9.5%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L26	1-10	80°C (Low pH) 50°C (High pH)
	RP18		18%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L1	2-11	50°C (Low pH) 45°C (High pH)
	RP18 Plus		17%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L1	2-11	50°C (Low pH) 45°C (High pH)
	NH <sub>2</sub>		9%	185	No	130Å	3.5, 5µm	L8	1-9	45°C (Low pH) 45°C (High pH)
	T3		14%	185	Yes	130Å	3.5, 5,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)
	Phenyl-Hexyl		15%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, µm	L11	1-12	80°C (Low pH) 60°C (High pH)
	Amide		17%	185	No	130Å	1.7,2.5,3, 3.5, 5, µm	L68	2-11	90°C (Low pH) 90°C (High pH)
	HILIC		-	185	No	130Å	1.7,2.5,3, 3.5, 5, µm	L3	1-9	45°C (Low pH) 45°C (High pH)
	Oligo tC18		18%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)
	tPFP		7%	185	No	130Å	3.5,5µm	L43	1-8	45°C (Low pH) 45°C (High pH)
	tC18/PFP		14.5%	185	No	130Å	3.5, 5µm	L43	1-12	45°C (Low pH) 45°C (High pH)

Column Series	Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
MicroPulite® PHS XP	tC18		17%	185	Yes	130Å	1.7,2.5,3, 3.5, 5, 7,10µm	L1	1-11	80°C (Low pH) 45°C (High pH)
	Phenyl-Hexyl		15%	185	Yes	130Å	3.5, 5, 7,10µm	L11	1-11	80°C (Low pH) 45°C (High pH)
	tF5		10%	185	No	130Å	3.5, 5, 7,10µm	L43	1-8	60°C (Low pH) 45°C (High pH)
MicroPulite® Perfect	T3		14%	300	Yes	120Å	3, 5, 10µm	L1	2-8	45°C (Low pH) 45°C (High pH)
	T3 SB		14%	300	Yes	120Å	3, 5, 10µm	L1	2-8	45°C (Low pH) 45°C (High pH)
	Diol		15%	300	Yes	120Å	3, 5, 10µm	L1	2-11	60°C (Low pH) 60°C (High pH)
	HILIC		-	300	No	120Å	3, 5, 10µm	L3	1-5	45°C (Low pH) 45°C (High pH)
MicroPulite® HSS	T3		11%	230	Yes	100Å	1.8,2.5, 3.5µm	L1	1-12	45°C (Low pH) 45°C (High pH)
BioPulite®	XP Protein tC18		12%	100	Yes	300Å	3.5, 5µm	L1	1-12	80°C (Low pH) 60°C (High pH)
	XP Protein tC4		8%	100	Yes	300Å	3.5, 5µm	L26	1-12	80°C (Low pH) 50°C (High pH)
	XP Protein RP18		12%	100	Yes	300Å	3.5, 5µm	L1	2-11	50°C (Low pH) 45°C (High pH)
	XP Protein RP18 Plus		17%	100	Yes	300Å	3.5, 5µm	L1	2-11	50°C (Low pH) 45°C (High pH)
	Gold Protein C4		1.3%	100	Yes	300Å	5µm	L26	2-8	60°C (Low pH) 40°C (High pH)
	Gold Protein C18		8.5%	100	Yes	300Å	5µm	L1	2-8	60°C (Low pH) 40°C (High pH)

The red words means the column is compatible with 100% aqueous phase





# MicroPulite® Gold Series:

## The good choice of cost-effective columns


MicroPulite® Gold series column use high purity silica particles and is produced under ISO9001 strict quality control system, all these make excellent peak shape , outstanding batch-to-batch stability and reproducibility. The Gold series provides C18 ,C8 ,NH<sub>2</sub> and other bonded phases, and is the good choice of cost-effective column for daily analysis and test.

- Sharp peak and high column efficiency
- General purpose column , with good reproducibility between columns and batches
- Stable in pH 2—8
- Generally applied in the field of pharmaceutical, environment and food safety

Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Gold C18		18%	120Å	3, 3.5, 5, 10µm	L1	2-8	60°C (Low pH) 40°C (High pH)
Gold C8		12%	120Å	3, 3.5, 5, 10µm	L7	2-8	60°C (Low pH) 40°C (High pH)
Gold C4		3.9%	120Å	3, 3.5, 5µm	L26	2-8	60°C (Low pH) 40°C (High pH)
Gold RP C18		20%	120Å	3, 3.5, 5µm	L1	1-8	60°C (Low pH) 40°C (High pH)
Gold RP18 Plus		17%	120Å	3, 3.5, 5µm	L1	2-8	60°C (Low pH) 40°C (High pH)
Gold RP8 Plus		15%	120Å	3, 3.5, 5µm	L7	2-8	60°C (Low pH) 40°C (High pH)
Gold RP4 Plus		3.9%	120Å	3, 3.5, 5µm	L26	2-8	60°C (Low pH) 40°C (High pH)
Gold NH <sub>2</sub>		3.8%	120Å	3.5, 5µm	L8	2-8	60°C (Low pH) 40°C (High pH)
Gold HILIC		-	120Å	3, 3.5, 5µm	L3	2-7	60°C (Low pH) 40°C (High pH)
Gold Phenyl-Hexyl		13%	120Å	3, 3.5, 5µm	L11	2-8	60°C (Low pH) 40°C (High pH)
Gold PFP		10%	120Å	3, 3.5, 5µm	L43	2-8	60°C (Low pH) 40°C (High pH)
Gold CN		5%	120Å	5µm	L10	2-8	45°C (Low pH) 45°C (High pH)

# MicroPulite® Gold C18 Column

As a general purpose C18 column, Gold C18 not only provides symmetrical peak shape, excellent separation and good batch stability, but also has a super cost-effective price, which can meet the daily analytical needs in different fields such as pharmaceutical, food, environment and chemical industry.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
C18		18%	300	Yes	120Å	3, 3.5, 5, 10µm	L1	2-8	60°C (Low pH) 40°C (High pH)

## ◆ Characteristic

- Octadecyl silane chemically bonded to porous silica particles
- General, Cost-effective C18 columns
- Good batch-to-batch stability and reproducibility
- Better peak shape for basic compounds, used in pharma, food, environment and other fields

## ◆ Application Cases

### Oxybutynin chloride

Method : Pharmacopoeia of the People's Republic of China 2020

Column : MicroPulite® Gold C18 4.6\*250mm 5µm (Part No : GDC18-254650)

Wavelength : UV 220nm

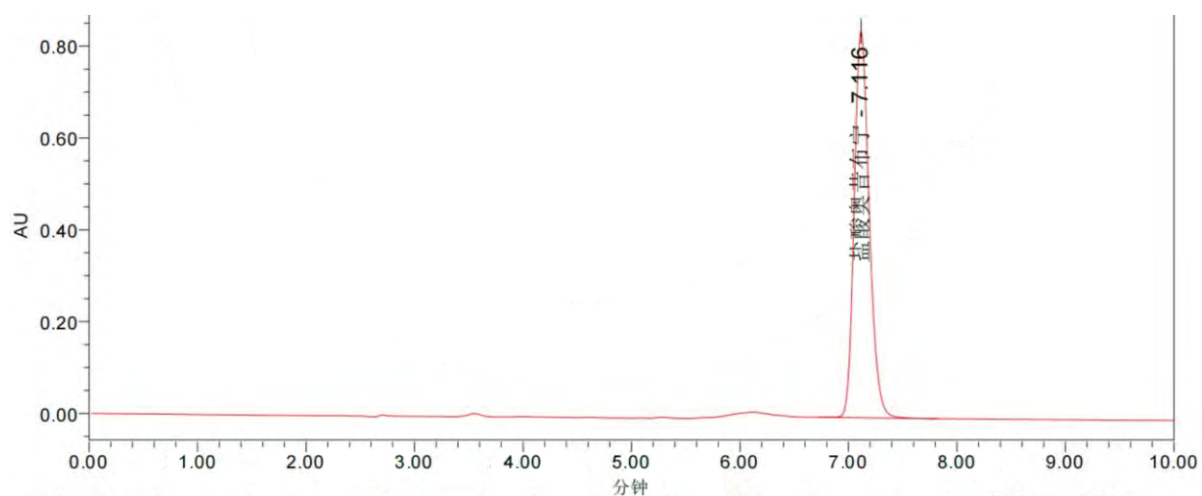
Flow rate : 1.0mL/min

Column temperature : 30°C

Injection volume : 20µL

Mobile phase : Phosphate buffer ( potassium dihydrogen phosphate 1.94g and dipotassium hydrogen phosphate 2.48g, add water 1000mL to dissolve, add some phosphoric acid( 1mol/L ) to adjust pH to 6.8 ) - methanol ( 15 : 85 )

Chromatogram :



## ◆ Application case

### Sodium lauryl glycine

Chromatographic conditions:

Flow rate=1.0mL/min

Injection volume : 10 $\mu$ L

Wavelength : 200nm

Column temperature:Room temperature

Mobile phase0.1%TFA water : acetonitrile

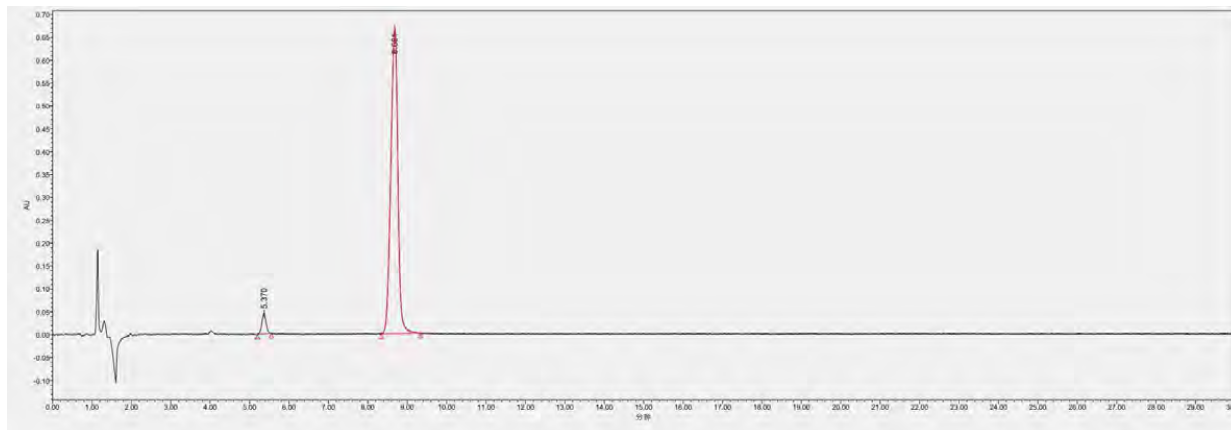
Sample preparation : Place 1mL sample in a 100mL volumetric bottle, add water and mix

Column : MicroPulite<sup>®</sup> Gold C18 4.6\*150mm 5 $\mu$ m

Instrument : Waters2695-2998

Column pressure : 1127psi

t(min)	Water ( 0.1% TFA )	Acetonitrile
0	45	55
30	45	55



Retention time	Area	Area percentage	Height	USP resolution	USP tailing	USP theoretical plate numbers
5.370	33169	3.84	44793		9.816306e-001	1.320884e+004
8.681	8297718	96.16	666816	1.248973e+001	9.496965e-001	1.150231e+004

## MicroPulite® Gold C18 Ordering Information

Particle Size:3 μm	
Size	Part No
30 x 2.1 mm	GDC18-032130
50x2.1 mm	GDC18-052130
100 x2.1 mm	GDC18-102130
150 x2.1 mm	GDC18-152130
30x3.0 mm	GDC18-033030
50x3.0 mm	GDC18-053030
100 x3.0 mm	GDC18-103030
150 x3.0 mm	GDC18-153030
250 x3.0 mm	GDC18-253030
30 x 4.6 mm	GDC18-034630
50x 4.6 mm	GDC18-054630
100 x4.6 mm	GDC18-104630
150 x4.6 mm	GDC18-154630
200 x4.6 mm	GDC18-204630
250 x4.6 mm	GDC18-254630

Particle Size:3.5 μm	
Size	Part No
30 x 2.1 mm	GDC18-032135
50x2.1 mm	GDC18-052135
100 x2.1 mm	GDC18-102135
150 x2.1 mm	GDC18-152135
30x3.0 mm	GDC18-033035
50x3.0 mm	GDC18-053035
100 x3.0 mm	GDC18-103035
150 x3.0 mm	GDC18-153035
250 x3.0 mm	GDC18-253035
30 x 4.6 mm	GDC18-034635
50x 4.6 mm	GDC18-054635
100 x4.6 mm	GDC18-104635
150 x4.6 mm	GDC18-154635
200 x4.6 mm	GDC18-204635
250 x4.6 mm	GDC18-254635

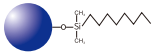
Particle Size:5 μm	
Size	Part No
30 x 2.1 mm	GDC18-032150
50x2.1 mm	GDC18-052150
100 x2.1 mm	GDC18-102150
150 x2.1 mm	GDC18-152150
30x3.0 mm	GDC18-033050
50x3.0 mm	GDC18-053050
100 x3.0 mm	GDC18-103050
150 x3.0 mm	GDC18-153050
250 x3.0 mm	GDC18-253050
30 x 4.6 mm	GDC18-034650
50x 4.6 mm	GDC18-054650
100 x4.6 mm	GDC18-104650
150 x4.6 mm	GDC18-154650
200 x4.6 mm	GDC18-204650
250 x4.6 mm	GDC18-254650

Particle Size:5 μm	
Size	Part No
150x10 mm	GDC18-1510050
250x10 mm	GDC18-2510050
300x10 mm	GDC18-3010050
150x20 mm	GDC18-1520050
250x20 mm	GDC18-2520050
300x20 mm	GDC18-3020050
150x21.2 mm	GDC18-1521250
250x21.2 mm	GDC18-2521250
300x21.2 mm	GDC18-3021250
150x30 mm	GDC18-1530050
250x30 mm	GDC18-2530050
300x30 mm	GDC18-3030050
150x50 mm	GDC18-1550050
250x50 mm	GDC18-2550050
300x50 mm	GDC18-3050050

Particle Size:10 μm	
Size	Part No
150x10 mm	GDC18-15100100
250x10 mm	GDC18-25100100
300x10 mm	GDC18-30100100
150x20 mm	GDC18-15200100
250x20 mm	GDC18-25200100
300x20 mm	GDC18-30200100
150x21.2 mm	GDC18-15212100
250x21.2 mm	GDC18-25212100
300x21.2 mm	GDC18-30212100
150x30 mm	GDC18-15300100
250x30 mm	GDC18-25300100
300x30 mm	GDC18-30300100
150x50 mm	GDC18-15500100
250x50 mm	GDC18-25500100
300x50 mm	GDC18-30500100

## MicroPulite® Gold C8 Column

Gold C8 has a weak retention capacity compared to C18, and stronger hydrophobic compounds retention time will be shortened, resulting in higher analytical efficiency than C18 columns, and can provide a different selectivity from C18.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
C8		12%	300	Yes	120Å	3, 3.5, 5, 10µm	L7	2-8	60°C (Low pH) 40°C (High pH)

### ◆ Characteristic

- Octylsilane chemically bonded to totally porous silica particles
- General, Cost-effective C8 column
- Less retentive than C18, suitable for the analysis of compounds with larger molecular weight
- Better peak shapes for basic compounds, mainly used in the pharmaceuticals industry

### ◆ Application Cases

#### Determination of Mycophenolate Mofetil Related Substances

Method: Pharmacopoeia of the People's Republic of China 2020

Column: MicroPulite® Gold C8 4.6\*250mm 5µm

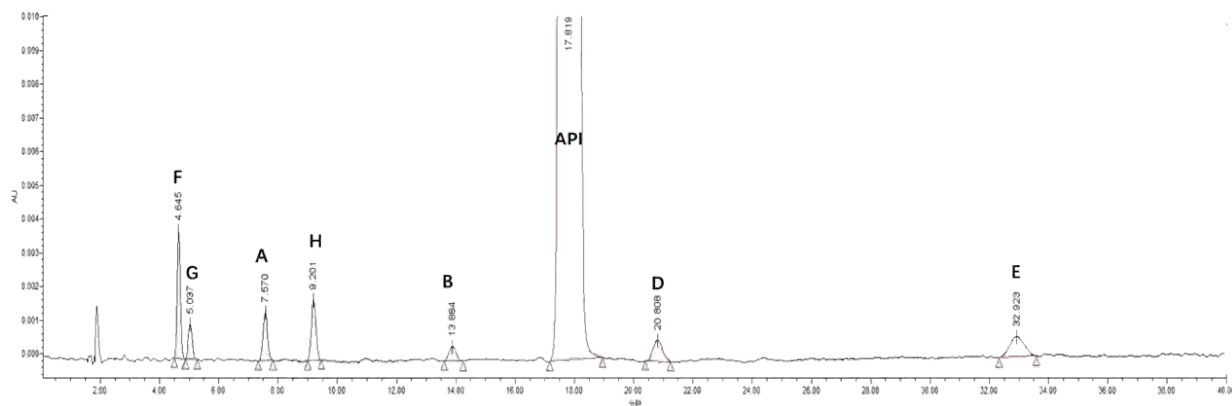
Wavelength: UV 250nm

Flow rate: 1.5mL/min

Column temperature: 45°C

Mobile phase: Phosphate buffer ( 2mL triethylamine, add 650mL of water, adjust the pH to 5.3 with dilute phosphoric acid)-acetonitrile (65:35)

Chromatogram :



## MicroPulite® Gold C8 Ordering Information

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	GDC08-032130
50x2.1 mm	GDC08-052130
100 x2.1 mm	GDC08-102130
150 x2.1 mm	GDC08-152130
30x3.0 mm	GDC08-033030
50x3.0 mm	GDC08-053030
100 x3.0 mm	GDC08-103030
150 x3.0 mm	GDC08-153030
250 x3.0 mm	GDC08-253030
30 x 4.6 mm	GDC08-034630
50x 4.6 mm	GDC08-054630
100 x4.6 mm	GDC08-104630
150 x4.6 mm	GDC08-154630
200 x4.6 mm	GDC08-204630
250 x4.6 mm	GDC08-254630

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	GDC08-032135
50x2.1 mm	GDC08-052135
100 x2.1 mm	GDC08-102135
150 x2.1 mm	GDC08-152135
30x3.0 mm	GdC08-033035
50x3.0 mm	GDC08-053035
100 x3.0 mm	GDC08-103035
150 x3.0 mm	GDC08-153035
250 x3.0 mm	GDC08-253035
30 x 4.6 mm	GDC08-034635
50x 4.6 mm	GDC08-054635
100 x4.6 mm	GDC08-104635
150 x4.6 mm	GDC08-154635
200 x4.6 mm	GDC08-204635
250 x4.6 mm	GDC08-254635

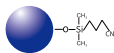
Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDC08-032150
50x2.1 mm	GDC08-052150
100 x2.1 mm	GDC08-102150
150 x2.1 mm	GDC08-152150
30x3.0 mm	GDC08-033050
50x3.0 mm	GDC08-053050
100 x3.0 mm	GDC08-103050
150 x3.0 mm	GDC08-153050
250 x3.0 mm	GDC08-253050
30 x 4.6 mm	GDC08-034650
50x 4.6 mm	GDC08-054650
100 x4.6 mm	GDC08-104650
150 x4.6 mm	GDC08-154650
200 x4.6 mm	GDC08-204650
250 x4.6 mm	GDC08-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDC08-1510050
250x10 mm	GDC08-2510050
300x10 mm	GDC08-3010050
150x20 mm	GDC08-1520050
250x20 mm	GDC08-2520050
300x20 mm	GDC08-3020050
150x21.2 mm	GDC08-1521250
250x21.2 mm	GDC08-2521250
300x21.2 mm	GDC08-3021250
150x30 mm	GDC08-1530050
250x30 mm	GDC08-2530050
300x30 mm	GDC08-3030050
150x50 mm	GDC08-1550050
250x50 mm	GDC08-2550050
300x50 mm	GDC08-3050050

Particle Size: 10µm	
Size	Part No
150x10 mm	GDC08-15100100
250x10 mm	GDC08-25100100
300x10 mm	GDC08-30100100
150x20 mm	GDC08-15200100
250x20 mm	GDC08-25200100
300x20 mm	GDC08-30200100
150x21.2 mm	GDC08-15212100
250x21.2 mm	GDC08-25212100
300x21.2 mm	GDC08-30212100
150x30 mm	GDC08-15300100
250x30 mm	GDC08-25300100
300x30 mm	GDC08-30300100
150x50 mm	GDC08-15500100
250x50 mm	GDC08-25500100
300x50 mm	GDC08-30500100

## MicroPulite® Gold C4 Column

Gold C4 has a shorter carbon chain, less retentive than C18 and C8, different selectivity for larger molecular compound, Suitable for analyzing compounds with larger molecular weight in small molecules, proteins and other macromolecular compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
C4		3.9%	300	Yes	120Å	3, 3.5, 5µm	L26	2-8	60°C (Low pH) 40°C (High pH)

### MicroPulite® Gold C4 Ordering Information


Particle Size: 3 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	GDC04-032130	30 x 2.1 mm	GDC04-032135	30 x 2.1 mm	GDC04-032150
50x2.1 mm	GDC04-052130	50x2.1 mm	GDC04-052135	50x2.1 mm	GDC04-052150
100 x2.1 mm	GDC04-102130	100 x2.1 mm	GDC04-102135	100 x2.1 mm	GDC04-102150
150 x2.1 mm	GDC04-152130	150 x2.1 mm	GDC04-152135	150 x2.1 mm	GDC04-152150
30x3.0 mm	GDC04-033030	30x3.0 mm	GDC04-033035	30x3.0 mm	GDC04-033050
50x3.0 mm	GDC04-053030	50x3.0 mm	GDC04-053035	50x3.0 mm	GDC04-053050
100 x3.0 mm	GDC04-103030	100 x3.0 mm	GDC04-103035	100 x3.0 mm	GDC04-103050
150 x3.0 mm	GDC04-153030	150 x3.0 mm	GDC04-153035	150 x3.0 mm	GDC04-153050
250 x3.0 mm	GDC04-253030	250 x3.0 mm	GDC04-253035	250 x3.0 mm	GDC04-253050
30 x 4.6 mm	GDC04-034630	30 x 4.6 mm	GDC04-034635	30 x 4.6 mm	GDC04-034650
50x 4.6 mm	GDC04-054630	50x 4.6 mm	GDC04-054635	50x 4.6 mm	GDC04-054650
100 x4.6 mm	GDC04-104630	100 x4.6 mm	GDC04-104635	100 x4.6 mm	GDC04-104650
150 x4.6 mm	GDC04-154630	150 x4.6 mm	GDC04-154635	150 x4.6 mm	GDC04-154650
200 x4.6 mm	GDC04-204630	200 x4.6 mm	GDC04-204635	200 x4.6 mm	GDC04-204650
250 x4.6 mm	GDC04-254630	250 x4.6 mm	GDC04-254635	250 x4.6 mm	GDC04-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDC04-1510050
250x10 mm	GDC04-2510050
300x10 mm	GDC04-3010050
150x20 mm	GDC04-1520050
250x20 mm	GDC04-2520050
300x20 mm	GDC04-3020050
150x21.2 mm	GDC04-1521250
250x21.2 mm	GDC04-2521250
300x21.2 mm	GDC04-3021250
150x30 mm	GDC04-1530050
250x30 mm	GDC04-2530050
300x30 mm	GDC04-3030050
150x50 mm	GDC04-1550050
250x50 mm	GDC04-2550050
300x50 mm	GDC04-3050050



## MicroPulite® Gold RP C18 Column

Gold RP C18 has a polar embedded groups and patented triple-bonded technology, is compatible with 100% aqueous mobile phase, and the ability to resist bond and phase loss is improved under high aqueous conditions.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
RP C18		20%	300	Yes	120Å	3, 3.5, 5µm	L1	1-8	60°C (Low pH) 40°C (High pH)

### MicroPulite® Gold RP C18 Ordering Information

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	GDR18-032130
50x2.1 mm	GDR18-052130
100 x2.1 mm	GDR18-102130
150 x2.1 mm	GDR18-152130
30x3.0 mm	GDR18-033030
50x3.0 mm	GDR18-053030
100 x3.0 mm	GDR18-103030
150 x3.0 mm	GDR18-153030
250 x3.0 mm	GDR18-253030
30 x 4.6 mm	GDR18-034630
50x 4.6 mm	GDR18-054630
100 x4.6 mm	GDR18-104630
150 x4.6 mm	GDR18-154630
200 x4.6 mm	GDR18-204630
250 x4.6 mm	GDR18-254630

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	GDR18-032135
50x2.1 mm	GDR18-052135
100 x2.1 mm	GDR18-102135
150 x2.1 mm	GDR18-152135
30x3.0 mm	GDR18-033035
50x3.0 mm	GDR18-053035
100 x3.0 mm	GDR18-103035
150 x3.0 mm	GDR18-153035
250 x3.0 mm	GDR18-253035
30 x 4.6 mm	GDR18-034635
50x 4.6 mm	GDR18-054635
100 x4.6 mm	GDR18-104635
150 x4.6 mm	GDR18-154635
200 x4.6 mm	GDR18-204635
250 x4.6 mm	GDR18-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDR18-032150
50x2.1 mm	GDR18-052150
100 x2.1 mm	GDR18-102150
150 x2.1 mm	GDR18-152150
30x3.0 mm	GDR18-033050
50x3.0 mm	GDR18-053050
100 x3.0 mm	GDR18-103050
150 x3.0 mm	GDR18-153050
250 x3.0 mm	GDR18-253050
30 x 4.6 mm	GDR18-034650
50x 4.6 mm	GDR18-054650
100 x4.6 mm	GDR18-104650
150 x4.6 mm	GDR18-154650
200 x4.6 mm	GDR18-204650
250 x4.6 mm	GDR18-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDR18-1510050
250x10 mm	GDR18-2510050
300x10 mm	GDR18-3010050
150x20 mm	GDR18-1520050
250x20 mm	GDR18-2520050
300x20 mm	GDR18-3020050
150x21.2 mm	GDR18-1521250
250x21.2 mm	GDR18-2521250
300x21.2 mm	GDR18-3021250
150x30 mm	GDR18-1530050
250x30 mm	GDR18-2530050
300x30 mm	GDR18-3030050
150x50 mm	GDR18-1550050
250x50 mm	GDR18-2550050
300x50 mm	GDR18-3050050

## MicroPulite® Gold RP18 Plus Column

In order to increase the retention of compounds, C18 Columns often need to be used in high aqueous phases or even 100% aqueous phase, and use in high aqueous phase for a long time easily lead to hydrophobic collapse. Gold RP18 Plus can effectively use the hydrophilic effect of polar groups by embedding a polar group within the octadecyl chain, making it compatible with and resistant to 100% aqueous phase, and at the same time shielding the residual silanol group effect on the surface of the silica. Gold RP18 Plus can reduce tailing of basic compounds, and provides selectivity different from that of C18.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
RP18 Plus		17%	300	Yes	120Å	3, 3.5, 5µm	L1	2-8	60°C (Low pH) 40°C (High pH)

### ◆ Application Cases

#### Determination of the content of Lamiphlohis

Method: Pharmacopoeia of the People's Republic of China 2020

Column: MicroPulite® Gold RP18 Plus 4.6\*250mm 5µm (Part No: GDR18P-254650)

Wavelength: UV 235nm

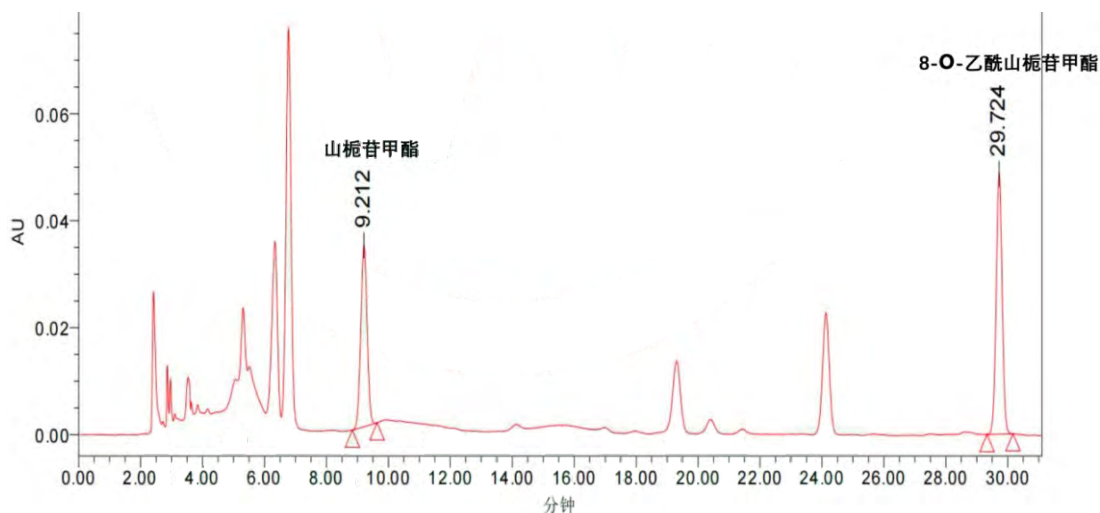
Flow rate: 1.0mL/min

Column temperature: 30°C

Mobile phase: Phase A: acetonitrile; Phase B: water

Time	A%	B%
0	9	91
11	9	91
35	18	82
45	18	82

Chromatogram:



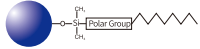
## MicroPulite® Gold RP18 Plus Ordering Information

Particle Size: 3 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	GDR18P-032130	30 x 2.1 mm	GDR18P-032135	30 x 2.1 mm	GDR18P-032150
50x2.1 mm	GDR18P-052130	50x2.1 mm	GDR18P-052135	50x2.1 mm	GDR18P-052150
100 x2.1 mm	GDR18P-102130	100 x2.1 mm	GDR18P-102135	100 x2.1 mm	GDR18P-102150
150 x2.1 mm	GDR18P-152130	150 x2.1 mm	GDR18P-152135	150 x2.1 mm	GDR18P-152150
30x3.0 mm	GDR18P-033030	30x3.0 mm	GDR18P-033035	30x3.0 mm	GDR18P-033050
50x3.0 mm	GDR18P-053030	50x3.0 mm	GDR18P-053035	50x3.0 mm	GDR18P-053050
100 x3.0 mm	GDR18P-103030	100 x3.0 mm	GDR18P-103035	100 x3.0 mm	GDR18P-103050
150 x3.0 mm	GDR18P-153030	150 x3.0 mm	GDR18P-153035	150 x3.0 mm	GDR18P-153050
250 x3.0 mm	GDR18P-253030	250 x3.0 mm	GDR18P-253035	250 x3.0 mm	GDR18P-253050
30 x 4.6 mm	GDR18P-034630	30 x 4.6 mm	GDR18P-034635	30 x 4.6 mm	GDR18P-034650
50x 4.6 mm	GDR18P-054630	50x 4.6 mm	GDR18P-054635	50x 4.6 mm	GDR18P-054650
100 x4.6 mm	GDR18P-104630	100 x4.6 mm	GDR18P-104635	100 x4.6 mm	GDR18P-104650
150 x4.6 mm	GDR18P-154630	150 x4.6 mm	GDR18P-154635	150 x4.6 mm	GDR18P-154650
200 x4.6 mm	GDR18P-204630	200 x4.6 mm	GDR18P-204635	200 x4.6 mm	GDR18P-204650
250 x4.6 mm	GDR18P-254630	250 x4.6 mm	GDR18P-254635	250 x4.6 mm	GDR18P-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDR18P-1510050
250x10 mm	GDR18P-2510050
300x10 mm	GDR18P-3010050
150x20 mm	GDR18P-1520050
250x20 mm	GDR18P-2520050
300x20 mm	GDR18P-3020050
150x21.2 mm	GDR18P-1521250
250x21.2 mm	GDR18P-2521250
300x21.2 mm	GDR18P-3021250
150x30 mm	GDR18P-1530050
250x30 mm	GDR18P-2530050
300x30 mm	GDR18P-3030050
150x50 mm	GDR18P-1550050
250x50 mm	GDR18P-2550050
300x50 mm	GDR18P-3050050

## MicroPulite® Gold RP8 Plus Column

Compared to Gold C8 columns, Gold RP8 Plus is compatible and tolerant of 100% water and offers different selectivity from Gold C8.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
RP8 Plus		15%	300	Yes	120Å	3, 3.5, 5µm	L7	2-8	60°C (Low pH) 40°C (High pH)

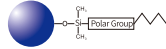
### MicroPulite® Gold RP8 Plus Ordering Information

Particle Size: 3 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	GDR08P-032130	30 x 2.1 mm	GDR08P-032135	30 x 2.1 mm	GDR08P-032150
50x2.1 mm	GDR08P-052130	50x2.1 mm	GDR08P-052135	50x2.1 mm	GDR08P-052150
100 x2.1 mm	GDR08P-102130	100 x2.1 mm	GDR08P-102135	100 x2.1 mm	GDR08P-102150
150 x2.1 mm	GDR08P-152130	150 x2.1 mm	GDR08P-152135	150 x2.1 mm	GDR08P-152150
30x3.0 mm	GDR08P-033030	30x3.0 mm	GDR08P-033035	30x3.0 mm	GDR08P-033050
50x3.0 mm	GDR08P-053030	50x3.0 mm	GDR08P-053035	50x3.0 mm	GDR08P-053050
100 x3.0 mm	GDR08P-103030	100 x3.0 mm	GDR08P-103035	100 x3.0 mm	GDR08P-103050
150 x3.0 mm	GDR08P-153030	150 x3.0 mm	GDR08P-153035	150 x3.0 mm	GDR08P-153050
250 x3.0 mm	GDR08P-253030	250 x3.0 mm	GDR08P-253035	250 x3.0 mm	GDR08P-253050
30 x 4.6 mm	GDR08P-034630	30 x 4.6 mm	GDR08P-034635	30 x 4.6 mm	GDR08P-034650
50x 4.6 mm	GDR08P-054630	50x 4.6 mm	GDR08P-054635	50x 4.6 mm	GDR08P-054650
100 x4.6 mm	GDR08P-104630	100 x4.6 mm	GDR08P-104635	100 x4.6 mm	GDR08P-104650
150 x4.6 mm	GDR08P-154630	150 x4.6 mm	GDR08P-154635	150 x4.6 mm	GDR08P-154650
200 x4.6 mm	GDR08P-204630	200 x4.6 mm	GDR08P-204635	200 x4.6 mm	GDR08P-204650
250 x4.6 mm	GDR08P-254630	250 x4.6 mm	GDR08P-254635	250 x4.6 mm	GDR08P-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDR08P-1510050
250x10 mm	GDR08P-2510050
300x10 mm	GDR08P-3010050
150x20 mm	GDR08P-1520050
250x20 mm	GDR08P-2520050
300x20 mm	GDR08P-3020050
150x21.2 mm	GDR08P-1521250
250x21.2 mm	GDR08P-2521250
300x21.2 mm	GDR08P-3021250
150x30 mm	GDR08P-1530050
250x30 mm	GDR08P-2530050
300x30 mm	GDR08P-3030050
150x50 mm	GDR08P-1550050
250x50 mm	GDR08P-2550050
300x50 mm	GDR08P-3050050

## MicroPulite® Gold RP4 Plus Column

For reverse phase analysis of large polar proteins, the Gold RP4 plus provides the ability to analyze under 100% water conditions, greatly enhance retention in reverse phase.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
RP4 Plus		3.9%	300	Yes	120Å	3, 3.5, 5µm	L26	2-8	60°C (Low pH) 40°C (High pH)


### MicroPulite® Gold RP4 Plus Ordering Information

Particle Size: 3 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	GDR04P-032130	30 x 2.1 mm	GDR04P-032135	30 x 2.1 mm	GDR04P-032150
50x2.1 mm	GDR04P-052130	50x2.1 mm	GDR04P-052135	50x2.1 mm	GDR04P-052150
100 x2.1 mm	GDR04P-102130	100 x2.1 mm	GDR04P-102135	100 x2.1 mm	GDR04P-102150
150 x2.1 mm	GDR04P-152130	150 x2.1 mm	GDR04P-152135	150 x2.1 mm	GDR04P-152150
30x3.0 mm	GDR04P-033030	30x3.0 mm	GDR04P-033035	30x3.0 mm	GDR04P-033050
50x3.0 mm	GDR04P-053030	50x3.0 mm	GDR04P-053035	50x3.0 mm	GDR04P-053050
100 x3.0 mm	GDR04P-103030	100 x3.0 mm	GDR04P-103035	100 x3.0 mm	GDR04P-103050
150 x3.0 mm	GDR04P-153030	150 x3.0 mm	GDR04P-153035	150 x3.0 mm	GDR04P-153050
250 x3.0 mm	GDR04P-253030	250 x3.0 mm	GDR04P-253035	250 x3.0 mm	GDR04P-253050
30 x 4.6 mm	GDR04P-034630	30 x 4.6 mm	GDR04P-034635	30 x 4.6 mm	GDR04P-034650
50x 4.6 mm	GDR04P-054630	50x 4.6 mm	GDR04P-054635	50x 4.6 mm	GDR04P-054650
100 x4.6 mm	GDR04P-104630	100 x4.6 mm	GDR04P-104635	100 x4.6 mm	GDR04P-104650
150 x4.6 mm	GDR04P-154630	150 x4.6 mm	GDR04P-154635	150 x4.6 mm	GDR04P-154650
200 x4.6 mm	GDR04P-204630	200 x4.6 mm	GDR04P-204635	200 x4.6 mm	GDR04P-204650
250 x4.6 mm	GDR04P-254630	250 x4.6 mm	GDR04P-254635	250 x4.6 mm	GDR04P-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDR04P-1510050
250x10 mm	GDR04P-2510050
300x10 mm	GDR04P-3010050
150x20 mm	GDR04P-1520050
250x20 mm	GDR04P-2520050
300x20 mm	GDR04P-3020050
150x21.2 mm	GDR04P-1521250
250x21.2 mm	GDR04P-2521250
300x21.2 mm	GDR04P-3021250
150x30 mm	GDR04P-1530050
250x30 mm	GDR04P-2530050
300x30 mm	GDR04P-3030050
150x50 mm	GDR04P-1550050
250x50 mm	GDR04P-2550050
300x50 mm	GDR04P-3050050

## MicroPulite® Gold NH<sub>2</sub> Column

Aminopropyl-bonded silica columns can be used in both reverse phase and normal phase, and the triple bonded technology reduces the loss of the bonded phase. Gold NH<sub>2</sub> columns are subject to weak anion exchange, hydrophilic interaction, and other multiple effects, and are suitable for use in the analysis of compounds containing -COOH\CO\NH<sub>2</sub>\NHR<sub>2</sub>\NR<sub>2</sub>.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
NH <sub>2</sub>		3.8%	300	Yes	120Å	3, 3.5, 5µm	L8	2-8	60°C (Low pH) 40°C (High pH)

### MicroPulite® Gold NH<sub>2</sub> Ordering Information

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	GDNH-032135
50x2.1 mm	GDNH-052135
100 x2.1 mm	GDNH-102135
150 x2.1 mm	GDNH-152135
30x3.0 mm	GDNH-033035
50x3.0 mm	GDNH-053035
100 x3.0 mm	GDNH-103035
150 x3.0 mm	GDNH-153035
250 x3.0 mm	GDNH-253035
30 x 4.6 mm	GDNH-034635
50x 4.6 mm	GDNH-054635
100 x4.6 mm	GDNH-104635
150 x4.6 mm	GDNH-154635
200 x4.6 mm	GDNH-204635
250 x4.6 mm	GDNH-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDNH-032150
50x2.1 mm	GDNH-052150
100 x2.1 mm	GDNH-102150
150 x2.1 mm	GDNH-152150
30x3.0 mm	GDNH-033050
50x3.0 mm	GDNH-053050
100 x3.0 mm	GDNH-103050
150 x3.0 mm	GDNH-153050
250 x3.0 mm	GDNH-253050
30 x 4.6 mm	GDNH-034650
50x 4.6 mm	GDNH-054650
100 x4.6 mm	GDNH-104650
150 x4.6 mm	GDNH-154650
200 x4.6 mm	GDNH-204650
250 x4.6 mm	GDNH-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDNH-1510050
250x10 mm	GDNH-2510050
300x10 mm	GDNH-3010050
150x20 mm	GDNH-1520050
250x20 mm	GDNH-2520050
300x20 mm	GDNH-3020050
150x21.2 mm	GDNH-1521250
250x21.2 mm	GDNH-2521250
300x21.2 mm	GDNH-3021250
150x30 mm	GDNH-1530050
250x30 mm	GDNH-2530050
300x30 mm	GDNH-3030050
150x50 mm	GDNH-1550050
250x50 mm	GDNH-2550050
300x50 mm	GDNH-3050050

## MicroPulite® Gold HILIC Column

Gold HILIC is an unbonded silica, can be used in hydrophilic mode for the retention of large polar compounds that cannot be retained in the reverse phase. Gold HILIC can also be used as a silica column under normal phase conditions.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
HILIC		-	300	Yes	120Å	3, 3.5, 5µm	L3	2-7	60°C (Low pH) 40°C (High pH)

### MicroPulite® Gold HILIC Ordering Information

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	GDH-032130
50x2.1 mm	GDH-052130
100 x2.1 mm	GDH-102130
150 x2.1 mm	GDH-152130
30x3.0 mm	GDH-033030
50x3.0 mm	GDH-053030
100 x3.0 mm	GDH-103030
150 x3.0 mm	GDH-153030
250 x3.0 mm	GDH-253030
30 x 4.6 mm	GDH-034630
50x 4.6 mm	GDH-054630
100 x4.6 mm	GDH-104630
150 x4.6 mm	GDH-154630
200 x4.6 mm	GDH-204630
250 x4.6 mm	GDH-254630

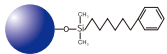
Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	GDH-032135
50x2.1 mm	GDH-052135
100 x2.1 mm	GDH-102135
150 x2.1 mm	GDH-152135
30x3.0 mm	GDH-033035
50x3.0 mm	GDH-053035
100 x3.0 mm	GDH-103035
150 x3.0 mm	GDH-153035
250 x3.0 mm	GDH-253035
30 x 4.6 mm	GDH-034635
50x 4.6 mm	GDH-054635
100 x4.6 mm	GDH-104635
150 x4.6 mm	GDH-154635
200 x4.6 mm	GDH-204635
250 x4.6 mm	GDH-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDH-032150
50x2.1 mm	GDH-052150
100 x2.1 mm	GDH-102150
150 x2.1 mm	GDH-152150
30x3.0 mm	GDH-033050
50x3.0 mm	GDH-053050
100 x3.0 mm	GDH-103050
150 x3.0 mm	GDH-153050
250 x3.0 mm	GDH-253050
30 x 4.6 mm	GDH-034650
50x 4.6 mm	GDH-054650
100 x4.6 mm	GDH-104650
150 x4.6 mm	GDH-154650
200 x4.6 mm	GDH-204650
250 x4.6 mm	GDH-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDH-1510050
250x10 mm	GDH-2510050
300x10 mm	GDH-3010050
150x20 mm	GDH-1520050
250x20 mm	GDH-2520050
300x20 mm	GDH-3020050
150x21.2 mm	GDH-1521250
250x21.2 mm	GDH-2521250
300x21.2 mm	GDH-3021250
150x30 mm	GDH-1530050
250x30 mm	GDH-2530050
300x30 mm	GDH-3030050
150x50 mm	GDH-1550050
250x50 mm	GDH-2550050
300x50 mm	GDH-3050050

## MicroPulite® Gold Phenyl-Hexyl Column

Gold Phenyl-Hexyl has a hexyl connect the benzene ring, reduces hydrolysis of the bonded phase and improves chemical stability compared to phenyl-propyl. Gold Phenyl-Hexyl provides complementary selectivity to straight-chain alkane columns, such as C18 or C8, and is suitable for analyzing aromatic compounds, amines, and polar compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Phenyl-Hexyl		13%	300	Yes	120Å	3, 3.5, 5µm	L11	2-8	60°C (Low pH) 40°C (High pH)

### MicroPulite® Gold Phenyl-Hexyl Ordering Information

Particle Size: 3 µm		Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	GDPH-032130	30 x 2.1 mm	GDPH-032135	30 x 2.1 mm	GDPH-032150
50x2.1 mm	GDPH-052130	50x2.1 mm	GDPH-052135	50x2.1 mm	GDPH-052150
100 x2.1 mm	GDPH-102130	100 x2.1 mm	GDPH-102135	100 x2.1 mm	GDPH-102150
150 x2.1 mm	GDPH-152130	150 x2.1 mm	GDPH-152135	150 x2.1 mm	GDPH-152150
30x3.0 mm	GDPH-033030	30x3.0 mm	GDPH-033035	30x3.0 mm	GDPH-033050
50x3.0 mm	GDPH-053030	50x3.0 mm	GDPH-053035	50x3.0 mm	GDPH-053050
100 x3.0 mm	GDPH-103030	100 x3.0 mm	GDPH-103035	100 x3.0 mm	GDPH-103050
150 x3.0 mm	GDPH-153030	150 x3.0 mm	GDPH-153035	150 x3.0 mm	GDPH-153050
250 x3.0 mm	GDPH-253030	250 x3.0 mm	GDPH-253035	250 x3.0 mm	GDPH-253050
30 x 4.6 mm	GDPH-034630	30 x 4.6 mm	GDPH-034635	30 x 4.6 mm	GDPH-034650
50x 4.6 mm	GDPH-054630	50x 4.6 mm	GDPH-054635	50x 4.6 mm	GDPH-054650
100 x4.6 mm	GDPH-104630	100 x4.6 mm	GDPH-104635	100 x4.6 mm	GDPH-104650
150 x4.6 mm	GDPH-154630	150 x4.6 mm	GDPH-154635	150 x4.6 mm	GDPH-154650
200 x4.6 mm	GDPH-204630	200 x4.6 mm	GDPH-204635	200 x4.6 mm	GDPH-204650
250 x4.6 mm	GDPH-254630	250 x4.6 mm	GDPH-254635	250 x4.6 mm	GDPH-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	GDPH-1510050
250x10 mm	GDPH-2510050
300x10 mm	GDPH-3010050
150x20 mm	GDPH-1520050
250x20 mm	GDPH-2520050
300x20 mm	GDPH-3020050
150x21.2 mm	GDPH-1521250
250x21.2 mm	GDPH-2521250
300x21.2 mm	GDPH-3021250
150x30 mm	GDPH-1530050
250x30 mm	GDPH-2530050
300x30 mm	GDPH-3030050
150x50 mm	GDPH-1550050
250x50 mm	GDPH-2550050
300x50 mm	GDPH-3050050



## MicroPulite® Gold PFP Column

Gold PFP is pentafluorophenyl bonded to silica .It Influenced by of hydrogen bonding, dipole-dipole interactions, aromatic and  $\pi$ - $\pi$ , hydrophobicity, etc. Gold PFP has a unique selectivity and is suitable for the analysis of aromatic compounds, halogenated compounds, and planar positional isomers, etc. and it can enhance retention of polar compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
PFP		10%	300	Yes	120Å	3, 3.5, 5 $\mu$ m	L43	2-8	60°C (Low pH) 40°C (High pH)

### MicroPulite® Gold PFP Ordering Information

Particle Size: 3 $\mu$ m		Particle Size: 3.5 $\mu$ m		Particle Size: 5 $\mu$ m	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	GDPFP-032130	30 x 2.1 mm	GDPFP-032135	30 x 2.1 mm	GDPFP-032150
50x2.1 mm	GDPFP-052130	50x2.1 mm	GDPFP-052135	50x2.1 mm	GDPFP-052150
100 x2.1 mm	GDPFP-102130	100 x2.1 mm	GDPFP-102135	100 x2.1 mm	GDPFP-102150
150 x2.1 mm	GDPFP-152130	150 x2.1 mm	GDPFP-152135	150 x2.1 mm	GDPFP-152150
30x3.0 mm	GDPFP-033030	30x3.0 mm	GDPFP-033035	30x3.0 mm	GDPFP-033050
50x3.0 mm	GDPFP-053030	50x3.0 mm	GDPFP-053035	50x3.0 mm	GDPFP-053050
100 x3.0 mm	GDPFP-103030	100 x3.0 mm	GDPFP-103035	100 x3.0 mm	GDPFP-103050
150 x3.0 mm	GDPFP-153030	150 x3.0 mm	GDPFP-153035	150 x3.0 mm	GDPFP-153050
250 x3.0 mm	GDPFP-253030	250 x3.0 mm	GDPFP-253035	250 x3.0 mm	GDPFP-253050
30 x 4.6 mm	GDPFP-034630	30 x 4.6 mm	GDPFP-034635	30 x 4.6 mm	GDPFP-034650
50x 4.6 mm	GDPFP-054630	50x 4.6 mm	GDPFP-054635	50x 4.6 mm	GDPFP-054650
100 x4.6 mm	GDPFP-104630	100 x4.6 mm	GDPFP-104635	100 x4.6 mm	GDPFP-104650
150 x4.6 mm	GDPFP-154630	150 x4.6 mm	GDPFP-154635	150 x4.6 mm	GDPFP-154650
200 x4.6 mm	GDPFP-204630	200 x4.6 mm	GDPFP-204635	200 x4.6 mm	GDPFP-204650
250 x4.6 mm	GDPFP-254630	250 x4.6 mm	GDPFP-254635	250 x4.6 mm	GDPFP-254650

Particle Size: 5 $\mu$ m	
Size	Part No
150x10 mm	GDPFP-1510050
250x10 mm	GDPFP-2510050
300x10 mm	GDPFP-3010050
150x20 mm	GDPFP-1520050
250x20 mm	GDPFP-2520050
300x20 mm	GDPFP-3020050
150x21.2 mm	GDPFP-1521250
250x21.2 mm	GDPFP-2521250
300x21.2 mm	GDPFP-3021250
150x30 mm	GDPFP-1530050
250x30 mm	GDPFP-2530050
300x30 mm	GDPFP-3030050
150x50 mm	GDPFP-1550050
250x50 mm	GDPFP-2550050
300x50 mm	GDPFP-3050050

## MicroPulite® Gold CN Column

Gold CN can be used in both normal and reverse phase conditions. Compounds have strong hydrophobic retention on C18/C8 and are difficult to elute, they can be analyzed with cyano column. Gold CN provides a different selectivity from C18/C8/C4/phenyl, and is used to analyze compounds that contain carboxyl, hydroxyl, and amine groups.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	Endcapped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
CN		5%	300	Yes	120Å	5µm	L10	2-8	45°C (Low pH) 45°C (High pH)

### MicroPulite® Gold CN Ordering Information

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDCN-032150
50 x 2.1 mm	GDCN-052150
100 x 2.1 mm	GDCN-102150
150 x 2.1 mm	GDCN-152150
30 x 3.0 mm	GDCN-033050
50 x 3.0 mm	GDCN-053050
100 x 3.0 mm	GDCN-103050
150 x 3.0 mm	GDCN-153050
250 x 3.0 mm	GDCN-253050
30 x 4.6 mm	GDCN-034650
50 x 4.6 mm	GDCN-054650
100 x 4.6 mm	GDCN-104650
150 x 4.6 mm	GDCN-154650
200 x 4.6 mm	GDCN-204650
250 x 4.6 mm	GDCN-254650

## MicroPulite® Platinum Series: New standard for silica columns

Platinum columns have high carbon load and large surface area, so they have excellent sample loading capacity, and use as general purpose C18/C8 columns .

- Silica matrix columns with high sample loading capacity
- Excellent peak shape and high column efficiency at low pH
- Better peak shape for basic compounds

Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Platinum C18	Special C18	16%	100Å	3.5, 5µm	L1	1-8	50°C (Low pH) 40°C (High pH)
Platinum C18	Special C8	12%	100Å	3.5, 5µm	L7	1-8	40°C (Low pH) 40°C (High pH)

## MicroPulite® Platinum C18 Column

With unique bonded and endcapped technology, Platinum C18 provides symmetrical peak shapes for acid, basic, and neutral compounds when used in low/medium pH mobile phase conditions. Platinum C18 also has a superior stability when used in low pH conditions, so it has ideal column life.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
C18	Special C18	16%	320	Yes	120Å	3.5,5µm	L1	1-8	50°C (Low pH) 40°C (High pH)

### ◆ Application Cases

#### Determination of Paclitaxel Injection Related Substances

Method: Pharmacopoeia of the People's Republic of China 2020

Column: MicroPulite® Platinum C18 4.6\*250mm 5.0µm (Part No: PTC18-254650)

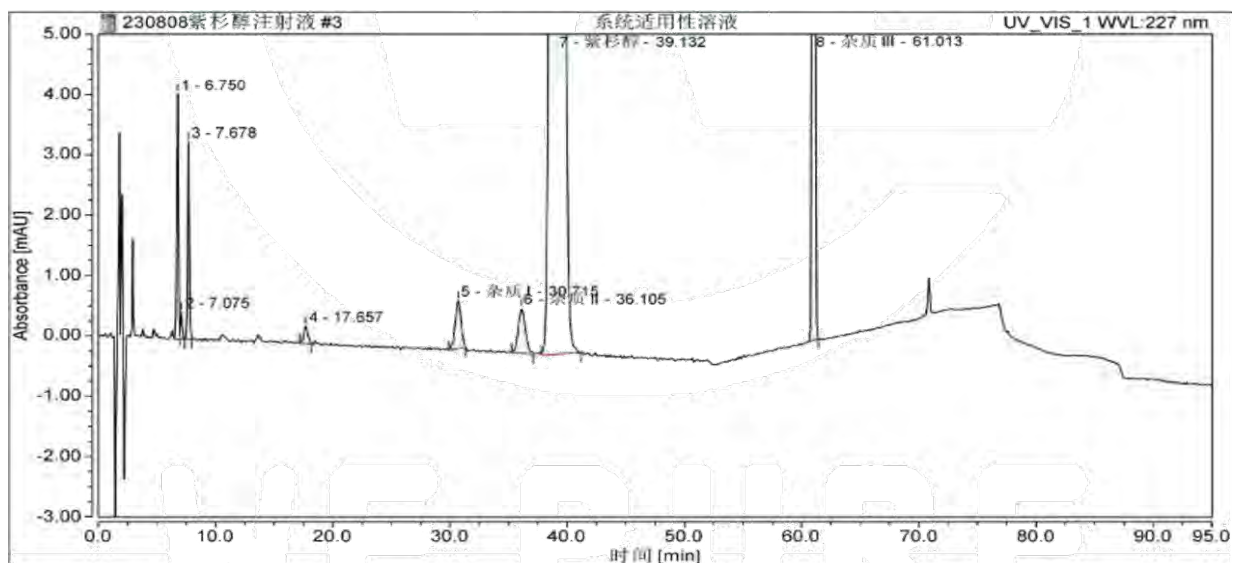
Wavelength: UV 227nm

Flow rate: 1.5mL/min

Column temperature: 30°C

Mobile phase: Phase A: water; Phase B: acetonitrile

Chromatogram:



## MicroPulite® Platinum C18 Ordering Information

Particle Size: 3.5 µm	
Size	Part No
30x 2.1 mm	PTC18-032135
50x 2.1 mm	PTC18-052135
100x 2.1 mm	PTC18-102135
100x 2.1 mm	PTC18-152135
30x 3.0 mm	PTC18-033035
50x 3.0 mm	PTC18-053035
100x 3.0 mm	PTC18-103035
150x 3.0 mm	PTC18-153035
250x 3.0 mm	PTC18-253035
30x 4.6 mm	PTC18-034635
50x 4.6 mm	PTC18-054635
100x 4.6 mm	PTC18-104635
150x 4.6 mm	PTC18-154635
200x 4.6 mm	PTC18-204635
250x 4.6 mm	PTC18-254635

Particle Size: 5 µm	
Size	Part No
30x 2.1 mm	PTC18-032150
50 x 2.1 mm	PTC18-052150
100 x2.1 mm	PTC18-102150
150x2.1 mm	PTC18-152150
30 x 3.0 mm	PTC18-033050
50x 3.0 mm	PTC18-053050
100x3.0 mm	PTC18-103050
150 x3.0 mm	PTC18-153050
250x3.0 mm	PTC18-253050
30x 4.6 mm	PTC18-034650
50x4.6 mm	PTC18-054650
100 x4.6 mm	PTC18-104650
150 x 4.6 mm	PTC18-154650
200x 4.6 mm	PTC18-204650
250x 4.6 mm	PTC18-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	PTC18-1510050
250x10 mm	PTC18-2510050
300x10 mm	PTC18-3010050
150x20 mm	PTC18-1520050
250x20 mm	PTC18-2520050
300x20 mm	PTC18-3020050
150x21.2 mm	PTC18-1521250
250x21.2 mm	PTC18-2521250
300x21.2 mm	PTC18-3021250
150x30 mm	PTC18-1530050
250x30 mm	PTC18-2530050
300x30 mm	PTC18-3030050
150x50 mm	PTC18-1550050
250x50 mm	PTC18-2550050
300x50 mm	PTC18-3050050

## MicroPulite® Platinum C8 Column

Platinum C8 also offers excellent stability and symmetrical peak shapes at low pH, is suitable for the analysis of strongly hydrophobic compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
C8	特有C8	12%	320	Yes	120Å	3.5,5µm	L7	1-8	40°C (Low pH) 40°C (High pH)

### MicroPulite® Platinum C8 Ordering Information

Particle Size: 3.5 µm	
Size	Part No
30x 2.1 mm	PTC08-032135
50x 2.1 mm	PTC08-052135
100x 2.1 mm	PTC08-102135
100x 2.1 mm	PTC08-152135
30x 3.0 mm	PTC08-033035
50x 3.0 mm	PTC08-053035
100x 3.0 mm	PTC08-103035
150x 3.0 mm	PTC08-153035
250x 3.0 mm	PTC08-253035
30x 4.6 mm	PTC08-034635
50x 4.6 mm	PTC08-054635
100x 4.6 mm	PTC08-104635
150x 4.6 mm	PTC08-154635
200x 4.6 mm	PTC08-204635
250x 4.6 mm	PTC08-254635


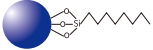



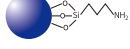
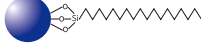

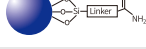


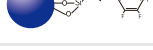
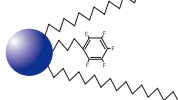
Particle Size: 5 µm	
Size	Part No
30x 2.1 mm	PTC08-032150
50 x 2.1 mm	PTC08-052150
100 x2.1 mm	PTC08-102150
150x2.1 mm	PTC08-152150
30 x 3.0 mm	PTC08-033050
50x 3.0 mm	PTC08-053050
100x3.0 mm	PTC08-103050
150 x3.0 mm	PTC08-153050
250x3.0 mm	PTC08-253050
30x 4.6 mm	PTC08-034650
50x4.6 mm	PTC08-054650
100 x4.6 mm	PTC08-104650
150 x 4.6 mm	PTC08-154650
200x 4.6 mm	PTC08-204650
250x 4.6 mm	PTC08-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	PTC08-1510050
250x10 mm	PTC08-2510050
300x10 mm	PTC08-3010050
150x20 mm	PTC08-1520050
250x20 mm	PTC08-2520050
300x20 mm	PTC08-3020050
150x21.2 mm	PTC08-1521250
250x21.2 mm	PTC08-2521250
300x21.2 mm	PTC08-3021250
150x30 mm	PTC08-1530050
250x30 mm	PTC08-2530050
300x30 mm	PTC08-3030050
150x50 mm	PTC08-1550050
250x50 mm	PTC08-2550050
300x50 mm	PTC08-3050050

# MicroPulite® XP Series: Hybrid silica makes method development more flexible

Silica has become the most widely used material for columns due to its excellent mechanical strength and easy surface modification, etc. However, pure silica matrix is extremely unstable under high pH conditions (especially above pH 8), which affects the service life of the columns. XP series columns adopt hybrid silica technology, combining the characteristics of organic and inorganic materials, the columns not only retain the characteristics of pure silica, but also have the characteristics of polymer materials, such as stable in wider pH range and low activity of silanol. XP series columns not only own the perfect performance of separation, but also own the longer column life. From analysis to preparation, XP series columns can be matched to all instrument platforms, and multiple specifications are available to ensure method continuity and transfer, thus improving work efficiency.

- Structurally hybrid silica, improves the pH tolerance range
- Patented triple bonded and unique endcapped, ensure high column efficiency and excellent peak shape
- The multiple bonded phase can provide the selectivity of method development, reduce the difficulty of method development
- Strict quality control ensure the stability of materials between columns and batches

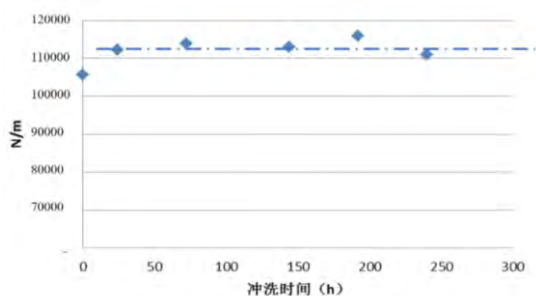
Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP tC18		18%	130Å	1.7,2.5,3,3.5, 5,7,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)
XP tC8		13%	130Å	1.7,2.5,3,3.5, 5,7,10µm	L7	1-12	60°C (Low pH) 60°C (High pH)
XP tC4		9.5%	130Å	1.7,2.5,3,3.5, 5,7,10µm	L26	1-10	80°C (Low pH) 50°C (High pH)
XP RP18		18%	130Å	1.7,2.5,3, 3.5,5,10µm	L1	2-11	50°C (Low pH) 45°C (High pH)
XP RP18 Plus		17%	130Å	1.7,2.5,3, 3.5,5,10µm	L1	2-11	50°C (Low pH) 45°C (High pH)
XP NH <sub>2</sub>		9%	130Å	3.5,5µm	L8	1-9	45°C (Low pH) 45°C (High pH)
XP T3		14%	130Å	3.5,5,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)
XP Phenyl-Hexyl		15%	130Å	1.7,2.5,3, 3.5,5µm	L11	1-12	80°C (Low pH) 60°C (High pH)
XP Amide		17%	130Å	1.7,2.5,3, 3.5,5µm	L68	2-11	90°C (Low pH) 90°C (High pH)
XP HILIC		-	130Å	1.7,2.5,3, 3.5,5µm	L3	1-9	45°C (Low pH) 45°C (High pH)
XP Oligo tC18		18%	130Å	1.7,2.5,3, 3.5,5,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)
XP tPFP		7%	130Å	3.5,5µm	L43	1-8	45°C (Low pH) 45°C (High pH)
XP tC18/PFP		14.5%	130Å	3.5,5µm	L43	1-12	45°C (Low pH) 45°C (High pH)

Patent number: CN 104725641 A, CN 101927154 A

## Stable in wide pH

### Excellent durability at high pH

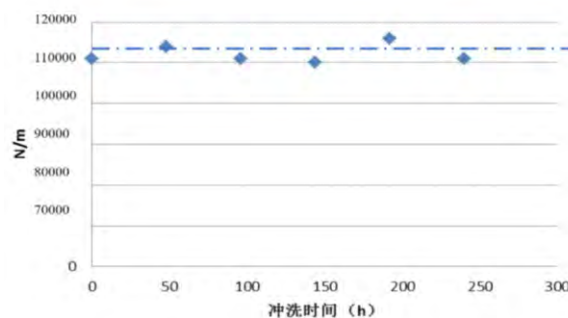
Under alkaline conditions, silica material may occur nucleophilic substitution because of hydroxide root, result in silica dissolution and the bonded phase hydrolysis, even leads to the column efficiency decrease. The hybrid silica technology makes the basic skeleton of silica much more tolerant under high pH conditions, and nucleophilic substitution reactions more difficult to occur, so the rate of dissolution on the particle surface slow down, the column life can be extended. In the classic durability test of XP tC18 at high pH, the result shows that XP tC18 still maintains its original column performance after 240 hours of use at 50°C and pH=10.



The durability test at methanol/triethylamine 7/3, pH=10, 50°C

### Improved Stability at low pH

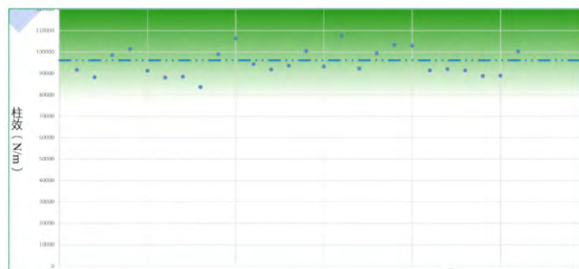
When the column used for a long time in low pH mobile phases, the bonded phase of column may occur to hydrolysis and changes of retention time. XP tC18 adopts patented triple-bonded modification, can improve stability and reproducibility at low pH. In the durability test at low pH, XP tC18 was found to be stable at 50°C and pH1 for 240 hours.



The durability test at methanol/trifluoroacetic acid 7/3, pH 1, 50°C.

## Excellent stability of batch to batch

In order to achieve consistent separation results, Micropure strictly controls every aspect of the production process to ensure the quality of the product. Through testing the column efficiency and the retention time of more than twenty different batches, the results show the deviations between batches are all controlled within reasonable limits.

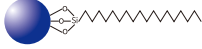


Column efficiency stability study between batches Retention time stability study between batches



## MicroPulite® XP tC18 Column

As a general-purpose column, XP tC18 is suitable for a wide range of analytes. It can be used in a wide pH range from pH 1-12, and can tolerate higher column temperatures than silica columns, as well as be able to used under mobile phases with different concentrations of buffer salts and ion-pairing reagents, so it is the best choice for method development.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP tC18		18%	185	Yes	130Å	1.7, 2.5, 3, 3.5, 5, 7, 10µm	L1	1-12	80°C (Low pH) 60°C (High pH)

### ◆ Application Cases

#### Sample analysis of Sodium lauryl glycine

Column: MicroPulite® XP tC18 4.6\*150mm 5µm

Instrument: Waters2695-2998

Flow rate: 1.0mL/min

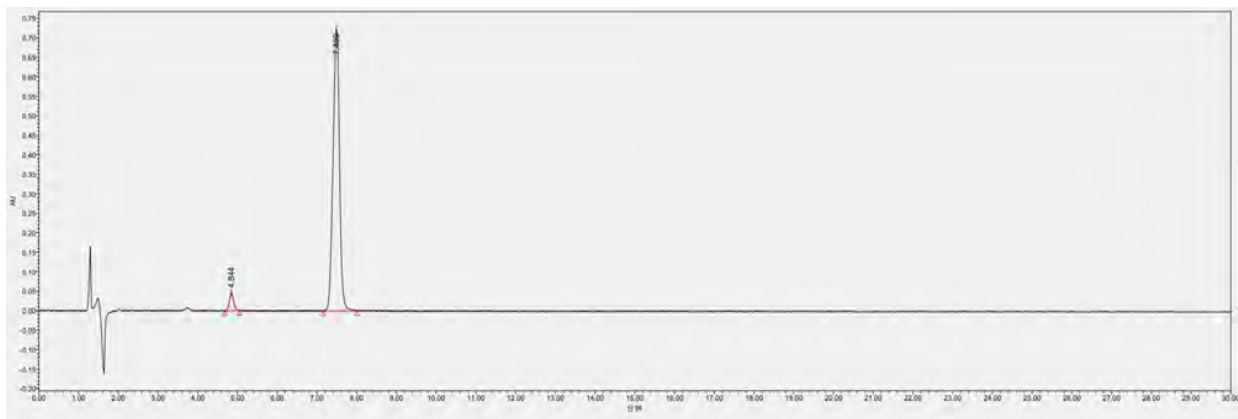
Injection volume: 10µL

Wavelength: 200nm

Column temperature: room temperature

Sample preparation: Place 1mL sample in a 100mL volumetric bottle, add water and mix

t(min)	Water(0.1%TFA)	Acetonitrile
0	45	55
30	45	55
30.1	0	100
35	0	100



### Determination of azithromycin related substances

Method:EP

Column:MicroPulite® XP tC18 4.6\*250mm 5µm

Wavelength:UV 210nm

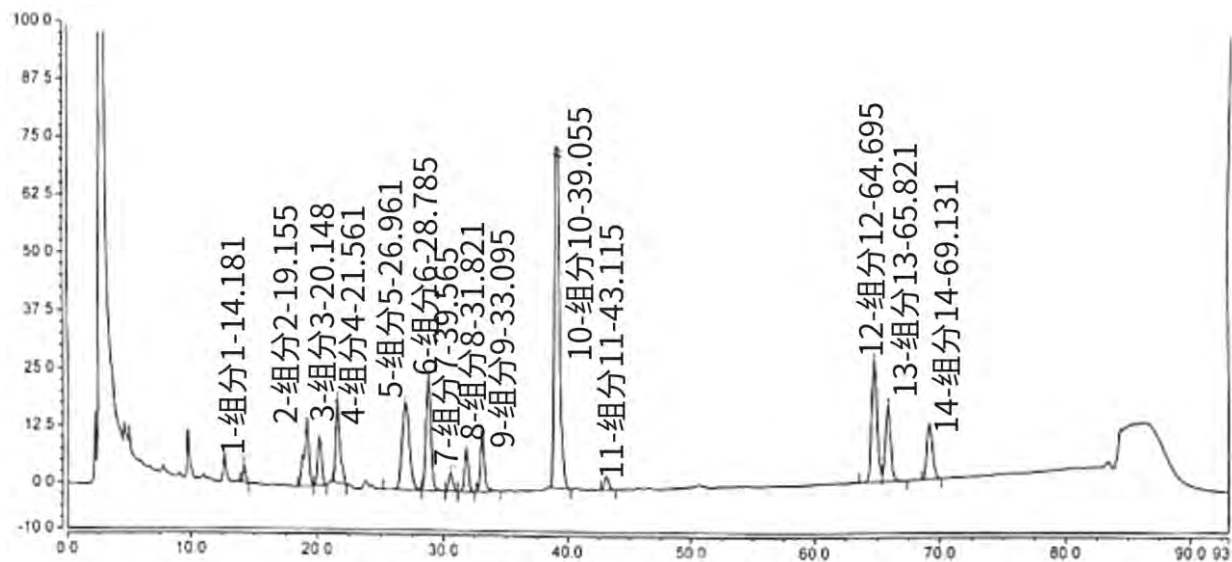
Flow rate:1mL/min

Column temperature:60°C

Mobile phase:A: buffer (18g/L sodium dihydrogen phosphate, adjusted pH8.9); B:Methanol-acetonitrile = (1:3)

Time	Waters(0.1%TFA)	Acetonitrile
0	50	50
25	45	55
30	40	60
80	25	75
81	50	50
93	50	50

Chromatogram:



## The Characteristic chromatogram of Pueraria Mirifica Formulated Granule

Method:《National Drug Standard for Chinese Medicine Formula Granules (Good Batch)》

Column: MicroPulite® XP tC18 1.7μm 2.1\*100mm (Part No:XPtC18-102117)

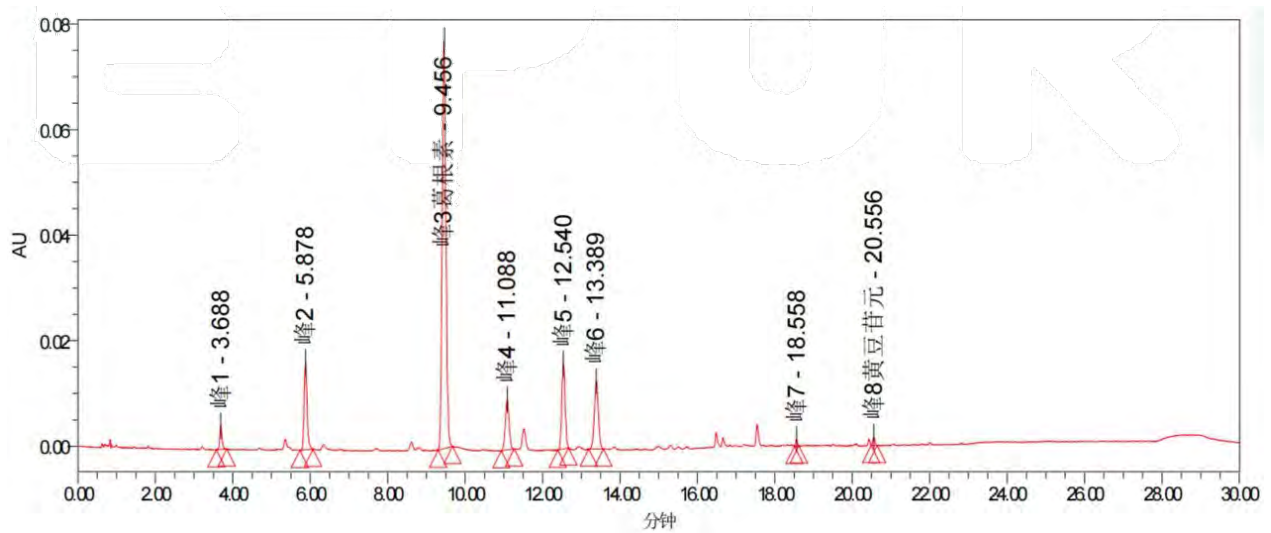
Wavelength: UV 250nm

Flow rate: 0.4mL/min

Column temperature: 30°C

Mobile phase: Phase A: Acetonitrile; Phase B: 0.1% phosphoric acid solution

Chromatogram:



## Easy transfer from analysis to semi-preparation

The XP series has preparative/semi-preparative columns with the same bonded phase, separation selectivity and performance as the analysis columns. It can be scaled up directly from analysis to preparative, and provide in a variety of particle sizes, diameters and lengths to meet the needs of different separation platforms. In the case of toluene, for example, the method was transferred from 5 $\mu$ m XP tC18 analysis column to 10  $\mu$ m preparative column, there was no significant difference in the retention time, peak shape and column efficiency of toluene.

Wavelength: 254nm

Mobile phase: 70% acetonitrile/30% water

Flow rate: Equal proportion to volume

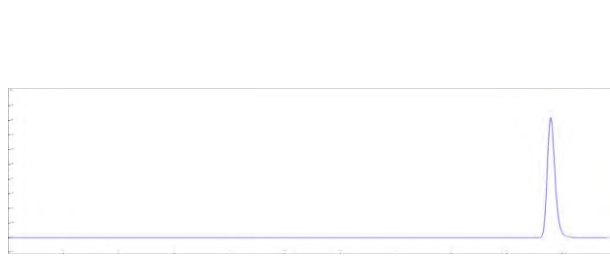
Sample: Toluene

Analysis column: MicroPulite® XP tC18 4.6\*250mm 5 $\mu$ m



Item	Sample	Ret Time (min)	USP Tailing (As)	Efficiency (N/m)
1	Toluene	8.71	1.16	86583

Semi-Prep column: MicroPulite® XP tC18 30\*250mm 10 $\mu$ m



Item	Sample	Ret Time (min)	USP Tailing (As)	Efficiency (N/m)
1	Toluene	8.80	1.16	68670

## MicroPulite®XP tC18 Ordering Information

Particle Size: 1.7 $\mu$ m		Particle Size: 2.5 $\mu$ m		Particle Size: 3 $\mu$ m	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPtC18-032117	30 x 2.1 mm	XPtC18-032125	30 x 2.1 mm	XPtC18-032130
50x2.1 mm	XPtC18-052117	50x2.1 mm	XPtC18-052125	50x2.1 mm	XPtC18-052130
100 x2.1 mm	XPtC18-102117	100 x2.1 mm	XPtC18-102125	100 x2.1 mm	XPtC18-102130
150 x2.1 mm	XPtC18-152117	150 x2.1 mm	XPtC18-152125	150 x2.1 mm	XPtC18-152130
30x3.0 mm	XPtC18-033017	30x3.0 mm	XPtC18-033025	30x3.0 mm	XPtC18-033030
50x3.0 mm	XPtC18-053017	50x3.0 mm	XPtC18-053025	50x3.0 mm	XPtC18-053030
100 x3.0 mm	XPtC18-103017	100 x3.0 mm	XPtC18-103025	100 x3.0 mm	XPtC18-103030
150 x3.0 mm	XPtC18-153017	150 x3.0 mm	XPtC18-153025	150 x3.0 mm	XPtC18-153030
		250 x3.0 mm	XPtC18-253025	250 x3.0 mm	XPtC18-253030
		30 x 4.6 mm	XPtC18-034625	30 x 4.6 mm	XPtC18-034630
		50x 4.6 mm	XPtC18-054625	50x 4.6 mm	XPtC18-054630
		100 x4.6 mm	XPtC18-104625	100 x4.6 mm	XPtC18-104630
		150 x4.6 mm	XPtC18-154625	150 x4.6 mm	XPtC18-154630
		200 x4.6 mm	XPtC18-204625	200 x4.6 mm	XPtC18-204630
		250 x4.6 mm	XPtC18-254625	250 x4.6 mm	XPtC18-254630

Particle Size: 3.5 $\mu\text{m}$	
Size	Part No
30 x 2.1 mm	XPtC18-032135
50 x 2.1 mm	XPtC18-052135
100x2.1 mm	XPtC18-102135
150 x 2.1 mm	XPtC18-152135
30 x 3.0 mm	XPtC18-033035
50 x 3.0 mm	XPtC18-053035
100x3.0 mm	XPtC18-103035
150 x 3.0 mm	XPtC18-153035
250x3.0 mm	XPtC18-253035
30 x 4.6 mm	XPtC18-034635
50 x 4.6 mm	XPtC18-054635
100 x 4.6 mm	XPtC18-104635
150x4.6 mm	XPtC18-154635
200x4.6 mm	XPtC18-204635
250 x 4.6 mm	XPtC18-254635

Particle Size: 5 $\mu\text{m}$	
Size	Part No
30 x 2.1 mm	XPtC18-032150
50x2.1 mm	XPtC18-052150
100 x 2.1 mm	XPtC18-102150
150 x 2.1 mm	XPtC18-152150
30x3.0 mm	XPtC18-033050
50x3.0 mm	XPtC18-053050
100 x 3.0 mm	XPtC18-103050
150 x 3.0 mm	XPtC18-153050
250 x 3.0 mm	XPtC18-253050
30 x 4.6 mm	XPtC18-034650
50x 4.6 mm	XPtC18-054650
100 x 4.6 mm	XPtC18-104650
150 x 4.6 mm	XPtC18-154650
200 x 4.6 mm	XPtC18-204650
250 x 4.6 mm	XPtC18-254650

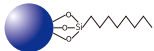
Particle Size: 5 $\mu\text{m}$	
Size	Part No
150x10 mm	XPtC18-1510050
250x10 mm	XPtC18-2510050
300x10 mm	XPtC18-3010050
150x20 mm	XPtC18-1520050
250x20 mm	XPtC18-2520050
300x20 mm	XPtC18-3020050
150x21.2 mm	XPtC18-1521250
250x21.2 mm	XPtC18-2521250
300x21.2 mm	XPtC18-3021250
150x30 mm	XPtC18-1530050
250x30 mm	XPtC18-2530050
300x30 mm	XPtC18-3030050
150x50 mm	XPtC18-1550050
250x50 mm	XPtC18-2550050
300x50 mm	XPtC18-3050050

Particle Size: 7 $\mu\text{m}$	
Size	Part No
150x10 mm	XPtC18-1510070
250x10 mm	XPtC18-2510070
300x10 mm	XPtC18-3010070
150x20 mm	XPtC18-1520070
250x20 mm	XPtC18-2520070
300x20 mm	XPtC18-3020070
150x21.2 mm	XPtC18-1521270
250x21.2 mm	XPtC18-2521270
300x21.2 mm	XPtC18-3021270
150x30 mm	XPtC18-1530070
250x30 mm	XPtC18-2530070
300x30 mm	XPtC18-3030070
150x50 mm	XPtC18-1550070
250x50 mm	XPtC18-2550070
300x50 mm	XPtC18-3050070

Particle Size: 10 $\mu\text{m}$	
Size	Part No
150x10 mm	XPtC18-15100100
250x10 mm	XPtC18-25100100
300x10 mm	XPtC18-30100100
150x20 mm	XPtC18-15200100
250x20 mm	XPtC18-25200100
300x20 mm	XPtC18-30200100
150x21.2 mm	XPtC18-15212100
250x21.2 mm	XPtC18-25212100
300x21.2 mm	XPtC18-30212100
150x30 mm	XPtC18-15300100
250x30 mm	XPtC18-25300100
300x30 mm	XPtC18-30300100
150x50 mm	XPtC18-15500100
250x50 mm	XPtC18-25500100
300x50 mm	XPtC18-30500100

## MicroPulite® XP tC8 Column

XP tC8 can be used for a wide range of analytes in the pH 1-12, and provides good peak shape, column efficiency and chemical stability for compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
tC8		13%	185	Yes	130Å	1.7, 2.5, 3, 3.5, 5, 7, 10µm	L7	1-12	60°C (Low pH) 60°C (High pH)

### MicroPulite® XP tC8 Ordering Information

Particle Size: 1.7 µm		Particle Size: 2.5 µm		Particle Size: 3 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPtC08-032117	30 x 2.1 mm	XPtC08-032125	30 x 2.1 mm	XPtC08-032130
50x2.1 mm	XPtC08-052117	50x2.1 mm	XPtC08-052125	50x2.1 mm	XPtC08-052130
100 x2.1 mm	XPtC08-102117	100 x2.1 mm	XPtC08-102125	100 x2.1 mm	XPtC08-102130
150 x2.1 mm	XPtC08-152117	150 x2.1 mm	XPtC08-152125	150 x2.1 mm	XPtC08-152130
30x3.0 mm	XPtC08-033017	30x3.0 mm	XPtC08-033025	30x3.0 mm	XPtC08-033030
50x3.0 mm	XPtC08-053017	50x3.0 mm	XPtC08-053025	50x3.0 mm	XPtC08-053030
100 x3.0 mm	XPtC08-103017	100 x3.0 mm	XPtC08-103025	100 x3.0 mm	XPtC08-103030
150 x3.0 mm	XPtC08-153017	150 x3.0 mm	XPtC08-153025	150 x3.0 mm	XPtC08-153030
		250 x3.0 mm	XPtC08-253025	250 x3.0 mm	XPtC08-253030
		30 x 4.6 mm	XPtC08-034625	30 x 4.6 mm	XPtC08-034630
		50x 4.6 mm	XPtC08-054625	50x 4.6 mm	XPtC08-054630
		100 x4.6 mm	XPtC08-104625	100 x4.6 mm	XPtC08-104630
		150 x4.6 mm	XPtC08-154625	150 x4.6 mm	XPtC08-154630
		200 x4.6 mm	XPtC08-204625	200 x4.6 mm	XPtC08-204630
		250 x4.6 mm	XPtC08-254625	250 x4.6 mm	XPtC08-254630

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPtC08-032135	30 x 2.1 mm	XPtC08-032150
50x2.1 mm	XPtC08-052135	50x2.1 mm	XPtC08-052150
100 x2.1 mm	XPtC08-102135	100 x2.1 mm	XPtC08-102150
150 x2.1 mm	XPtC08-152135	150 x2.1 mm	XPtC08-152150
30x3.0 mm	XPtC08-033035	30x3.0 mm	XPtC08-033050
50x3.0 mm	XPtC08-053035	50x3.0 mm	XPtC08-053050
100 x3.0 mm	XPtC08-103035	100 x3.0 mm	XPtC08-103050
150 x3.0 mm	XPtC08-153035	150 x3.0 mm	XPtC08-153050
250 x3.0 mm	XPtC08-253035	250 x3.0 mm	XPtC08-253050
30 x 4.6 mm	XPtC08-034635	30 x 4.6 mm	XPtC08-034650
50x 4.6 mm	XPtC08-054635	50x 4.6 mm	XPtC08-054650
100 x4.6 mm	XPtC08-104635	100 x4.6 mm	XPtC08-104650
150 x4.6 mm	XPtC08-154635	150 x4.6 mm	XPtC08-154650
200 x4.6 mm	XPtC08-204635	200 x4.6 mm	XPtC08-204650
250 x4.6 mm	XPtC08-254635	250 x4.6 mm	XPtC08-254650

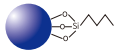
Particle Size: 5 $\mu\text{m}$	
Size	Part No
150x10 mm	XPtC08-1510050
250x10 mm	XPtC08-2510050
300x10 mm	XPtC08-3010050
150x20 mm	XPtC08-1520050
250x20 mm	XPtC08-2520050
300x20 mm	XPtC08-3020050
150x21.2 mm	XPtC08-1521250
250x21.2 mm	XPtC08-2521250
300x21.2 mm	XPtC08-3021250
150x30 mm	XPtC08-1530050
250x30 mm	XPtC08-2530050
300x30 mm	XPtC08-3030050
150x50 mm	XPtC08-1550050
250x50 mm	XPtC08-2550050
300x50 mm	XPtC08-3050050

Particle Size: 7 $\mu\text{m}$	
Size	Part No
150x10 mm	XPtC08-1510070
250x10 mm	XPtC08-2510070
300x10 mm	XPtC08-3010070
150x20 mm	XPtC08-1520070
250x20 mm	XPtC08-2520070
300x20 mm	XPtC08-3020070
150x21.2 mm	XPtC08-1521270
250x21.2 mm	XPtC08-2521270
300x21.2 mm	XPtC08-3021270
150x30 mm	XPtC08-1530070
250x30 mm	XPtC08-2530070
300x30 mm	XPtC08-3030070
150x50 mm	XPtC08-1550070
250x50 mm	XPtC08-2550070
300x50 mm	XPtC08-3050070

Particle Size: 10 $\mu\text{m}$	
Size	Part No
150x10 mm	XPtC08-15100100
250x10 mm	XPtC08-25100100
300x10 mm	XPtC08-30100100
150x20 mm	XPtC08-15200100
250x20 mm	XPtC08-25200100
300x20 mm	XPtC08-30200100
150x21.2 mm	XPtC08-15212100
250x21.2 mm	XPtC08-25212100
300x21.2 mm	XPtC08-30212100
150x30 mm	XPtC08-15300100
250x30 mm	XPtC08-25300100
300x30 mm	XPtC08-30300100
150x50 mm	XPtC08-15500100
250x50 mm	XPtC08-25500100
300x50 mm	XPtC08-30500100

## MicroPulite® XP tC4 Column

XP tC4 is a butylsilane-bonded hybrid silica column, used in the pH 1-10 for the separation of stronger hydrophobic substances in small molecules, as well as for the reverse-phase analysis of large molecules such as proteins.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
tC4		9.5%	185	Yes	130Å	1.7, 2.5, 3, 3.5, 5, 7, 10µm	L26	1-10	80°C (Low pH) 50°C (High pH)

### MicroPulite®XP tC4 Ordering Information

Particle Size: 1.7 µm	
Size	Part No
30 x 2.1 mm	XPtC04-032117
50x2.1 mm	XPtC04-052117
100 x2.1 mm	XPtC04-102117
150 x2.1 mm	XPtC04-152117
30x3.0 mm	XPtC04-033017
50x3.0 mm	XPtC04-053017
100 x3.0 mm	XPtC04-103017
150 x3.0 mm	XPtC04-153017

Particle Size: 2.5 µm	
Size	Part No
30 x 2.1 mm	XPtC04-032125
50x2.1 mm	XPtC04-052125
100 x2.1 mm	XPtC04-102125
150 x2.1 mm	XPtC04-152125
30x3.0 mm	XPtC04-033025
50x3.0 mm	XPtC04-053025
100 x3.0 mm	XPtC04-103025
150 x3.0 mm	XPtC04-153025
250 x3.0 mm	XPtC04-253025
30 x 4.6 mm	XPtC04-034625
50x 4.6 mm	XPtC04-054625
100 x4.6 mm	XPtC04-104625
150 x4.6 mm	XPtC04-154625
200 x4.6 mm	XPtC04-204625
250 x4.6 mm	XPtC04-254625

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	XPtC04-032130
50x2.1 mm	XPtC04-052130
100 x2.1 mm	XPtC04-102130
150 x2.1 mm	XPtC04-152130
30x3.0 mm	XPLC04-033030
50x3.0 mm	XPtC04-053030
100 x3.0 mm	XPtC04-103030
150 x3.0 mm	XPtC04-153030
250 x3.0 mm	XPtC04-253030
30 x 4.6 mm	XPtC04-034630
50x 4.6 mm	XPtC04-054630
100 x4.6 mm	XPtC04-104630
150 x4.6 mm	XPtC04-154630
200 x4.6 mm	XPtC04-204630
250 x4.6 mm	XPtC04-254630

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	XPtC04-032135
50x2.1 mm	XPtC04-052135
100 x2.1 mm	XPtC04-102135
150 x2.1 mm	XPtC04-152135
30x3.0 mm	XPtC04-033035
50x3.0 mm	XPtC04-053035
100 x3.0 mm	XPtC04-103035
150 x3.0 mm	XPtC04-153035
250 x3.0 mm	XPtC04-253035
30 x 4.6 mm	XPtC04-034635
50x 4.6 mm	XPtC04-054635
100 x4.6 mm	XPtC04-104635
150 x4.6 mm	XPtC04-154635
200 x4.6 mm	XPtC04-204635
250 x4.6 mm	XPtC04-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	XPtC04-032150
50x2.1 mm	XPtC04-052150
100 x2.1 mm	XPtC04-102150
150 x2.1 mm	XPtC04-152150
30x3.0 mm	XPtC04-033050
50x3.0 mm	XPtC04-053050
100 x3.0 mm	XPtC04-103050
150 x3.0 mm	XPtC04-153050
250 x3.0 mm	XPtC04-253050
30 x 4.6 mm	XPtC04-034650
50x 4.6 mm	XPtC04-054650
100 x4.6 mm	XPtC04-104650
150 x4.6 mm	XPtC04-154650
200 x4.6 mm	XPtC04-204650
250 x4.6 mm	XPtC04-254650



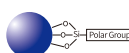
Particle Size: 5 $\mu$ m	
Size	Part No
150x10 mm	XPtC04-1510050
250x10 mm	XPtC04-2510050
300x10 mm	XPtC04-3010050
150x20 mm	XPtC04-1520050
250x20 mm	XPtC04-2520050
300x20 mm	XPLC04-3020050
150x21.2 mm	XPtC04-1521250
250x21.2 mm	XPtC04-2521250
300x21.2 mm	XPtC04-3021250
150x30 mm	XPEC04-1530050
250x30 mm	XPtC04-2530050
300x30 mm	XPtC04-3030050
150x50 mm	XPtC04-1550050
250x50 mm	XPtC04-2550050
300x50 mm	XPtC04-3050050

Particle Size: 7 $\mu$ m	
Size	Part No
150x10 mm	XPLC04-1510070
250x10 mm	XPtC04-2510070
300x10 mm	XPtC04-3010070
150x20 mm	XPtC04-1520070
250x20 mm	XPtC04-2520070
300x20 mm	XPtC04-3020070
150x21.2 mm	XPtC04-1521270
250x21.2 mm	XPtC04-2521270
300x21.2 mm	XPtC04-3021270
150x30 mm	XPtC04-1530070
250x30 mm	XPtC04-2530070
300x30 mm	XPtC04-3030070
150x50 mm	XPtC04-1550070
250x50 mm	XPtC04-2550070
300x50 mm	XPtC04-3050070

Particle Size: 10 $\mu$ m	
Size	Part No
150x10 mm	XPtC04-15100100
250x10 mm	XPtC04-25100100
300x10 mm	XPtC04-30100100
150x20 mm	XPtC04-15200100
250x20 mm	XPtC04-25200100
300x20 mm	XPtC04-30200100
150x21.2 mm	XPtC04-15212100
250x21.2 mm	XPtC04-25212100
300x21.2 mm	XPtC04-30212100
150x30 mm	XPtC04-15300100
250x30 mm	XPtC04-25300100
300x30 mm	XPtC04-30300100
150x50 mm	XPtC04-15500100
250x50 mm	XPtC04-25500100
300x50 mm	XPtC04-30500100

# MicroPulite® XP RP18 Column

Although the XP RP18 and RP18 Plus have different polar embedded group, but they are compatible and tolerant to 100% water based on the same principler. The XP RP18 has the triple bonded technology, reduces the loss of the bonded phase under high aqueous phase conditions and extends the column life .

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
RP18		18%	185	Yes	130Å	1.7, 2.5, 3, 3.5, 5, 10µm	L1	2-11	50°C (Low pH) 45°C (High pH)

## MicroPulite®XP RP18 Ordering Information

Particle Size: 1.7 µm		Particle Size: 2.5 µm		Particle Size: 3 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPR18-032117	30 x 2.1 mm	XPR18-032125	30 x 2.1 mm	XPR18-032130
50x2.1 mm	XPR18-052117	50x2.1 mm	XPR18-052125	50x2.1 mm	XPR18-052130
100 x2.1 mm	XPR18-102117	100 x2.1 mm	XPR18-102125	100 x2.1 mm	XPR18-102130
150 x2.1 mm	XPR18-152117	150 x2.1 mm	XPR18-152125	150 x2.1 mm	XPR18-152130
30x3.0 mm	XPR18-033017	30x3.0 mm	XPR18-033025	30x3.0 mm	XPR18-033030
50x3.0 mm	XPR18-053017	50x3.0 mm	XPR18-053025	50x3.0 mm	XPR18-053030
100 x3.0 mm	XPR18-103017	100 x3.0 mm	XPR18-103025	100 x3.0 mm	XPR18-103030
150 x3.0 mm	XPR18-153017	150 x3.0 mm	XPR18-153025	150 x3.0 mm	XPR18-153030
		250 x3.0 mm	XPR18-253025	250 x3.0 mm	XPR18-253030
		30 x 4.6 mm	XPR18-034625	30 x 4.6 mm	XPR18-034630
		50x 4.6 mm	XPR18-054625	50x 4.6 mm	XPR18-054630
		100 x4.6 mm	XPR18-104625	100 x4.6 mm	XPR18-104630
		150 x4.6 mm	XPR18-154625	150 x4.6 mm	XPR18-154630
		200 x4.6 mm	XPR18-204625	200 x4.6 mm	XPR18-204630
		250 x4.6 mm	XPR18-254625	250 x4.6 mm	XPR18-254630


  

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPR18-032135	30 x 2.1 mm	XPR18-032150
50x2.1 mm	XPR18-052135	50x2.1 mm	XPR18-052150
100 x2.1 mm	XPR18-102135	100 x2.1 mm	XPR18-102150
150 x2.1 mm	XPR18-152135	150 x2.1 mm	XPR18-152150
30x3.0 mm	XPR18-033035	30x3.0 mm	XPR18-033050
50x3.0 mm	XPR18-053035	50x3.0 mm	XPR18-053050
100 x3.0 mm	XPR18-103035	100 x3.0 mm	XPR18-103050
150 x3.0 mm	XPR18-153035	150 x3.0 mm	XPR18-153050
250 x3.0 mm	XPR18-253035	250 x3.0 mm	XPR18-253050
30 x 4.6 mm	XPR18-034635	30 x 4.6 mm	XPR18-034650
50x 4.6 mm	XPR18-054635	50x 4.6 mm	XPR18-054650
100 x4.6 mm	XPR18-104635	100 x4.6 mm	XPR18-104650
150 x4.6 mm	XPR18-154635	150 x4.6 mm	XPR18-154650
200 x4.6 mm	XPR18-204635	200 x4.6 mm	XPR18-204650
250 x4.6 mm	XPR18-254635	250 x4.6 mm	XPR18-254650

Particle Size: 5 $\mu$ m		Particle Size: 10 $\mu$ m	
Size	Part No	Size	Part No
150x10 mm	XPR18-1510050	150x10 mm	XPR18-15100100
250x10 mm	XPR18-2510050	250x10 mm	XPR18-25100100
300x10 mm	XPR18-3010050	300x10 mm	XPR18-30100100
150x20 mm	XPR18-1520050	150x20 mm	XPR18-15200100
250x20 mm	XPR18-2520050	250x20 mm	XPR18-25200100
300x20 mm	XPR18-3020050	300x20 mm	XPR18-30200100
150x21.2 mm	XPR18-1521250	150x21.2 mm	XPR18-15212100
250x21.2 mm	XPR18-2521250	250x21.2 mm	XPR18-25212100
300x21.2 mm	XPR18-3021250	300x21.2 mm	XPR18-30212100
150x30 mm	XPR18-1530050	150x30 mm	XPR18-15300100
250x30 mm	XPR18-2530050	250x30 mm	XPR18-25300100
300x30 mm	XPR18-3030050	300x30 mm	XPR18-30300100
150x50 mm	XPR18-1550050	150x50 mm	XPR18-15500100
250x50 mm	XPR18-2550050	250x50 mm	XPR18-25500100
300x50 mm	XPR18-3050050	300x50 mm	XPR18-30500100

## MicroPulite® XP RP18 Plus Column

With the polar embedded group in the bonded phase, XP RP18Plus is compatible and tolerant of 100% aqueous phases and is stable in the pH 2-12 range. The polar embedded group also has a shielding of the silanol group on the silica, thus the column provide good peak shape for basic compounds, and XP RP18Plus selectivity is also different from XP tC18.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
RP18 Plus		17%	185	Yes	130Å	1.7, 2.5, 3, 3.5, 5, 10µm	L1	2-11	50°C (Low pH) 45°C (High pH)

### ◆ Application Cases

#### Determination of 5-hydroxymethylfurfural in Tinidazole Dextrose Injection

Column: MicroPulite® XP RP18 Plus 4.6\*250mm 5µm (Part No: XPR18P-254650)

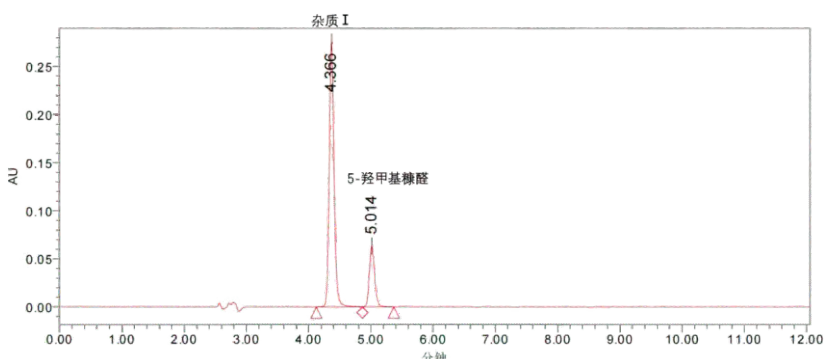
Wavelength: UV 284nm

Flow rate: 1mL/min

Column temperature: 30°C

Mobile phase: 50mM Potassium dihydrogen phosphate (pH adjusted to 3.5 with phosphoric acid)-methanol = (80:20)

Chromatogram:



### MicroPulite® XP RP18 Plus Ordering Information

Particle Size: 1.7 µm		Particle Size: 2.5 µm		Particle Size: 3 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPR18P-032117	30 x 2.1 mm	XPR18P-032125	30 x 2.1 mm	XPR18P-032130
50x2.1 mm	XPR18P-052117	50x2.1 mm	XPR18P-052125	50x2.1 mm	XPR18P-052130
100 x2.1 mm	XPR18P-102117	100 x2.1 mm	XPR18P-102125	100 x2.1 mm	XPR18P-102130
150 x2.1 mm	XPR18P-152117	150 x2.1 mm	XPR18P-152125	150 x2.1 mm	XPR18P-152130
30x3.0 mm	XPR18P-033017	30x3.0 mm	XPR18P-033025	30x3.0 mm	XPR18P-033030
50x3.0 mm	XPR18P-053017	50x3.0 mm	XPR18P-053025	50x3.0 mm	XPR18P-053030
100 x3.0 mm	XPR18P-103017	100 x3.0 mm	XPR18P-103025	100 x3.0 mm	XPR18P-103030
150 x3.0 mm	XPR18P-153017	150 x3.0 mm	XPR18P-153025	150 x3.0 mm	XPR18P-153030
		250 x3.0 mm	XPR18P-253025	250 x3.0 mm	XPR18P-253030
		30 x 4.6 mm	XPR18P-034625	30 x 4.6 mm	XPR18P-034630
		50x 4.6 mm	XPR18P-054625	50x 4.6 mm	XPR18P-054630
		100 x4.6 mm	XPR18P-104625	100 x4.6 mm	XPR18P-104630
		150 x4.6 mm	XPR18P-154625	150 x4.6 mm	XPR18P-154630
		200 x4.6 mm	XPR18P-204625	200 x4.6 mm	XPR18P-204630
		250 x4.6 mm	XPR18P-254625	250 x4.6 mm	XPR18P-254630

Particle Size: 3.5 $\mu\text{m}$	
Size	Part No
30 x 2.1 mm	XPR18P-032135
50x2.1 mm	XPR18P-052135
100 x2.1 mm	XPR18P-102135
150 x2.1 mm	XPR18P-152135
30x3.0 mm	XPR18P-033035
50x3.0 mm	XPR18P-053035
100 x3.0 mm	XPR18P-103035
150 x3.0 mm	XPR18P-153035
250 x3.0 mm	XPR18P-253035
30 x 4.6 mm	XPR18P-034635
50x 4.6 mm	XPR18P-054635
100 x4.6 mm	XPR18P-104635
150 x4.6 mm	XPR18P-154635
200 x4.6 mm	XPR18P-204635
250 x4.6 mm	XPR18P-254635

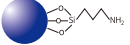
Particle Size: 5 $\mu\text{m}$	
Size	Part No
30 x 2.1 mm	XPR18P-032150
50x2.1 mm	XPR18P-052150
100 x2.1 mm	XPR18P-102150
150 x2.1 mm	XPR18P-152150
30x3.0 mm	XPR18P-033050
50x3.0 mm	XPR18P-053050
100 x3.0 mm	XPR18P-103050
150 x3.0 mm	XPR18P-153050
250 x3.0 mm	XPR18P-253050
30 x 4.6 mm	XPR18P-034650
50x 4.6 mm	XPR18P-054650
100 x4.6 mm	XPR18P-104650
150 x4.6 mm	XPR18P-154650
200 x4.6 mm	XPR18P-204650
250 x4.6 mm	XPR18P-254650

Particle Size: 5 $\mu\text{m}$	
Size	Part No
150x10 mm	XPR18P-1510050
250x10 mm	XPR18P-2510050
300x10 mm	XPR18P-3010050
150x20 mm	XPR18P-1520050
250x20 mm	XPR18P-2520050
300x20 mm	XPR18P-3020050
150x21.2 mm	XPR18P-1521250
250x21.2 mm	XPR18P-2521250
300x21.2 mm	XPR18P-3021250
150x30 mm	XPR18P-1530050
250x30 mm	XPR18P-2530050
300x30 mm	XPR18P-3030050
150x50 mm	XPR18P-1550050
250x50 mm	XPR18P-2550050
300x50 mm	XPR18P-3050050

Particle Size: 10 $\mu\text{m}$	
Size	Part No
150x10 mm	XPR18P-15100100
250x10 mm	XPR18P-25100100
300x10 mm	XPR18P-30100100
150x20 mm	XPR18P-15200100
250x20 mm	XPR18P-25200100
300x20 mm	XPR18P-30200100
150x21.2 mm	XPR18P-15212100
250x21.2 mm	XPR18P-25212100
300x21.2 mm	XPR18P-30212100
150x30 mm	XPR18P-15300100
250x30 mm	XPR18P-25300100
300x30 mm	XPR18P-30300100
150x50 mm	XPR18P-15500100
250x50 mm	XPR18P-25500100
300x50 mm	XPR18P-30500100

## MicroPulite® XP NH<sub>2</sub> Column

How to extend the amido columns life is a major challenge, because the amido easily fall off from the silica surface. XP NH<sub>2</sub> adopt hybrid silica and triple bonded technology, can use in pH 1-9 and has a longer column life. The column can be used in both normal phase and HILIC modes of action, and is suitable for the analysis of compounds such as saccharides, steroids and other compounds.


Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
NH <sub>2</sub>		9%	185	Yes	130Å	3.5, 5µm	L8	1-9	45°C (Low pH) 45°C (High pH)

### MicorPulite® XP NH<sub>2</sub> Ordering Information

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPNH-032135	30 x 2.1 mm	XPNH-032150
50x2.1 mm	XPNH-052135	50x2.1 mm	XPNH-052150
100 x2.1 mm	XPNH-102135	100 x2.1 mm	XPNH-102150
150 x2.1 mm	XPNH-152135	150 x2.1 mm	XPNH-152150
30x3.0 mm	XPNH-033035	30x3.0 mm	XPNH-033050
50x3.0 mm	XPNH-053035	50x3.0 mm	XPNH-053050
100 x3.0 mm	XPNH-103035	100 x3.0 mm	XPNH-103050
150 x3.0 mm	XPNH-153035	150 x3.0 mm	XPNH-153050
250 x3.0 mm	XPNH-253035	250 x3.0 mm	XPNH-253050
30 x 4.6 mm	XPNH-034635	30 x 4.6 mm	XPNH-034650
50x 4.6 mm	XPNH-054635	50x 4.6 mm	XPNH-054650
100 x4.6 mm	XPNH-104635	100 x4.6 mm	XPNH-104650
150 x4.6 mm	XPNH-154635	150 x4.6 mm	XPNH-154650
200 x4.6 mm	XPNH-204635	200 x4.6 mm	XPNH-204650
250 x4.6 mm	XPNH-254635	250 x4.6 mm	XPNH-254650

## MicroPulite® XP T3 Column

XP T3 use triple bonded technology, is compatible and tolerant of 100% aqueous phase and stable in pH 1-12. XP T3 can enhance the retention of polar compounds, at the same time it has longer column life as hybrid silica column.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
T3		14%	185	Yes	130Å	3.5, 5, 10µm	L1	1-12	80°C (Low pH) 60°C (High pH)

### ◆ Application Cases

#### Detection of water soluble vitamins

Column: MicroPulite® XP T3 250\*4.6mm 5µm (Part No: XPT3-254650)

Wavelength: UV 265nm

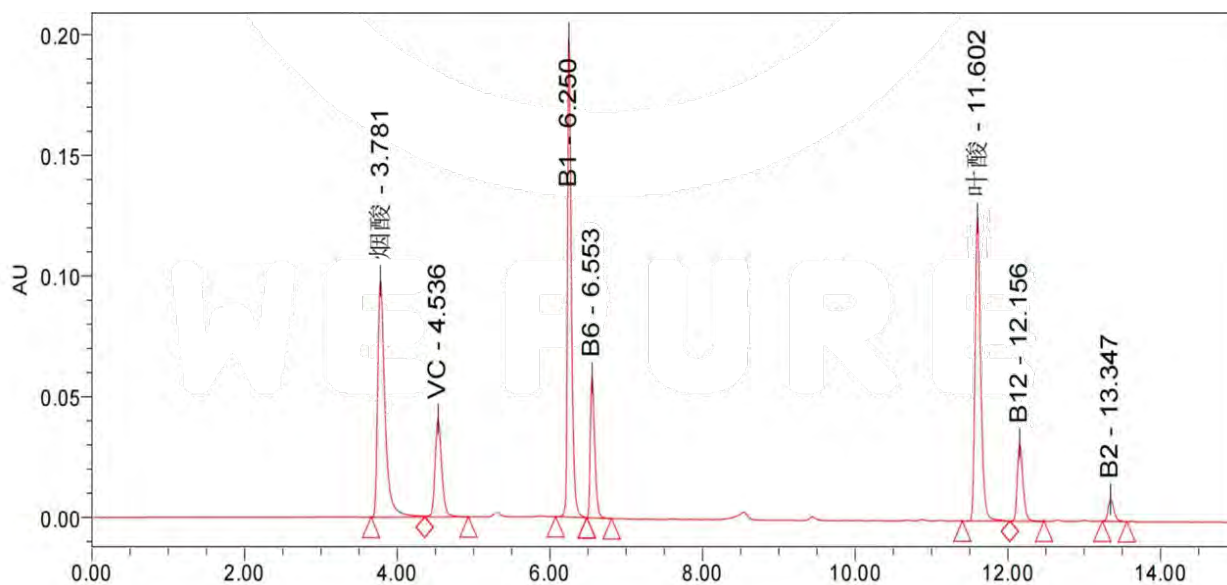
Flow rate: 1.0mL/min

Column temperature: 30°C

Mobile phase: Phase A: 20 mM ammonium formate (pH 3.0); Phase B: acetonitrile

T/min	A%	B%
0	100	0
15	70	30

Chromatogram:



## MicorPulite® XP T3 Ordering Information

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	XPT3-032135
50x2.1 mm	XPT3-052135
100 x2.1 mm	XPT3-102135
150 x2.1 mm	XPT3-152135
30x3.0 mm	XPT3-033035
50x3.0 mm	XPT3-053035
100 x3.0 mm	XPT3-103035
150 x3.0 mm	XPT3-153035
250 x3.0 mm	XPT3-253035
30 x 4.6 mm	XPT3-034635
50x 4.6 mm	XPT3-054635
100 x4.6 mm	XPT3-104635
150 x4.6 mm	XPT3-154635
200 x4.6 mm	XPT3-204635
250 x4.6 mm	XPT3-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	XPT3-032150
50x2.1 mm	XPT3-052150
100 x2.1 mm	XPT3-102150
150 x2.1 mm	XPT3-152150
30x3.0 mm	XPT3-033050
50x3.0 mm	XPT3-053050
100 x3.0 mm	XPT3-103050
150 x3.0 mm	XPT3-153050
250 x3.0 mm	XPT3-253050
30 x 4.6 mm	XPT3-034650
50x 4.6 mm	XPT3-054650
100 x4.6 mm	XPT3-104650
150 x4.6 mm	XPT3-154650
200 x4.6 mm	XPT3-204650
250 x4.6 mm	XPT3-254650


Particle Size: 5 µm	
Size	Part No
150x10 mm	XPT3-1510050
250x10 mm	XPT3-2510050
300x10 mm	XPT3-3010050
150x20 mm	XPT3-1520050
250x20 mm	XPT3-2520050
300x20 mm	XPT3-3020050
150x21.2 mm	XPT3-1521250
250x21.2 mm	XPT3-2521250
300x21.2 mm	XPT3-3021250
150x30 mm	XPT3-1530050
250x30 mm	XPT3-2530050
300x30 mm	XPT3-3030050
150x50 mm	XPT3-1550050
250x50 mm	XPT3-2550050
300x50 mm	XPT3-3050050

Particle Size: 10 µm	
Size	Part No
150x10 mm	XPT3-15100100
250x10 mm	XPT3-25100100
300x10 mm	XPT3-30100100
150x20 mm	XPT3-15200100
250x20 mm	XPT3-25200100
300x20 mm	XPT3-30200100
150x21.2 mm	XPT3-15212100
250x21.2 mm	XPT3-25212100
300x21.2 mm	XPT3-30212100
150x30 mm	XPT3-15300100
250x30 mm	XPT3-25300100
300x30 mm	XPT3-30300100
150x50 mm	XPT3-15500100
250x50 mm	XPT3-25500100
300x50 mm	XPT3-30500100



## MicroPulite® XP Phenyl-Hexyl Column

XP Phenyl-Hexyl is a triple bonded phenyl column with phenyl-hexyl group bonded to hybrid silica. Compared with phenyl bonded to silica, it has a wider pH tolerance range (pH 1-12) and better chemical stability of the bonded phase. It provides different selectivity from straight-chain alkane columns such as C18 or C8, and is suitable for the analysis of aromatic compounds and amines.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Phenyl-Hexyl		15%	185	Yes	130Å	1.7,2.5,3 3.5,5µm	L11	1-12	80°C (Low pH) 60°C (High pH)

### MicroPulite® XP Phenyl-Hexyl Ordering Information

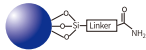
Particle Size: 1.7 µm		Particle Size: 2.5 µm		Particle Size: 3 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPPH-032117	30 x 2.1 mm	XPPH-032125	30 x 2.1 mm	XPPH-032130
50x2.1 mm	XPPH-052117	50x2.1 mm	XPPH-052125	50x2.1 mm	XPPH-052130
100 x2.1 mm	XPPH-102117	100 x2.1 mm	XPPH-102125	100 x2.1 mm	XPPH-102130
150 x2.1 mm	XPPH-152117	150 x2.1 mm	XPPH-152125	150 x2.1 mm	XPPH-152130
30x3.0 mm	XPPH-033017	30x3.0 mm	XPPH-033025	30x3.0 mm	XPPH-033030
50x3.0 mm	XPPH-053017	50x3.0 mm	XPPH-053025	50x3.0 mm	XPPH-053030
100 x3.0 mm	XPPH-103017	100 x3.0 mm	XPPH-103025	100 x3.0 mm	XPPH-103030
150 x3.0 mm	XPPH-153017	150 x3.0 mm	XPPH-153025	150 x3.0 mm	XPPH-153030
		250 x3.0 mm	XPPH-253025	250 x3.0 mm	XPPH-253030
		30 x 4.6 mm	XPPH-034625	30 x 4.6 mm	XPPH-034630
		50x 4.6 mm	XPPH-054625	50x 4.6 mm	XPPH-054630
		100 x4.6 mm	XPPH-104625	100 x4.6 mm	XPPH-104630
		150 x4.6 mm	XPPH-154625	150 x4.6 mm	XPPH-154630
		200 x4.6 mm	XPPH-204625	200 x4.6 mm	XPPH-204630
		250 x4.6 mm	XPPH-254625	250 x4.6 mm	XPPH-254630

Particle Size: 3.5 µm		Particle Size: 5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPPH-032135	30 x 2.1 mm	XPPH-032150	150x10 mm	XPPH-1510050
50x2.1 mm	XPPH-052135	50x2.1 mm	XPPH-052150	250x10 mm	XPPH-2510050
100 x2.1 mm	XPPH-102135	100 x2.1 mm	XPPH-102150	300x10 mm	XPPH-3010050
150 x2.1 mm	XPPH-152135	150 x2.1 mm	XPPH-152150	150x20 mm	XPPH-1520050
30x3.0 mm	XPPH-033035	30x3.0 mm	XPPH-033050	250x20 mm	XPPH-2520050
50x3.0 mm	XPPH-053035	50x3.0 mm	XPPH-053050	300x20 mm	XPPH-3020050
100 x3.0 mm	XPPH-103035	100 x3.0 mm	XPPH-103050	150x21.2 mm	XPPH-1521250
150 x3.0 mm	XPPH-153035	150 x3.0 mm	XPPH-153050	250x21.2 mm	XPPH-2521250
250 x3.0 mm	XPPH-253035	250 x3.0 mm	XPPH-253050	300x21.2 mm	XPPH-3021250
30 x 4.6 mm	XPPH-034635	30 x 4.6 mm	XPPH-034650	150x30 mm	XPPH-1530050
50x 4.6 mm	XPPH-054635	50x 4.6 mm	XPPH-054650	250x30 mm	XPPH-2530050
100 x4.6 mm	XPPH-104635	100 x4.6 mm	XPPH-104650	300x30 mm	XPPH-3030050
150 x4.6 mm	XPPH-154635	150 x4.6 mm	XPPH-154650	150x50 mm	XPPH-1550050
200 x4.6 mm	XPPH-204635	200 x4.6 mm	XPPH-204650	250x50 mm	XPPH-2550050
250 x4.6 mm	XPPH-254635	250 x4.6 mm	XPPH-254650	300x50 mm	XPPH-3050050

## MicroPulite® XP Amide Column

XP Amide can separate and analysis strong polar compounds in HILIC mode, which are not retained by C18 . Based on hybrid particles,XP Amide can be used with a wider range of pH mobile phases (pH 2-11) to meet the needs for separation of strongly polar compounds such as acid, basic, and neutral.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Amide		17%	185	NO	130Å	1.7,2.5,3 3.5,5µm	L68	2-11	90°C (Low pH) 90°C (High pH)

### ◆ Application Cases

#### Analysis of saccharide Compounds

Column:MicroPulite® XP Amide 4.6\*150mm 3.5µm(Part No:XPA-154635)

Wavelength:ELSD

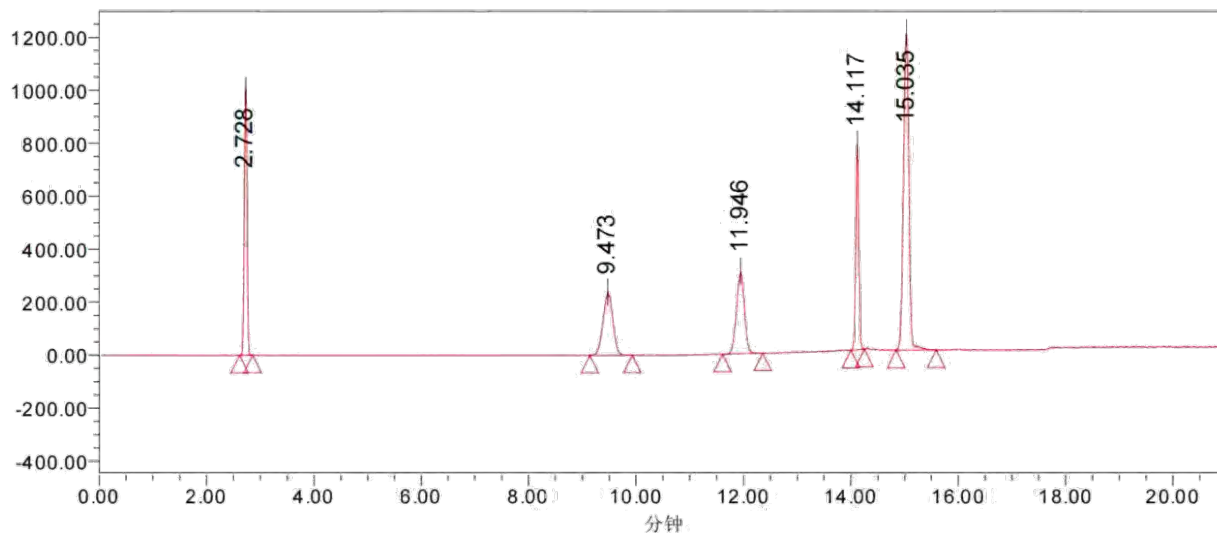
Flow rate:1mL/min

Column temperature:50°C

Mobile phase: Phase A: 0.2% TEA waters; Phase B: acetonitrile

Time	A%	B%
0	10	90
6	10	90
11	30	70
20	30	70
21	10	90

Chromatogram:



## MicroPulite® XP Amide Ordering Information

Particle Size: 1.7 µm	
Size	Part No
30 x 2.1 mm	XPA-032117
50x2.1 mm	XPA-052117
100 x2.1 mm	XPA-102117
150 x2.1 mm	XPA-152117
30x3.0 mm	XPA-033017
50x3.0 mm	XPA-053017
100 x3.0 mm	XPA-103017
150 x3.0 mm	XPA-153017

Particle Size: 2.5 µm	
Size	Part No
30 x 2.1 mm	XPA-032125
50x2.1 mm	XPA-052125
100 x2.1 mm	XPA-102125
150 x2.1 mm	XPA-152125
30x3.0 mm	XPA-033025
50x3.0 mm	XPA-053025
100 x3.0 mm	XPA-103025
150 x3.0 mm	XPA-153025
250 x3.0 mm	XPA-253025
30 x 4.6 mm	XPA-034625
50x 4.6 mm	XPA-054625
100 x4.6 mm	XPA-104625
150 x4.6 mm	XPA-154625
200 x4.6 mm	XPA-204625
250 x4.6 mm	XPA-254625

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	XPA-032130
50x2.1 mm	XPA-052130
100 x2.1 mm	XPA-102130
150 x2.1 mm	XPA-152130
30x3.0 mm	XPA-033030
50x3.0 mm	XPA-053030
100 x3.0 mm	XPA-103030
150 x3.0 mm	XPA-153030
250 x3.0 mm	XPA-253030
30 x 4.6 mm	XPA-034630
50x 4.6 mm	XPA-054630
100 x4.6 mm	XPA-104630
150 x4.6 mm	XPA-154630
200 x4.6 mm	XPA-204630
250 x4.6 mm	XPA-254630


Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	XPA-032135
50x2.1 mm	XPA-052135
100 x2.1 mm	XPA-102135
150 x2.1 mm	XPA-152135
30x3.0 mm	XPA-033035
50x3.0 mm	XPA-053035
100 x3.0 mm	XPA-103035
150 x3.0 mm	XPA-153035
250 x3.0 mm	XPA-253035
30 x 4.6 mm	XPA-034635
50x 4.6 mm	XPA-054635
100 x4.6 mm	XPA-104635
150 x4.6 mm	XPA-154635
200 x4.6 mm	XPA-204635
250 x4.6 mm	XPA-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	XPA-032150
50x2.1 mm	XPA-052150
100 x2.1 mm	XPA-102150
150 x2.1 mm	XPA-152150
30x3.0 mm	XPA-033050
50x3.0 mm	XPA-053050
100 x3.0 mm	XPA-103050
150 x3.0 mm	XPA-153050
250 x3.0 mm	XPA-253050
30 x 4.6 mm	XPA-034650
50x 4.6 mm	XPA-054650
100 x4.6 mm	XPA-104650
150 x4.6 mm	XPA-154650
200 x4.6 mm	XPA-204650
250 x4.6 mm	XPA-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	XPA-1510050
250x10 mm	XPA-2510050
300x10 mm	XPA-3010050
150x20 mm	XPA-1520050
250x20 mm	XPA-2520050
300x20 mm	XPA-3020050
150x21.2 mm	XPA-1521250
250x21.2 mm	XPA-2521250
300x21.2 mm	XPA-3021250

## MicroPulite® XP HILIC Column

As unbonded hybrid silica, XP HILIC has excellent chemical stability in the pH 1-9 for use in normal phase and HILIC conditions. XP HILIC can increase the retention of polar compounds in HILIC mode, especially polar basic and neutral compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
HILIC		-	185	NO	130Å	1.7,2.5,3 3.5,5µm	L3	1-9	45°C (Low pH) 45°C (High pH)

### ◆ Application Cases

#### Determination of Cyromazine Residues in Animal derived Foods

Method: GB 31658 12-2021

Column: MicroPulite® XP HILIC 2.1\*150mm 3.5µm (Part No: XPH-152135)

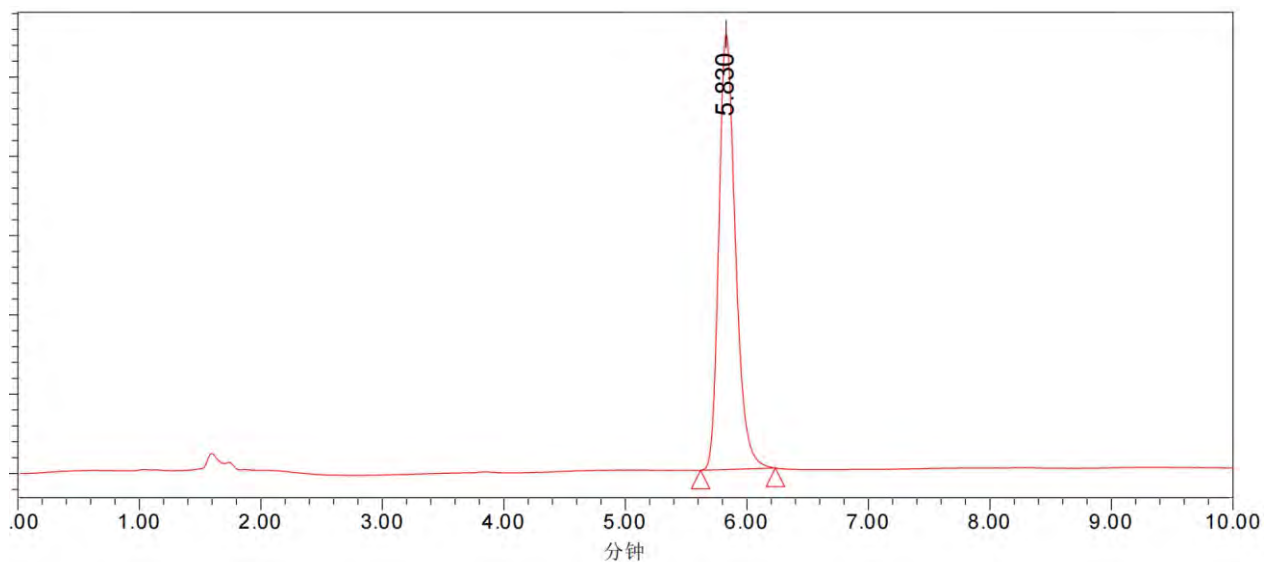
Wavelength: UV 214nm

Flow rate: 0.3mL/min

Column temperature: 30°C

Mobile phase: Acetonitrile - 25mM ammonium acetate= (96 : 4)

Chromatogram:



## MicroPulite® XP HILIC Ordering Information

Particle Size: 1.7 µm	
Size	Part No
30 x 2.1 mm	XPH-032117
50x2.1 mm	XPH-052117
100 x2.1 mm	XPH-102117
150 x2.1 mm	XPH-152117
30x3.0 mm	XPH-033017
50x3.0 mm	XPH-053017
100 x3.0 mm	XPH-103017
150 x3.0 mm	XPH-153017

Particle Size: 2.5 µm	
Size	Part No
30 x 2.1 mm	XPH-032125
50x2.1 mm	XPH-052125
100 x2.1 mm	XPH-102125
150 x2.1 mm	XPH-152125
30x3.0 mm	XPH-033025
50x3.0 mm	XPH-053025
100 x3.0 mm	XPH-103025
150 x3.0 mm	XPH-153025
250 x3.0 mm	XPH-253025
30 x 4.6 mm	XPH-034625
50x 4.6 mm	XPH-054625
100 x4.6 mm	XPH-104625
150 x4.6 mm	XPH-154625
200 x4.6 mm	XPH-204625
250 x4.6 mm	XPH-254625

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	XPH-032130
50x2.1 mm	XPH-052130
100 x2.1 mm	XPH-102130
150 x2.1 mm	XPH-152130
30x3.0 mm	XPH-033030
50x3.0 mm	XPH-053030
100 x3.0 mm	XPH-103030
150 x3.0 mm	XPH-153030
250 x3.0 mm	XPH-253030
30 x 4.6 mm	XPH-034630
50x 4.6 mm	XPH-054630
100 x4.6 mm	XPH-104630
150 x4.6 mm	XPH-154630
200 x4.6 mm	XPH-204630
250 x4.6 mm	XPH-254630

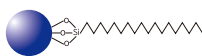
Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	XPH-032135
50x2.1 mm	XPH-052135
100 x2.1 mm	XPH-102135
150 x2.1 mm	XPH-152135
30x3.0 mm	XPH-033035
50x3.0 mm	XPH-053035
100 x3.0 mm	XPH-103035
150 x3.0 mm	XPH-153035
250 x3.0 mm	XPH-253035
30 x 4.6 mm	XPH-034635
50x 4.6 mm	XPH-054635
100 x4.6 mm	XPH-104635
150 x4.6 mm	XPH-154635
200 x4.6 mm	XPH-204635
250 x4.6 mm	XPH-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	XPH-032150
50x2.1 mm	XPH-052150
100 x2.1 mm	XPH-102150
150 x2.1 mm	XPH-152150
30x3.0 mm	XPH-033050
50x3.0 mm	XPH-053050
100 x3.0 mm	XPH-103050
150 x3.0 mm	XPH-153050
250 x3.0 mm	XPH-253050
30 x 4.6 mm	XPH-034650
50x 4.6 mm	XPH-054650
100 x4.6 mm	XPH-104650
150 x4.6 mm	XPH-154650
200 x4.6 mm	XPH-204650
250 x4.6 mm	XPH-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	XPH-1510050
250x10 mm	XPH-2510050
300x10 mm	XPH-3010050
150x20 mm	XPH-1520050
250x20 mm	XPH-2520050
300x20 mm	XPH-3020050
150x21.2 mm	XPH-1521250
250x21.2 mm	XPH-2521250
300x21.2 mm	XPH-3021250

## MicroPulite® XP Oligo tC18 Column

Hybrid silica particle has good tolerance to high temperature, high pH, and high salt. Reverse phase analysis Oligonucleotides requires ion pair reagent ,pH higher than 7 and high temperature , XP Oligo tC18 can meet these strict conditions, and is the good choice for reverse phase columns for oligonucleotide analysis.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Oligo tC18		18%	185	Yes	130Å	1.7,2.5,3 3.5,5,10µm	L1	1-12	80°C (Low pH) 60°C (High pH)

### MicroPulite® XP Oligo tC18 Ordering Information

Particle Size: 1.7 µm		Particle Size: 2.5 µm		Particle Size: 3 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPOTC18-032117	30 x 2.1 mm	XPOTC18-032125	30 x 2.1 mm	XPOTC18-032130
50x2.1 mm	XPOTC18-052117	50x2.1 mm	XPOTC18-052125	50x2.1 mm	XPOTC18-052130
100 x2.1 mm	XPOTC18-102117	100 x2.1 mm	XPOTC18-102125	100 x2.1 mm	XPOTC18-102130
150 x2.1 mm	XPOTC18-152117	150 x2.1 mm	XPOTC18-152125	150 x2.1 mm	XPOTC18-152130
30x3.0 mm	XPOTC18-033017	30x3.0 mm	XPOTC18-033025	30x3.0 mm	XPOTC18-033030
50x3.0 mm	XPOTC18-053017	50x3.0 mm	XPOTC18-053025	50x3.0 mm	XPOTC18-053030
100 x3.0 mm	XPOTC18-103017	100 x3.0 mm	XPOTC18-103025	100 x3.0 mm	XPOTC18-103030
150 x3.0 mm	XPOTC18-153017	150 x3.0 mm	XPOTC18-153025	150 x3.0 mm	XPOTC18-153030
		250 x3.0 mm	XPOTC18-253025	250 x3.0 mm	XPOTC18-253030
		30 x 4.6 mm	XPOTC18-034625	30 x 4.6 mm	XPOTC18-034630
		50x 4.6 mm	XPOTC18-054625	50x 4.6 mm	XPOTC18-054630
		100 x4.6 mm	XPOTC18-104625	100 x4.6 mm	XPOTC18-104630
		150 x4.6 mm	XPOTC18-154625	150 x4.6 mm	XPOTC18-154630
		200 x4.6 mm	XPOTC18-204625	200 x4.6 mm	XPOTC18-204630
		250 x4.6 mm	XPOTC18-254625	250 x4.6 mm	XPOTC18-254630

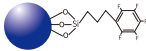
Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPOTC18-032135	30 x 2.1 mm	XPOTC18-032150
50x2.1 mm	XPOTC18-052135	50x2.1 mm	XPOTC18-052150
100 x2.1 mm	XPOTC18-102135	100 x2.1 mm	XPOTC18-102150
150 x2.1 mm	XPOTC18-152135	150 x2.1 mm	XPOTC18-152150
30x3.0 mm	XPOTC18-033035	30x3.0 mm	XPOTC18-033050
50x3.0 mm	XPOTC18-053035	50x3.0 mm	XPOTC18-053050
100 x3.0 mm	XPOTC18-103035	100 x3.0 mm	XPOTC18-103050
150 x3.0 mm	XPOTC18-153035	150 x3.0 mm	XPOTC18-153050
250 x3.0 mm	XPOTC18-253035	250 x3.0 mm	XPOTC18-253050
30 x 4.6 mm	XPOTC18-034635	30 x 4.6 mm	XPOTC18-034650
50x 4.6 mm	XPOTC18-054635	50x 4.6 mm	XPOTC18-054650
100 x4.6 mm	XPOTC18-104635	100 x4.6 mm	XPOTC18-104650
150 x4.6 mm	XPOTC18-154635	150 x4.6 mm	XPOTC18-154650
200 x4.6 mm	XPOTC18-204635	200 x4.6 mm	XPOTC18-204650
250 x4.6 mm	XPOTC18-254635	250 x4.6 mm	XPOTC18-254650

Particle Size: 5 $\mu$ m	
Size	Part No
150x10 mm	XPOtC18-1510050
250x10 mm	XPOtC18-2510050
300x10 mm	XPOtC18-3010050
150x20 mm	XPOtC18-1520050
250x20 mm	XPOtC18-2520050
300x20 mm	XPOtC18-3020050
150x21.2 mm	XPOtC18-1521250
250x21.2 mm	XPOtC18-2521250
300x21.2 mm	XPOtC18-3021250
150x30 mm	XPOtC18-1530050
250x30 mm	XPOtC18-2530050
300x30 mm	XPOtC18-3030050
150x50 mm	XPOtC18-1550050
250x50 mm	XPOtC18-2550050
300x50 mm	XPOtC18-3050050

Particle Size: 10 $\mu$ m	
Size	Part No
150x10 mm	XPOtC18-15100100
250x10 mm	XPOtC18-25100100
300x10 mm	XPOtC18-30100100
150x20 mm	XPOtC18-15200100
250x20 mm	XPOtC18-25200100
300x20 mm	XPOtC18-30200100
150x21.2 mm	XPOtC18-15212100
250x21.2 mm	XPOtC18-25212100
300x21.2 mm	XPOtC18-30212100
150x30 mm	XPOtC18-15300100
250x30 mm	XPOtC18-25300100
300x30 mm	XPOtC18-30300100
150x50 mm	XPOtC18-15500100
250x50 mm	XPOtC18-25500100
300x50 mm	XPOtC18-30500100

## MicroPulite® XP tPFP Column

XP tPFP can enhance the retention of polar compounds, and provide a different selectivity from C18\Phenyl-Hexyl. XP tPFP is suitable for the analysis of aromatic compounds, halogenated compounds, and planar position isomers.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP tPFP		7%	185	No	130Å	3.5,5µm	L43	1-8	45°C (Low pH) 45°C (High pH)

### MicorPulite® XP tPFP Ordering Information

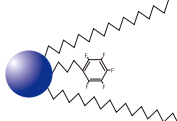
Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPtPFP-032135	30 x 2.1 mm	XPtPFP-032150
50x2.1 mm	XPtPFP-052135	50x2.1 mm	XPtPFP-052150
100 x2.1 mm	XPtPFP-102135	100 x2.1 mm	XPtPFP-102150
150 x2.1 mm	XPtPFP-152135	150 x2.1 mm	XPtPFP-152150
30x3.0 mm	XPtPFP-033035	30x3.0 mm	XPLPFP-033050
50x3.0 mm	XPtPFP-053035	50x3.0 mm	XPtPFP-053050
100 x3.0 mm	XPtPFP-103035	100 x3.0 mm	XPtPFP-103050
150 x3.0 mm	XPtPFP-153035	150 x3.0 mm	XPtPFP-153050
250 x3.0 mm	XPtPFP-253035	250 x3.0 mm	XPtPFP-253050
30 x 4.6 mm	XPtPFP-034635	30 x 4.6 mm	XPtPFP-034650
50x 4.6 mm	XPtPFP-054635	50x 4.6 mm	XPtPFP-054650
100 x4.6 mm	XPtPFP-104635	100 x4.6 mm	XPLPFP-104650
150 x4.6 mm	XPtPFP154635	150 x4.6 mm	XPtPFP-154650
200 x4.6 mm	XPtPFP-204635	200 x4.6 mm	XPtPFP-204650
250 x4.6 mm	XPtPFP-254635	250 x4.6 mm	XPtPFP-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	XPtPFP-1510050
250x10 mm	XPtPFP-2510050
300x10 mm	XPtPFP-3010050
150x20 mm	XPtPFP-1520050
250x20 mm	XPtPFP-2520050
300x20 mm	XPtPFP-3020050
150x21.2 mm	XPtPFP-1521250
250x21.2 mm	XPtPFP-2521250
300x21.2 mm	XPtPFP-3021250
150x30 mm	XPtPFP-1530050
250x30 mm	XPtPFP-2530050
300x30 mm	XPtPFP-3030050
150x50 mm	XPtPFP-1550050
250x50 mm	XPtPFP-2550050
300x50 mm	XPtPFP-3050050



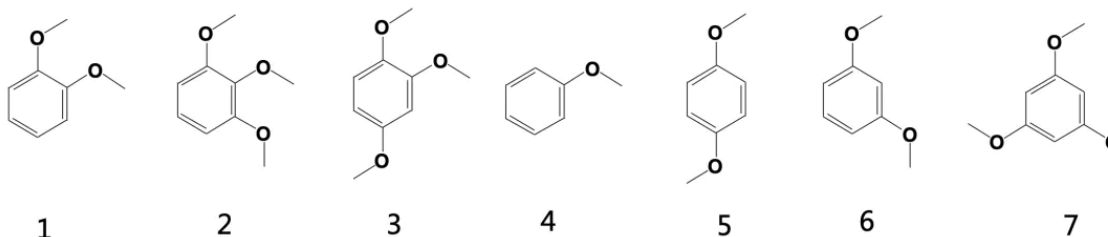
## MicroPulite® XP tC18/PFP Column

XP tC18/PFP is mix mode of C18 and PFP, it has the hydrophobic effect of C18 and the selectivity of PFP. XP tC18/PFP has different selectivity from tC18 and PFP, which is affected by multiple mode, such as  $\pi$ - $\pi$  interactions, dipole-dipole, hydrogen bonding and so on. The fully structured hybrid silica matrix with unique triple bonded technology, that make tC18/PFP stable in pH 1-12 and have excellent chemical stability and column life.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP tC18/PFP		14.5%	185	No	130Å	3.5, 5µm	L43	1-12	45°C (Low pH) 45°C (High pH)

### ◆ Application Cases

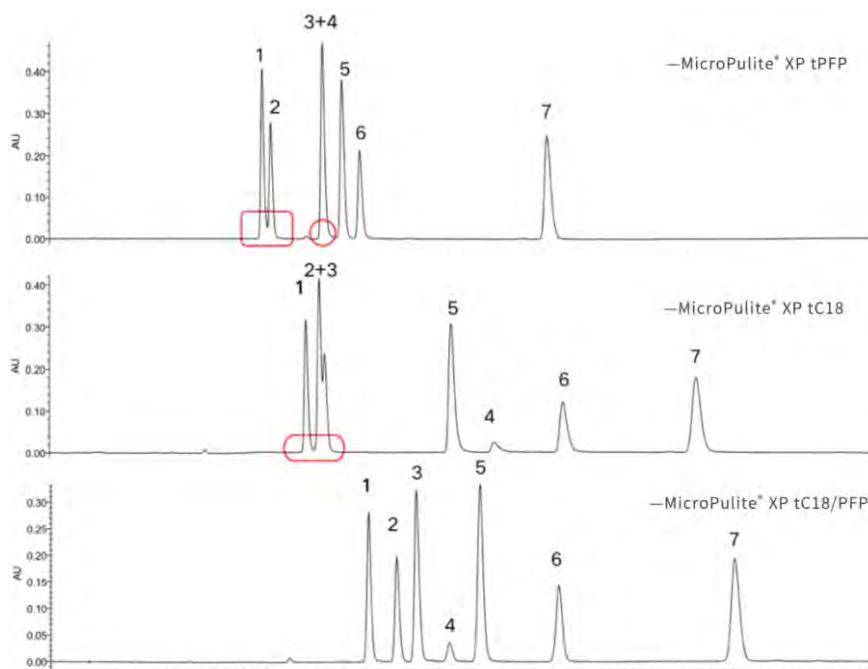
#### Isolation of substituted methoxybenzene isomers



Mobile phase: Water: Methanol=65:35

Wavelength: 230nm

Column temperature: 30°C



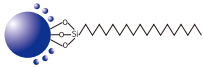
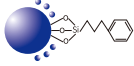
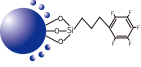
## MicorPulite® XP tC18/PFP Ordering Information

Particle Size: 3.5 µm		Particle Size: 5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPtFP18-032135	30 x 2.1 mm	XPtFP18-032150	150x10 mm	XPtFP18-1510050
50x2.1 mm	XPtFP18-052135	50x2.1 mm	XPtFP18-052150	250x10 mm	XPtFP18-2510050
100 x2.1 mm	XPtFP18-102135	100 x2.1 mm	XPtFP18-102150	300x10 mm	XPtFP18-3010050
150 x2.1 mm	XPtFP18-152135	150 x2.1 mm	XPtFP18-152150	150x20 mm	XPtFP18-1520050
30x3.0 mm	XPtFP18-033035	30x3.0 mm	XPtFP18-033050	250x20 mm	XPtFP18-2520050
50x3.0 mm	XPtFP18-053035	50x3.0 mm	XPtFP18-053050	300x20 mm	XPtFP18-3020050
100 x3.0 mm	XPtFP18-103035	100 x3.0 mm	XPtFP18-103050	150x21.2 mm	XPtFP18-1521250
150 x3.0 mm	XPtFP18-153035	150 x3.0 mm	XPtFP18-153050	250x21.2 mm	XPtFP18-2521250
250 x3.0 mm	XPtFP18-253035	250 x3.0 mm	XPtFP18-253050	300x21.2 mm	XPtFP18-3021250
30 x 4.6 mm	XPtFP18-034635	30 x 4.6 mm	XPtFP18-034650	150x30 mm	XPtFP18-1530050
50x 4.6 mm	XPtFP18-054635	50x 4.6 mm	XPtFP18-054650	250x30 mm	XPtFP18-2530050
100 x4.6 mm	XPtFP18-104635	100 x4.6 mm	XPtFP18-104650	300x30 mm	XPtFP18-3030050
150 x4.6 mm	XPtFP18-154635	150 x4.6 mm	XPtFP18-154650	150x50 mm	XPtFP18-1550050
200 x4.6 mm	XPtFP18-204635	200 x4.6 mm	XPtFP18-204650	250x50 mm	XPtFP18-2550050
250 x4.6 mm	XPtFP18-254635	250 x4.6 mm	XPtFP18-254650	300x50 mm	XPtFP18-3050050

## MicroPulite® PHS XP Series


The PHS XP Series Column adopt surface-charged hybrid silica technology to provide symmetrical and superior peak shapes for basic compounds. The positive surface charge rejects the ionized basic compounds in the low ionic strength separation system, and inhibits the ion exchange between the basic compounds and the residual silanol groups, so PHS XP series column can improved peak shape of basic compounds. This series of Columns provides specifications from UPLC/UHPLC, HPLC to preparative chromatography, thus make method development and method transfer more efficient and continuous.

- In acidic condition, basic compound can exhibit excellent peak shape and sample loading
- pH1-11, wide pH is suitable for method development
- Rapid pH switching balance during LCMS analysis
- Especially suitable for LC-MS analysis of basic compound and peptides, such as structural identification, DMPK and veterinary drug residues, etc

Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
PHS XP tC18		17%	130Å	1.7,2.5,3,3.5,5,7,10µm	L1	1-11	80°C (Low pH) 45°C (High pH)
PHS XP Phenyl-Hexyl		15%	130Å	3.5,5,7,10µm	L11	1-11	80°C (Low pH) 45°C (High pH)
PHS XP tF5		10%	130Å	3.5,5,7,10µm	L43	1-8	60°C (Low pH) 45°C (High pH)

## MicroPulite® PHS XP tC18 Column

PHS XP tC18 is a general-purpose C18, due to its low level of positive charge on the surface, it improves the tailing factor of basic compounds under low ionic strength mobile phase without ion pair reagents (e.g., 0.1% formic acid). So PHS XP tC18 has superior peak shape, large sample loading and peak capacity for basic compounds. PHS XP tC18 is stable in pH 1~11, is suitable for the analysis of basic compounds, and especially performs well for peptide loading and peak shape.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
PHS XP tC18		17%	185	Yes	130Å	1.7, 2.5, 3, 3.5, 5, 7µm	L1	1-11	80°C (Low pH) 45°C (High pH)

### ◆ Application Cases

#### Determination of gabapentin related substances

Method: Pharmacopoeia of the People's Republic of China 2020

Column: MicroPulite® PHS XP tC18 4.6\*150mm 5µm (Part No: XPtC18P-154650)

Wavelength: UV 210nm

Flow rate: 1.5mL/min

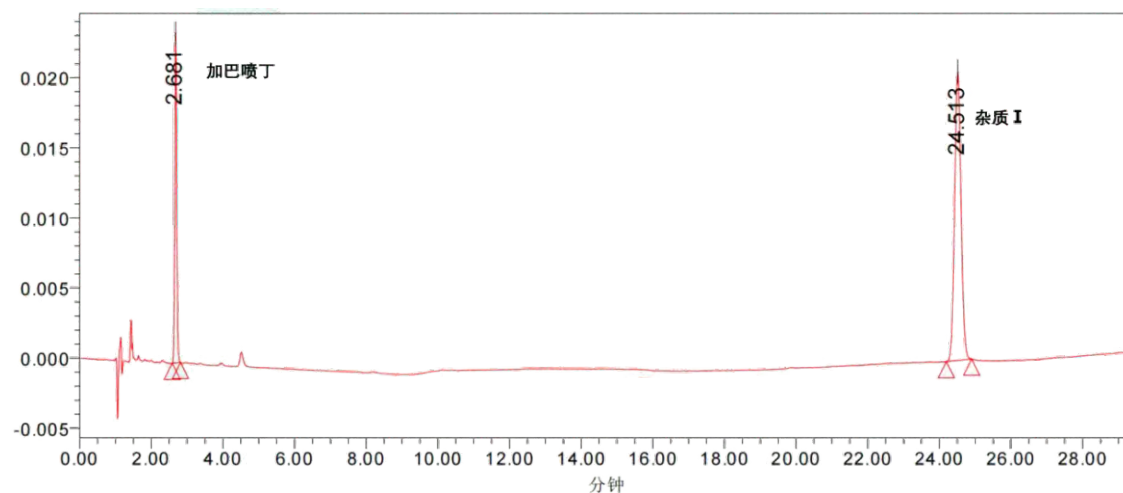
Column temperature: 40°C

Mobile phase: Phase A: phosphate buffer (potassium dihydrogen phosphate 1.2 g, add water 940 ml to dissolve, potassium hydroxide adjust pH to 6.9) - acetonitrile = (94: 6)

Phase B: phosphate buffer (potassium dihydrogen phosphate 1.2g, add water 940mL dissolve, potassium hydroxide adjust pH to 6.9) - acetonitrile = (7:3)

T/min	A%	B%
0	100	0
7	100	0
45	0	100

#### Chromatogram:



## Determination of Related Substances of Lincomycin Hydrochloride

Methodology: Pharmacopoeia of the People's Republic of China 2020

Column: MicroPulite® PHS XP tC18 4.6\*250mm 5µm (Part No: XPtC18P-254650)

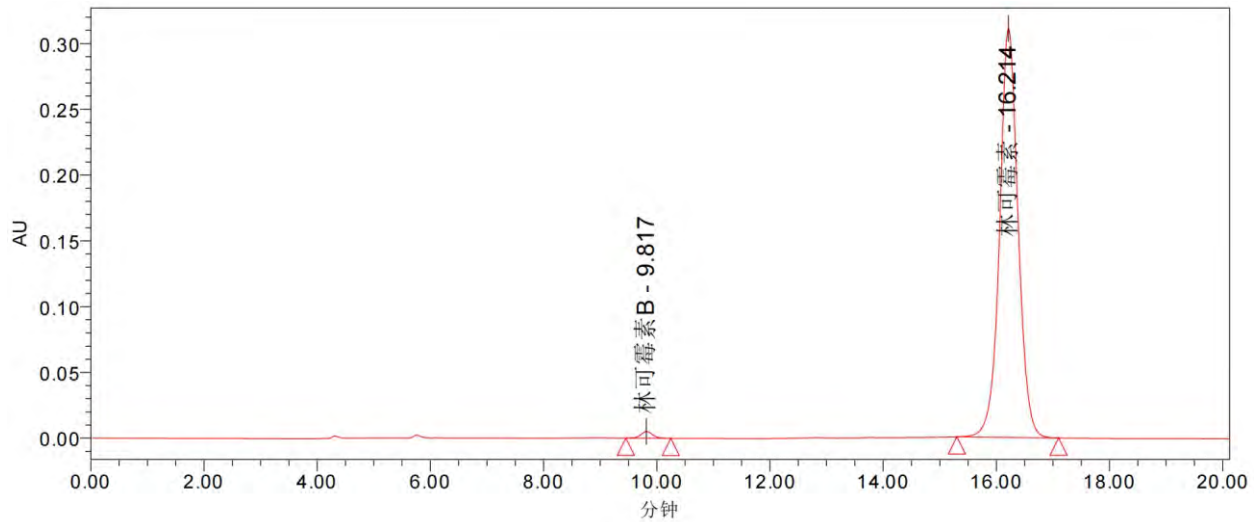
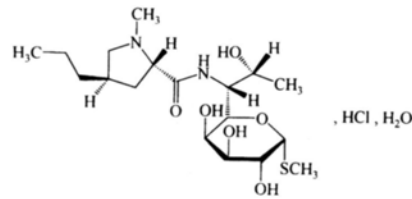
Wavelength: UV 214nm

Flow rate: 0.6mL/min

Column temperature: 40°C

Mobile phase: 0.05 mol/L borax solution (pH adjusted to 6.1 with phosphoric acid)-  
methanol (1:1)

Chromatogram:



## MicroPulite® PHS XP tC18 Ordering Information

Particle Size: 1.7 µm		Particle Size: 2.5 µm		Particle Size: 3 µm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	XPtC18P-032117	30 x 2.1 mm	XPtC18P-032125	30 x 2.1 mm	XPtC18P-032130
50x2.1 mm	XPtC18P-052117	50x2.1 mm	XPtC18P-052125	50x2.1 mm	XPtC18P-052130
100 x2.1 mm	XPtC18P-102117	100 x2.1 mm	XPtC18P-102125	100 x2.1 mm	XPtC18P-102130
150 x2.1 mm	XPtC18P-152117	150 x2.1 mm	XPtC18P-152125	150 x2.1 mm	XPtC18P-152130
30x3.0 mm	XPtC18P-033017	30x3.0 mm	XPtC18P-033025	30x3.0 mm	XPC18P-033030
50x3.0 mm	XPtC18P-053017	50x3.0 mm	XPtC18P-053025	50x3.0 mm	XPtC18P-053030
100 x3.0 mm	XPtC18P-103017	100 x3.0 mm	XPtC18P-103025	100 x3.0 mm	XPtC18P-103030
150 x3.0 mm	XPtC18P-153017	150 x3.0 mm	XPtC18P-153025	150 x3.0 mm	XPtC18P-153030
		250 x3.0 mm	XPtC18P-253025	250 x3.0 mm	XPtC18P-253030
		30 x 4.6 mm	XPtC18P-034625	30 x 4.6 mm	XPtC18P-034630
		50x 4.6 mm	XPtC18P-054625	50x 4.6 mm	XPtC18P-054630
		100 x4.6 mm	XPtC18P-104625	100 x4.6 mm	XPtC18P-104630
		150 x4.6 mm	XPtC18P-154625	150 x4.6 mm	XPtC18P-154630
		200 x4.6 mm	XPtC18P-204625	200 x4.6 mm	XPtC18P-204630
		250 x4.6 mm	XPtC18P-254625	250 x4.6 mm	XPtC18P-254630

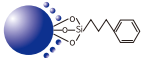
  

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPtC18P-032135	30 x 2.1 mm	XPtC18P-032150
50x2.1 mm	XPtC18P-052135	50x2.1 mm	XPtC18P-052150
100 x2.1 mm	XPtC18P-102135	100 x2.1 mm	XPtC18P-102150
150 x2.1 mm	XPtC18P-152135	150 x2.1 mm	XPtC18P-152150
30x3.0 mm	XPtC18P-033035	30x3.0 mm	XPtC18P-033050
50x3.0 mm	XPtC18P-053035	50x3.0 mm	XPtC18P-053050
100 x3.0 mm	XPtC18P-103035	100 x3.0 mm	XPtC18P-103050
150 x3.0 mm	XPtC18P-153035	150 x3.0 mm	XPtC18P-153050
250 x3.0 mm	XPtC18P-253035	250 x3.0 mm	XPtC18P-253050
30 x 4.6 mm	XPtC18P-034635	30 x 4.6 mm	XPtC18P-034650
50x 4.6 mm	XPtC18P-054635	50x 4.6 mm	XPtC18P-054650
100 x4.6 mm	XPtC18P-104635	100 x4.6 mm	XPtC18P-104650
150 x4.6 mm	XPtC18P-154635	150 x4.6 mm	XPtC18P-154650
200 x4.6 mm	XPtC18P-204635	200 x4.6 mm	XPtC18P-204650
250 x4.6 mm	XPtC18P-254635	250 x4.6 mm	XPtC18P-254650

Particle Size: 5 $\mu$ m		Particle Size: 7 $\mu$ m		Particle Size: 10 $\mu$ m	
Size	Part No	Size	Part No	Size	Part No
150x10 mm	XPtC18P-1510050	150x10 mm	XPtC18P-1510070	150x10 mm	XPtC18P-15100100
250x10 mm	XPtC18P-2510050	250x10 mm	XPtC18P-2510070	250x10 mm	XPtC18P-25100100
300x10 mm	XPtC18P-3010050	300x10 mm	XPtC18P-3010070	300x10 mm	XPtC18P-30100100
150x20 mm	XPtC18P-1520050	150x20 mm	XPtC18P-1520070	150x20 mm	XPtC18P-15200100
250x20 mm	XPtC18P-2520050	250x20 mm	XPtC18P-2520070	250x20 mm	XPtC18P-25200100
300x20 mm	XPtC18P-3020050	300x20 mm	XPtC18P-3020070	300x20 mm	XPtC18P-30200100
150x21.2 mm	XPtC18P-1521250	150x21.2 mm	XPtC18P-1521270	150x21.2 mm	XPtC18P-15212100
250x21.2 mm	XPtC18P-2521250	250x21.2 mm	XPtC18P-2521270	250x21.2 mm	XPtC18P-25212100
300x21.2 mm	XPtC18P-3021250	300x21.2 mm	XPtC18P-3021270	300x21.2 mm	XPtC18P-30212100
150x30 mm	XPtC18P-1530050	150x30 mm	XPtC18P-1530070	150x30 mm	XPtC18P-15300100
250x30 mm	XPtC18P-2530050	250x30 mm	XPtC18P-2530070	250x30 mm	XPtC18P-25300100
300x30 mm	XPtC18P-3030050	300x30 mm	XPtC18P-3030070	300x30 mm	XPtC18P-30300100
150x50 mm	XPtC18P-1550050	150x50 mm	XPtC18P-1550070	150x50 mm	XPtC18P-15500100
250x50 mm	XPtC18P-2550050	250x50 mm	XPtC18P-2550070	250x50 mm	XPtC18P-25500100
300x50 mm	XPtC18P-3050050	300x50 mm	XPtC18P-3050070	300x50 mm	XPtC18P-30500100

## MicroPulite® PHS XP Phenyl-Hexyl Column

PHS XP Phenyl-Hexyl provides selectivity complementary to straight-chain C18, hybrid silica technology enhances chemical resistance, it can use in pH 1-11 range. The characteristic of surface charge improves peak shape and loading of basic compounds, PHS XP Phenyl-Hexyl is suitable for the analysis of aromatic compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
PHS XP Phenyl-Hexyl		15%	185	Yes	130Å	3.5, 5, 7, 10µm	L11	1-11	80°C (Low pH) 45°C (High pH)

### MicroPulite® PHS XP Phenyl-Hexyl Ordering Information

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	PHSPH-032135
50x2.1 mm	PHSPH-052135
100 x2.1 mm	PHSPH-102135
150 x2.1 mm	PHSPH-152135
30x3.0 mm	PHSPH-033035
50x3.0 mm	PHSPH-053035
100 x3.0 mm	PHSPH-103035
150 x3.0 mm	PHSPH-153035
250 x3.0 mm	PHSPH-253035
30 x 4.6 mm	PHSPH-034635
50x 4.6 mm	PHSPH-054635
100 x4.6 mm	PHSPH-104635
150 x4.6 mm	PHSPH-154635
200 x4.6 mm	PHSPH-204635
250 x4.6 mm	PHSPH-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	PHSPH-032125
50x2.1 mm	PHSPH-052125
100 x2.1 mm	PHSPH-102125
150 x2.1 mm	PHSPH-152125
30x3.0 mm	PHSPH-033025
50x3.0 mm	PHSPH-053025
100 x3.0 mm	PHSPH-103025
150 x3.0 mm	PHSPH-153025
250 x3.0 mm	PHSPH-253025
30 x 4.6 mm	PHSPH-034625
50x 4.6 mm	PHSPH-054625
100 x4.6 mm	PHSPH-104625
150 x4.6 mm	PHSPH-154625
200 x4.6 mm	PHSPH-204625
250 x4.6 mm	PHSPH-254625

Particle Size: 5 µm	
Size	Part No
150x10 mm	PHSPH-1510050
250x10 mm	PHSPH-2510050
300x10 mm	PHSPH-3010050
150x20 mm	PHSPH-1520050
250x20 mm	PHSPH-2520050
300x20 mm	PHSPH-3020050
150x21.2 mm	PHSPH-1521250
250x21.2 mm	PHSPH-2521250
300x21.2 mm	PHSPH-3021250
150x30 mm	PHSPH-1530050
250x30 mm	PHSPH-2530050
300x30 mm	PHSPH-3030050
150x50 mm	PHSPH-1550050
250x50 mm	PHSPH-2550050
300x50 mm	PHSPH-3050050

Particle Size: 7 µm	
Size	Part No
150x10 mm	PHSPH-1510070
250x10 mm	PHSPH-2510070
300x10 mm	PHSPH-3010070
150x20 mm	PHSPH-1520070
250x20 mm	PHSPH-2520070
300x20 mm	PHSPH-3020070
150x21.2 mm	PHSPH-1521270
250x21.2 mm	PHSPH-2521270
300x21.2 mm	PHSPH-3021270
150x30 mm	PHSPH-1530070
250x30 mm	PHSPH-2530070
300x30 mm	PHSPH-3030070
150x50 mm	PHSPH-1550070
250x50 mm	PHSPH-2550070
300x50 mm	PHSPH-3050070

Particle Size: 10 µm	
Size	Part No
150x10 mm	PHSPH-15100100
250x10 mm	PHSPH-25100100
300x10 mm	PHSPH-30100100
150x20 mm	PHSPH-15200100
250x20 mm	PHSPH-25200100
300x20 mm	PHSPH-30200100
150x21.2 mm	PHSPH-15212100
250x21.2 mm	PHSPH-25212100
300x21.2 mm	PHSPH-30212100
150x30 mm	PHSPH-15300100
250x30 mm	PHSPH-25300100
300x30 mm	PHSPH-30300100
150x50 mm	PHSPH-15500100
250x50 mm	PHSPH-25500100
300x50 mm	PHSPH-30500100



## MicroPulite® PHS XP tF5 Column

PHS XP tF5 is a surface charged pentafluorophenyl column, suitable for the analysis of aromatic compounds, halogenated compounds, and planar position isomers.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
PHS XP tF5		10%	185	No	130Å	3.5,5 7,10µm	L43	1-8	60°C (Low pH) 45°C (High pH)

### ◆ Application Cases

#### Isolation of tert-butylphenol positional isomers

Method: Self-research

Column: MicroPulite® PHS XP tF5 3.5µm 150\*4.6mm (Part No: PHStF5-154635)

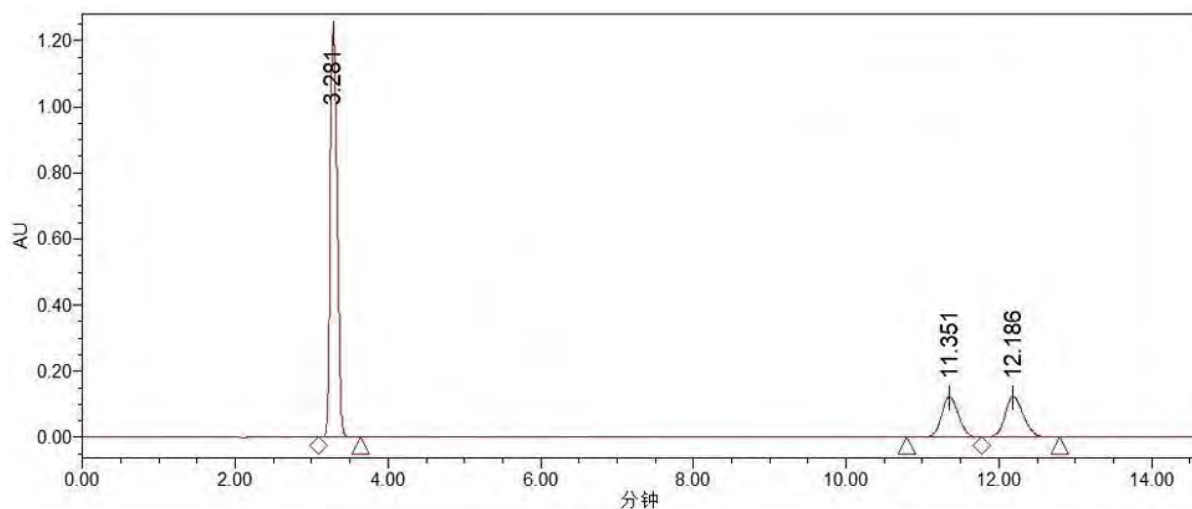
Wavelength: UV 270nm

Flow rate: 1mL/min

Column temperature: 40°C

Mobile phase: Methanol: 0.5% acetic acid solution= (35:65)

Chromatogram:



## MicroP ulite® PHS XP tF5 Ordering Information

Particle Size: 3.5 µm	
Size	Part No
30 x 2.1 mm	PHStF5-032135
50x2.1 mm	PHStF5-052135
100 x2.1 mm	PHStF5-102135
150 x2.1 mm	PHStF5-152135
30x3.0 mm	PHStF5-033035
50x3.0 mm	PHStF5-053035
100 x3.0 mm	PHStF5-103035
150 x3.0 mm	PHStF5-153035
250 x3.0 mm	PHStF5-253035
30 x 4.6 mm	PHStF5-034635
50x 4.6 mm	PHStF5-054635
100 x4.6 mm	PHStF5-104635
150 x4.6 mm	PHStF5-154635
200 x4.6 mm	PHStF5-204635
250 x4.6 mm	PHStF5-254635

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	PHStF5-032150
50x2.1 mm	PHStF5-052150
100 x2.1 mm	PHStF5-102150
150 x2.1 mm	PHStF5-152150
30x3.0 mm	PHStF5-033050
50x3.0 mm	PHStF5-053050
100 x3.0 mm	PHStF5-103050
150 x3.0 mm	PHStF5-153050
250 x3.0 mm	PHStF5-253050
30 x 4.6 mm	PHStF5-034650
50x 4.6 mm	PHStF5-054650
100 x4.6 mm	PHStF5-104650
150 x4.6 mm	PHStF5-154650
200 x4.6 mm	PHStF5-204650
250 x4.6 mm	PHStF5-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	PHStF5-1510050
250x10 mm	PHStF5-2510050
300x10 mm	PHStF5-3010050
150x20 mm	PHStF5-1520050
250x20 mm	PHStF5-2520050
300x20 mm	PHStF5-3020050
150x21.2 mm	PHStF5-1521250
250x21.2 mm	PHStF5-2521250
300x21.2 mm	PHStF5-3021250
150x30 mm	PHStF5-1530050
250x30 mm	PHStF5-2530050
300x30 mm	PHStF5-3030050
150x50 mm	PHStF5-1550050
250x50 mm	PHStF5-2550050
300x50 mm	PHStF5-3050050



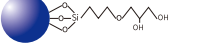

Particle Size: 7 µm	
Size	Part No
150x10 mm	PHStF5-1510070
250x10 mm	PHStF5-2510070
300x10 mm	PHStF5-3010070
150x20 mm	PHStF5-1520070
250x20 mm	PHStF5-2520070
300x20 mm	PHStF5-3020070
150x21.2 mm	PHStF5-1521270
250x21.2 mm	PHStF5-2521270
300x21.2 mm	PHStF5-3021270
150x30 mm	PHStF5-1530070
250x30 mm	PHStF5-2530070
300x30 mm	PHStF5-3030070
150x50 mm	PHStF5-1550070
250x50 mm	PHStF5-2550070
300x50 mm	PHStF5-3050070

Particle Size: 10 µm	
Size	Part No
150x10 mm	PHStF5-15100100
250x10 mm	PHStF5-25100100
300x10 mm	PHStF5-30100100
150x20 mm	PHStF5-15200100
250x20 mm	PHStF5-25200100
300x20 mm	PHStF5-30200100
150x21.2 mm	PHStF5-15212100
250x21.2 mm	PHStF5-25212100
300x21.2 mm	PHStF5-30212100
150x30 mm	PHStF5-15300100
250x30 mm	PHStF5-25300100
300x30 mm	PHStF5-30300100
150x50 mm	PHStF5-15500100
250x50 mm	PHStF5-25500100
300x50 mm	PHStF5-30500100

# MicroPulite® Perfect Series: A balance column that retains polar compounds


The Perfect series of columns are suitable for polar compounds, the columns retain and separate polar analytes under reversed-phase or HILIC conditions. With Micropure's unique endcapped technology, the perfect column has superior peak shapes. Diol column can be used in reverse phase and HILIC modes, or as silica column in normal-phase. HILIC is suitable for the separation of polar compounds in hilic mode, and can be used as a normal phase silica column. Perfect T3 enhances retention of polar compounds in reverse phase, thus Perfect series provide a multidimensional option for polar compound analysis.

- Enhance retention of polar compounds, while maintain retention of moderately and strongly hydrophobic compounds
- Advanced bonded and endcapped technology, LC-MS compatible
- compatible with 100% aqueous mobile phase
- Excellent reproducibility

Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Perfect T3		14%	120Å	3, 5, 10µm	L1	2-8	45°C (Low pH) 45°C (High pH)
Perfect T3 SB		14%	120Å	3, 5, 10µm	L1	2-8	45°C (Low pH) 45°C (High pH)
Perfect Diol		15%	120Å	3, 5, 10µm	L20	1-8	60°C (Low pH) 60°C (High pH)
Perfect HILIC		-	120Å	3, 5, 10µm	L3	1-5	45°C (Low pH) 45°C (High pH)

## MicroPulite® Perfect T3 Column

Perfect T3 is also general purpose C18, compatible with 100% aqueous mobile phase. With unique triple bonded and endcapped technology, the column has better tolerance in 100% aqueous mobile phase, and maximize retention of polar compounds under reversed phase conditions. Perfect T3 analysis 13 organic carboxylic acids, the result shows that all compounds are ideally retained with excellent peak shapes, making it the best choice of polar analytes in the carboxylic acid group.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
T3		14%	300	Yes	120Å	3,5,10µm	L1	2-8	45°C (Low pH) 45°C (High pH)

### ◆ Application Cases

#### Characteristic chromatogram and Content Determination of Prunella vulgaris Formulated Granules

Method:《National Drug Standard for Chinese Medicine Formula Granules (Good Batch)》

Project: Characteristic chromatogram

Column: MicroPulite® Perfect T3 4.6\*250mm 5.0µm (Part No.: PFTT3-254650)

Wavelength: UV 280nm

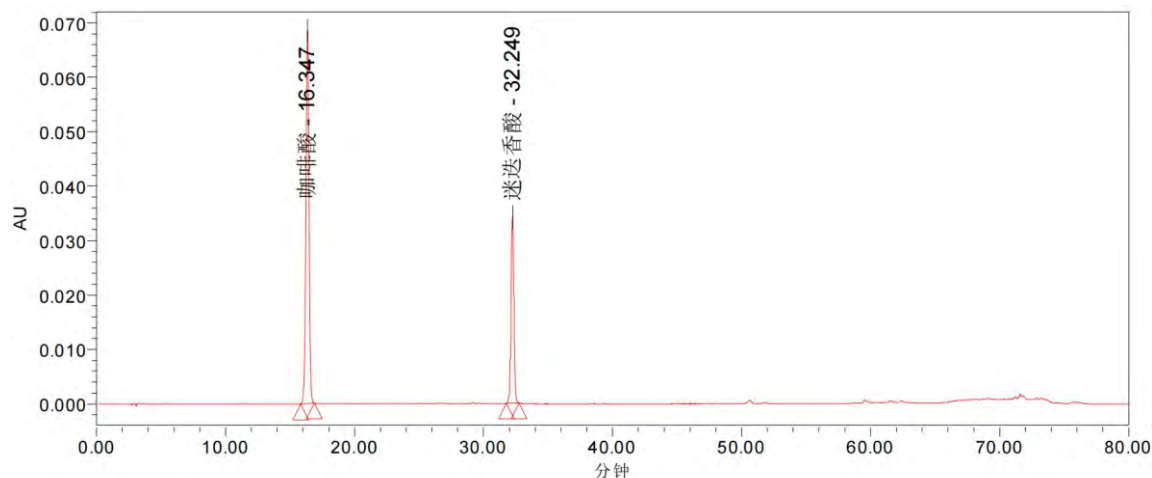
Flow rate: 1.0mL/min

Column temperature: 30°C

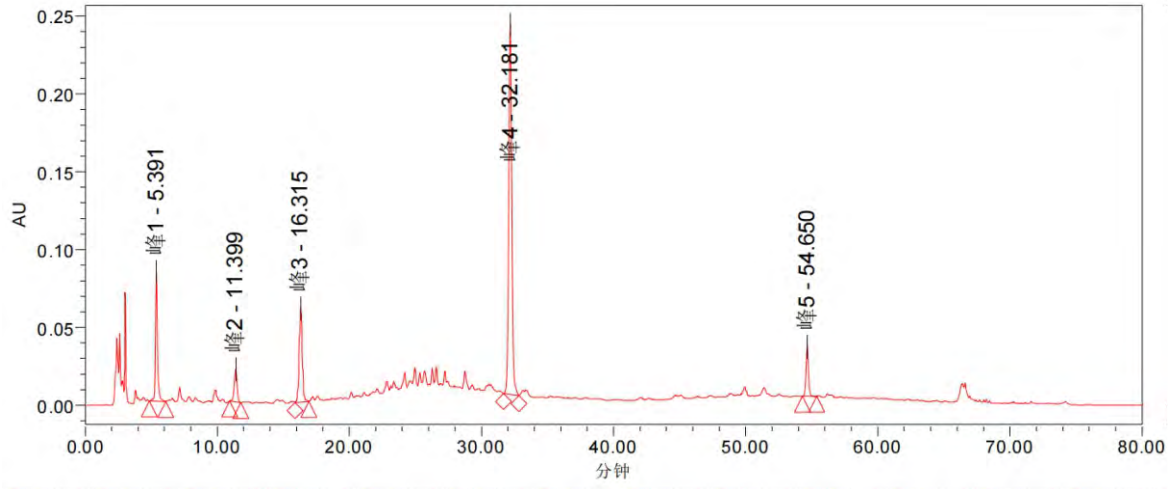
Mobile phase: Phase A: acetonitrile; Phase B: 0.1% phosphoric acid solution

Time	A%	B%
0	10	90
10	10	90
22	22	78
37	22	78
62	38	62
65	90	10

Control solution



Reference solution



### Analysis of 13 organic acids

Method: Self-research

Column: MicroPulite® Perfect T3 4.6\*250mm 5 $\mu$ m (Part No: PFTT3-254650)

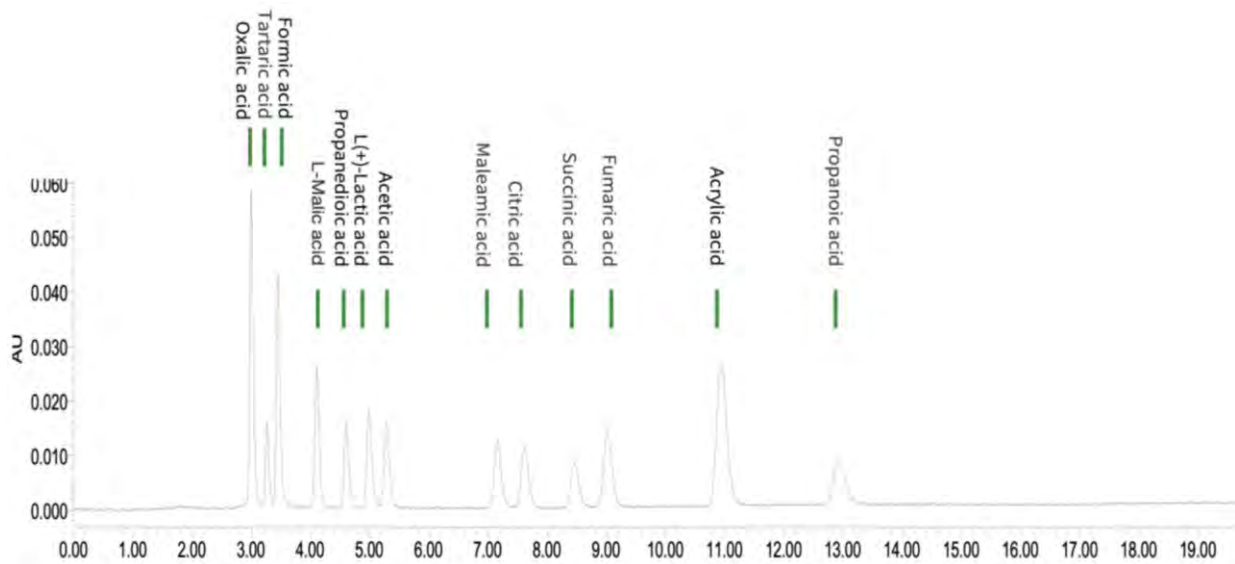
Wavelength: UV 220nm

Flow rate: 1mL/min

Column temperature: 37°C

Mobile phase: 0.1% Phosphoric acid solution

Chromatogram:



## MicroPulite® Perfect T3 Ordering Information

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	PFTT3-032130
50x2.1 mm	PFTT3-052130
100 x2.1 mm	PFTT3-102130
150 x2.1 mm	PFTT3-152130
30x3.0 mm	PFTT3-033030
50x3.0 mm	PFTT3-053030
100 x3.0 mm	PFTT3-103030
150 x3.0 mm	PFTT3-153030
250 x3.0 mm	PFTT3-253030
30 x 4.6 mm	PFTT3-034630
50x 4.6 mm	PFTT3-054630
100 x4.6 mm	PFTT3-104630
150 x4.6 mm	PFTT3-154630
200 x4.6 mm	PFTT3-204630
250 x4.6 mm	PFTT3-254630


Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	PFTT3-032150
50x2.1 mm	PFTT3-052150
100 x2.1 mm	PFTT3-102150
150 x2.1 mm	PFTT3-152150
30x3.0 mm	PFTT3-033050
50x3.0 mm	PFTT3-053050
100 x3.0 mm	PFTT3-103050
150 x3.0 mm	PFTT3-153050
250 x3.0 mm	PFTT3-253050
30 x 4.6 mm	PFTT3-034650
50x 4.6 mm	PFTT3-054650
100 x4.6 mm	PFTT3-104650
150 x4.6 mm	PFTT3-154650
200 x4.6 mm	PFTT3-204650
250 x4.6 mm	PFTT3-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	PFTT3-1510050
250x10 mm	PFTT3-2510050
300x10 mm	PFTT3-3010050
150x20 mm	PFTT3-1520050
250x20 mm	PFTT3-2520050
300x20 mm	PFTT3-3020050
150x21.2 mm	PFTT3-1521250
250x21.2 mm	PFTT3-2521250
300x21.2 mm	PFTT3-3021250
150x30 mm	PFTT3-1530050
250x30 mm	PFTT3-2530050
300x30 mm	PFTT3-3030050
150x50 mm	PFTT3-1550050
250x50 mm	PFTT3-2550050
300x50 mm	PFTT3-3050050

Particle Size: 10 µm	
Size	Part No
150x10 mm	PFTT3-15100100
250x10 mm	PFTT3-25100100
300x10 mm	PFTT3-30100100
150x20 mm	PFTT3-15200100
250x20 mm	PFTT3-25200100
300x20 mm	PFTT3-30200100
150x21.2 mm	PFTT3-15212100
250x21.2 mm	PFTT3-25212100
300x21.2 mm	PFTT3-30212100
150x30 mm	PFTT3-15300100
250x30 mm	PFTT3-25300100
300x30 mm	PFTT3-30300100
150x50 mm	PFTT3-15500100
250x50 mm	PFTT3-25500100
300x50 mm	PFTT3-30500100

## MicroPulite® Perfect T3 SB Column

Perfect T3 SB is an uncapped C18 column, compatible with 100% aqueous mobile phase. It can enhance the retention of polar compounds (especially basic compounds), due to the presence of free silanol groups on the surface. When the column is used in acidic mobile phase conditions, because uncapped prevents hydrolysis of capped reagents, perfect T3 SB has a longer column life and good reproducibility at the low pH.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
T3 SB		14%	300	Yes	120Å	3,5, 10µm	L1	2-8	45°C (Low pH) 45°C (High pH)

### MicroPulite® Perfect T3 SB Ordering Information

Particle Size: 3 µm	
Size	Part No
30 x 2.1 mm	PFTT3SB-032130
50x2.1 mm	PFTT3SB-052130
100 x2.1 mm	PFTT3SB-102130
150 x2.1 mm	PFTT3SB-152130
30x3.0 mm	PFTT3SB-033030
50x3.0 mm	PFTT3SB-053030
100 x3.0 mm	PFTT3SB-103030
150 x3.0 mm	PFTT3SB-153030
250 x3.0 mm	PFTT3SB-253030
30 x 4.6 mm	PFTT3SB-034630
50x 4.6 mm	PFTT3SB-054630
100 x4.6 mm	PFTT3SB-104630
150 x4.6 mm	PFTT3SB-154630
200 x4.6 mm	PFTT3SB-204630
250 x4.6 mm	PFTT3SB-254630

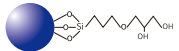
Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	PFTT3SB-032150
50x2.1 mm	PFTT3SB-052150
100 x2.1 mm	PFTT3SB-102150
150 x2.1 mm	PFTT3SB-152150
30x3.0 mm	PFTT3SB-033050
50x3.0 mm	PFTT3SB-053050
100 x3.0 mm	PFTT3SB-103050
150 x3.0 mm	PFTT3SB-153050
250 x3.0 mm	PFTT3SB-253050
30 x 4.6 mm	PFTT3SB-034650
50x 4.6 mm	PFTT3SB-054650
100 x4.6 mm	PFTT3SB-104650
150 x4.6 mm	PFTT3SB-154650
200 x4.6 mm	PFTT3SB-204650
250 x4.6 mm	PFTT3SB-254650

Particle Size: 5 µm	
Size	Part No
150x10 mm	PFTT3SB-1510050
250x10 mm	PFTT3SB-2510050
300x10 mm	PFTT3SB-3010050
150x20 mm	PFTT3SB-1520050
250x20 mm	PFTT3SB-2520050
300x20 mm	PFTT3SB-3020050
150x21.2 mm	PFTT3SB-1521250
250x21.2 mm	PFTT3SB-2521250
300x21.2 mm	PFTT3SB-3021250
150x30 mm	PFTT3SB-1530050
250x30 mm	PFTT3SB-2530050
300x30 mm	PFTT3SB-3030050
150x50 mm	PFTT3SB-1550050
250x50 mm	PFTT3SB-2550050
300x50 mm	PFTT3SB-3050050

Particle Size: 10 µm	
Size	Part No
150x10 mm	PFTT3SB-15100100
250x10 mm	PFTT3SB-25100100
300x10 mm	PFTT3SB-30100100
150x20 mm	PFTT3SB-15200100
250x20 mm	PFTT3SB-25200100
300x20 mm	PFTT3SB-30200100
150x21.2 mm	PFTT3SB-15212100
250x21.2 mm	PFTT3SB-25212100
300x21.2 mm	PFTT3SB-30212100
150x30 mm	PFTT3SB-15300100
250x30 mm	PFTT3SB-25300100
300x30 mm	PFTT3SB-30300100
150x50 mm	PFTT3SB-15500100
250x50 mm	PFTT3SB-25500100
300x50 mm	PFTT3SB-30500100

## MicroPulite® Perfect Diol Column

Perfect Diol is made of dihydroxypropylsilane-bonded silica particles, it can be used in normal phase and HILIC modes. As normal phase column, Perfect Diol is similar to silica and amido column, and polarity of diol is weaker than silica (stronger than amino). It is suitable for the analysis of peptides, proteins, and polar compounds.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Diol		15%	300	Yes	120Å	3,5, 10µm	L20	1-8	60°C (Low pH) 60°C (High pH)

### MicroPulite® Perfect Diol Ordering Information


Particle Size: 3 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	PFTD-032130	30 x 2.1 mm	PFTD-032150
50x2.1 mm	PFTD-052130	50x2.1 mm	PFTD-052150
100 x2.1 mm	PFTD-102130	100 x2.1 mm	PFTD-102150
150 x2.1 mm	PFTD-152130	150 x2.1 mm	PFTD-152150
30x3.0 mm	PFTD-033030	30x3.0 mm	PFTD-033050
50x3.0 mm	PFTD-053030	50x3.0 mm	PFTD-053050
100 x3.0 mm	PFTD-103030	100 x3.0 mm	PFTD-103050
150 x3.0 mm	PFTD-153030	150 x3.0 mm	PFTD-153050
250 x3.0 mm	PFTD-253030	250 x3.0 mm	PFTD-253050
30 x 4.6 mm	PFTD-034630	30 x 4.6 mm	PFTD-034650
50x 4.6 mm	PFTD-054630	50x 4.6 mm	PFTD-054650
100 x4.6 mm	PFTD-104630	100 x4.6 mm	PFTD-104650
150 x4.6 mm	PFTD-154630	150 x4.6 mm	PFTD-154650
200 x4.6 mm	PFTD-204630	200 x4.6 mm	PFTD-204650
250 x4.6 mm	PFTD-254630	250 x4.6 mm	PFTD-254650

Particle Size: 5 µm		Particle Size: 10 µm	
Size	Part No	Size	Part No
150x10 mm	PFTD-1510050	150x10 mm	PFTD-15100100
250x10 mm	PFTD-2510050	250x10 mm	PFTD-25100100
300x10 mm	PFTD-3010050	300x10 mm	PFTD-30100100
150x20 mm	PFTD-1520050	150x20 mm	PFTD-15200100
250x20 mm	PFTD-2520050	250x20 mm	PFTD-25200100
300x20 mm	PFTD-3020050	300x20 mm	PFTD-30200100
150x21.2 mm	PFTD-1521250	150x21.2 mm	PFTD-15212100
250x21.2 mm	PFTD-2521250	250x21.2 mm	PFTD-25212100
300x21.2 mm	PFTD-3021250	300x21.2 mm	PFTD-30212100
150x30 mm	PFTD-1530050	150x30 mm	PFTD-15300100
250x30 mm	PFTD-2530050	250x30 mm	PFTD-25300100
300x30 mm	PFTD-3030050	300x30 mm	PFTD-30300100
150x50 mm	PFTD-1550050	150x50 mm	PFTD-15500100
250x50 mm	PFTD-2550050	250x50 mm	PFTD-25500100
300x50 mm	PFTD-3050050	300x50 mm	PFTD-30500100



## MicroPulite® Perfect HILIC Column

Perfect HILIC can retain and separate polar compounds in HILIC mode, especially for strongly polar basic compounds; it can also be used as silica column in normal phase.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
HILIC		-	300	No	120Å	3,5,10µm	L3	1-5	45°C (Low pH) 45°C (High pH)

### MicroPulite® Perfect HILIC Ordering Information


Particle Size: 3 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	PFTH-032130	30 x 2.1 mm	PFTH-032150
50x2.1 mm	PFTH-052130	50x2.1 mm	PFTH-052150
100 x2.1 mm	PFTH-102130	100 x2.1 mm	PFTH-102150
150 x2.1 mm	PFTH-152130	150 x2.1 mm	PFTH-152150
30x3.0 mm	PFTH-033030	30x3.0 mm	PFTH-033050
50x3.0 mm	PFTH-053030	50x3.0 mm	PFTH-053050
100 x3.0 mm	PFTH-103030	100 x3.0 mm	PFTH-103050
150 x3.0 mm	PFTH-153030	150 x3.0 mm	PFTH-153050
250 x3.0 mm	PFTH-253030	250 x3.0 mm	PFTH-253050
30 x 4.6 mm	PFTH-034630	30 x 4.6 mm	PFTH-034650
50x 4.6 mm	PFTH-054630	50x 4.6 mm	PFTH-054650
100 x4.6 mm	PFTH-104630	100 x4.6 mm	PFTH-104650
150 x4.6 mm	PFTH-154630	150 x4.6 mm	PFTH-154650
200 x4.6 mm	PFTH-204630	200 x4.6 mm	PFTH-204650
250 x4.6 mm	PFTH-254630	250 x4.6 mm	PFTH-254650

Particle Size: 5 µm		Particle Size: 10 µm	
Size	Part No	Size	Part No
150x10 mm	PFTH-1510050	150x10 mm	PFTH-15100100
250x10 mm	PFTH-2510050	250x10 mm	PFTH-25100100
300x10 mm	PFTH-3010050	300x10 mm	PFTH-30100100
150x20 mm	PFTH-1520050	150x20 mm	PFTH-15200100
250x20 mm	PFTH-2520050	250x20 mm	PFTH-25200100
300x20 mm	PFTH-3020050	300x20 mm	PFTH-30200100
150x21.2 mm	PFTH-1521250	150x21.2 mm	PFTH-15212100
250x21.2 mm	PFTH-2521250	250x21.2 mm	PFTH-25212100
300x21.2 mm	PFTH-3021250	300x21.2 mm	PFTH-30212100
150x30 mm	PFTH-1530050	150x30 mm	PFTH-15300100
250x30 mm	PFTH-2530050	250x30 mm	PFTH-25300100
300x30 mm	PFTH-3030050	300x30 mm	PFTH-30300100
150x50 mm	PFTH-1550050	150x50 mm	PFTH-15500100
250x50 mm	PFTH-2550050	250x50 mm	PFTH-25500100
300x50 mm	PFTH-3050050	300x50 mm	PFTH-30500100

## MicroPulite® HSS T3 Column: Combination of high strength silica and triple bonded

HSS T3 adopt high strength silica microspheres and triple bonded technology, the columns can withstand higher pressure. HSS T3 is suitable for a wide polarity of compounds and compatible with 100% aqueous phase. The columns show good tolerance to acidic conditions and low column bleeding, the unique endcapped technology makes the peak shape more excellent.

- Higher silane affinity, improves the retention of polar compounds and weakens the retention of highly hydrophobic compounds
- Designed for rapid method development, shorten the time and save costs
- Higher mechanical strength, wider selectivity

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
T3		11%	230	Yes	100Å	1.8, 2.5, 3, 5µm	L1	2-8	45°C (Low pH) 45°C (High pH)

HSS T3 is also a general-purpose C18, compatible with 100% aqueous phase, and significantly enhances the retention of polar compounds under reverse phase condition. And low-carbon loading design of HSS T3 can reduce the retention of hydrophobic compounds, HSS T3 is suitable for the research of traditional Chinese medicines (TCMs) and Chinese medicines formulas, as well as for the research of metabolomics.

### ◆ Application Cases

#### Poria Formulated Granules

Method:《Quality Standard for Chinese Medicine Formulated Granules in Guizhou Province (Fourth Batch)》

Project: Characteristic chromatogram

Column: MicroPulite® HSS T3 1.8µm 150\*2.1mm (Part No: HST3-152118)

Wavelength: UV 252nm

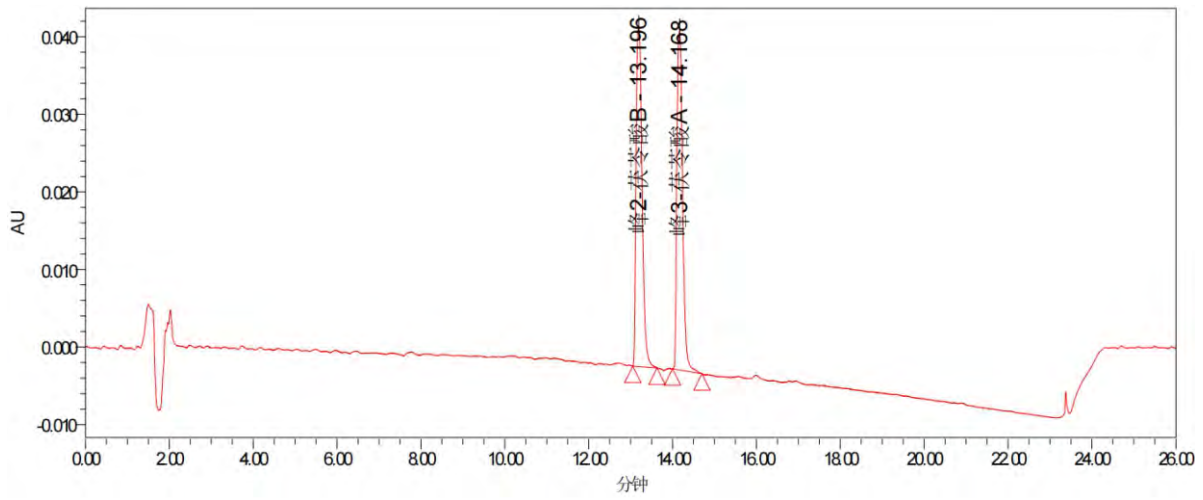
Flow rate: 0.2mL/min

Column temperature: 30°C

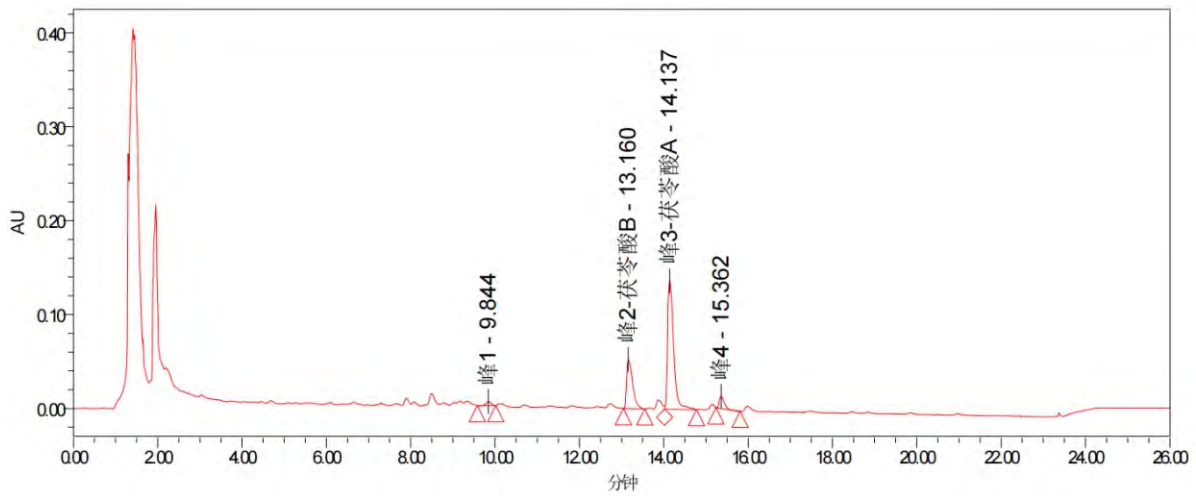
Mobile phase: Phase A: acetonitrile; Phase B: 0.1% formic acid solution

T/min	A%	B%
0	40	60
21	99	1
22	40	60

Chromatogram:  
Control solution



Reference solution



Content determination

Column: MicroPulite® HSS T3 1.8µm 150\*2.1mm (Part No:HST3-152118)

Wavelength: UV 252nm

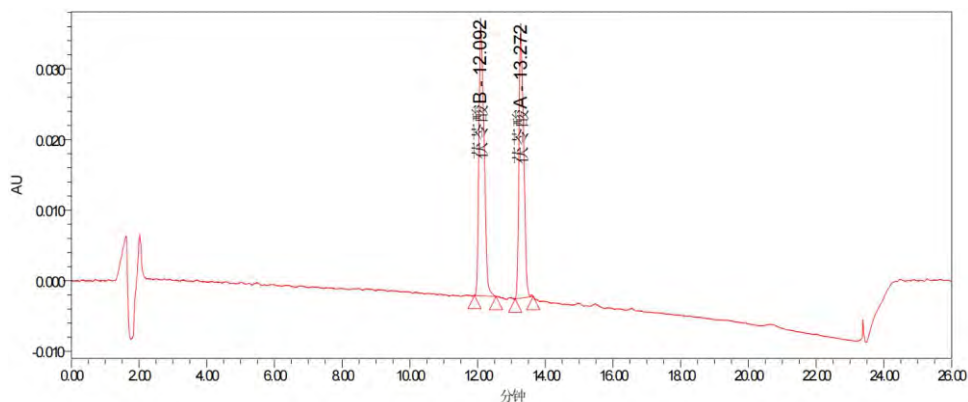
Flow rate: 0.2mL/min

Column temperature: 30°C

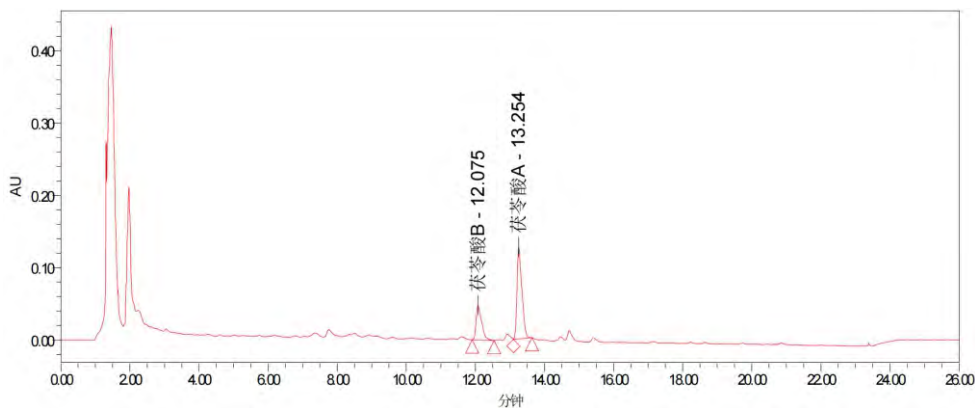
Mobile phase: Phase A: acetonitrile; Phase B: 0.1% formic acid solution

T/min	A%	B%
0	40	60
21	99	1
22	40	60

Chromatogram:  
Control solution



Reference solution

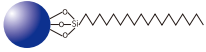
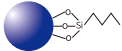
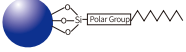
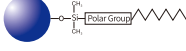
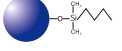
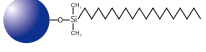


## MicroPulite® HSS T3 Ordering Information

Particle Size: 1.8 μm		Particle Size: 2.5 μm		Particle Size: 3 μm	
Size	Part No	Size	Part No	Size	Part No
30 x 2.1 mm	HST3-032118	30 x 2.1 mm	HST3-032125	30 x 2.1 mm	HST3-032135
50x2.1 mm	HST3-052118	50x2.1 mm	HST3-052125	50x2.1 mm	HST3-052135
100 x2.1 mm	HST3-102118	100 x2.1 mm	HST3-102125	100 x2.1 mm	HST3-102135
150 x2.1 mm	HST3-152118	150 x2.1 mm	HST3-152125	150 x2.1 mm	HST3-152135
30x3.0 mm	HST3-033018	30x3.0 mm	HST3-033025	30x3.0 mm	HST3-033035
50x3.0 mm	HST3-053018	50x3.0 mm	HST3-053025	50x3.0 mm	HST3-053035
100 x3.0 mm	HST3-103018	100 x3.0 mm	HST3-103025	100 x3.0 mm	HST3-103035
150 x3.0 mm	HST3-153018	150 x3.0 mm	HST3-153025	150 x3.0 mm	HST3-153035
		250 x3.0 mm	HST3-253025	250 x3.0 mm	HST3-253035
		30 x 4.6 mm	HST3-034625	30 x 4.6 mm	HST3-034635
		50x 4.6 mm	HST3-054625	50x 4.6 mm	HST3-054635
		100 x4.6 mm	HST3-104625	100 x4.6 mm	HST3-104635
		150 x4.6 mm	HST3-154625	150 x4.6 mm	HST3-154635
		200 x4.6 mm	HST3-204625	200 x4.6 mm	HST3-204635
		250 x4.6 mm	HST3-254625	250 x4.6 mm	HST3-254635

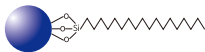
## BioPulite® Series: Designed for bioseparation

BioPulite® series adopt the same patented and top-notch porous microsphere syntheses technology as other products, optimized pore structure and leading surface bonded technology provide excellent chromatographic performance for biomolecules. Under ISO 9001 strict quality control, the columns have excellent performance and reproducibility. This series of columns are suitable for analyses of biomolecules, such as monoclonal antibodies (mAbs) and proteins, and is an effective tool in the fields of biopharmaceuticals.

Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP Protein tC18		12%	300Å	3.5,5µm	L1	1-12	80°C (Low pH) 60°C (High pH)
XP Protein tC4		8%	300Å	3.5, 5µm	L26	1-12	80°C (Low pH) 50°C (High pH)
XP Protein RP18		12%	300Å	3.5,5µm	L1	2-11	50°C (Low pH) 45°C (High pH)
XP Protein RP18 Plus		17%	300Å	3.5,5µm	L1	2-11	50°C (Low pH) 45°C (High pH)
Gold Protein C4		1.3%	300Å	5µm	L26	2-8	60°C (Low pH) 40°C (High pH)
Gold Protein C18		8.5%	300Å	5µm	L1	2-8	60°C (Low pH) 40°C (High pH)

## BioPulite® XP Protein tC18 Column

XP Protein tC18 is made of hybrid silica particles, stable in the pH 1-12. The larger pore size of 300Å is suitable for analysis of large molecular compounds such as peptides, proteins, oligonucleotides, and mRNA. Hybrid silica material enhances the resistance to high temperature, high pH, and high concentration buffer salt, it is ideal column of reverse phase analysis macromolecular compounds.

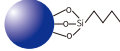
Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP Protein tC18		12%	100	Yes	300Å	3.5,5µm	L1	1-12	80°C (Low pH) 60°C (High pH)

### BioPulite® XP Protein tC18 Ordering Information

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPtC18-300-032135	30 x 2.1 mm	XPtC18-300-032150
50x2.1 mm	XPtC18-300-052135	50x2.1 mm	XPtC18-300-052150
100 x2.1 mm	XPtC18-300-102135	100 x2.1 mm	XPtC18-300-102150
150 x2.1 mm	XPtC18-300-152135	150 x2.1 mm	XPtC18-300-152150
30x3.0 mm	XPtC18-300-033035	30x3.0 mm	XPtC18-300-033050
50x3.0 mm	XPtC18-300-053035	50x3.0 mm	XPtC18-300-053050
100 x3.0 mm	XPtC18-300-103035	100 x3.0 mm	XPtC18-300-103050
150 x3.0 mm	XPtC18-300-153035	150 x3.0 mm	XPtC18-300-153050
250 x3.0 mm	XPtC18-300-253035	250 x3.0 mm	XPtC18-300-253050
30 x 4.6 mm	XPtC18-300-034635	30 x 4.6 mm	XPtC18-300-034650
50x 4.6 mm	XPtC18-300-054635	50x 4.6 mm	XPtC18-300-054650
100 x4.6 mm	XPtC18-300-104635	100 x4.6 mm	XPtC18-300-104650
150 x4.6 mm	XPtC18-300-154635	150 x4.6 mm	XPtC18-300-154650
200 x4.6 mm	XPtC18-300-204635	200 x4.6 mm	XPtC18-300-204650
250 x4.6 mm	XPtC18-300-254635	250 x4.6 mm	XPtC18-300-254650

## BioPulite® XP Protein tC4 Column

XP Protein tC4 is stable in the pH 1-10, hybrid silica enhance the pH and temperature tolerance of the columns. XP Protein tC4 is suitable for separating proteins with different sizes, hydrophobicity and isoelectric points.


Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP Protein tC4		8%	100	Yes	300Å	3.5,5µm	L26	1-12	80°C (Low pH) 50°C (High pH)

### BioPulite® XP Protein tC4 Ordering Information

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPtC4-300-032135	30 x 2.1 mm	XPtC4-300-032150
50x2.1 mm	XPtC4-300-052135	50x2.1 mm	XPtC4-300-052150
100 x2.1 mm	XPtC4-300-102135	100 x2.1 mm	XPtC4-300-102150
150 x2.1 mm	XPtC4-300-152135	150 x2.1 mm	XPtC4-300-152150
30x3.0 mm	XPtC4-300-033035	30x3.0 mm	XPtC4-300-033050
50x3.0 mm	XPtC4-300-053035	50x3.0 mm	XPtC4-300-053050
100 x3.0 mm	XPtC4-300-103035	100 x3.0 mm	XPtC4-300-103050
150 x3.0 mm	XPtC4-300-153035	150 x3.0 mm	XPtC4-300-153050
250 x3.0 mm	XPtC4-300-253035	250 x3.0 mm	XPtC4-300-253050
30 x 4.6 mm	XPtC4-300-034635	30 x 4.6 mm	XPtC4-300-034650
50x 4.6 mm	XPtC4-300-054635	50x 4.6 mm	XPtC4-300-054650
100 x4.6 mm	XPtC4-300-104635	100 x4.6 mm	XPtC4-300-104650
150 x4.6 mm	XPtC4-300-154635	150 x4.6 mm	XPtC4-300-154650
200 x4.6 mm	XPtC4-300-204635	200 x4.6 mm	XPtC4-300-204650
250 x4.6 mm	XPtC4-300-254635	250 x4.6 mm	XPtC4-300-254650

## BioPulite® XP Protein RP18 Column

Both XP Protein RP18 and XP Protein RP18 Plus are compatible with 100% aqueous phase, suitable for analysis peptides and proteins with high polarity.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP Protein RP18		12%	100	Yes	300Å	3.5,5µm	L1	2-11	50°C (Low pH) 45°C (High pH)

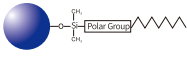
### BioPulite® XP Protein RP18 Ordering Information

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPR18-300-032135	30 x 2.1 mm	XPR18-300-032135
50x2.1 mm	XPR18-300-052135	50x2.1 mm	XPR18-300-052135
100 x2.1 mm	XPR18-300-102135	100 x2.1 mm	XPR18-300-102135
150 x2.1 mm	XPR18-300-152135	150 x2.1 mm	XPR18-300-152135
30x3.0 mm	XPR18-300-033035	30x3.0 mm	XPR18-300-033035
50x3.0 mm	XPR18-300-053035	50x3.0 mm	XPR18-300-053035
100 x3.0 mm	XPR18-300-103035	100 x3.0 mm	XPR18-300-103035
150 x3.0 mm	XPR18-300-153035	150 x3.0 mm	XPR18-300-153035
250 x3.0 mm	XPR18-300-253035	250 x3.0 mm	XPR18-300-253035
30 x 4.6 mm	XPR18-300-034635	30 x 4.6 mm	XPR18-300-034635
50x 4.6 mm	XPR18-300-054635	50x 4.6 mm	XPR18-300-054635
100 x4.6 mm	XPR18-300-104635	100 x4.6 mm	XPR18-300-104635
150 x4.6 mm	XPR18-300-154635	150 x4.6 mm	XPR18-300-154635
200 x4.6 mm	XPR18-300-204635	200 x4.6 mm	XPR18-300-204635
250 x4.6 mm	XPR18-300-254635	250 x4.6 mm	XPR18-300-254635



## BioPulite® XP Protein RP18 Plus Column

Both XP Protein RP18 and XP Protein RP18 Plus are compatible with 100% aqueous phase, suitable for analysis peptides and proteins with high polarity.

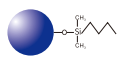
Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
XP Protein RP18 Plus		17%	100	Yes	300Å	3.5,5µm	L1	2-11	50°C (Low pH) 45°C (High pH)

### BioPulite® XP Protein RP18 Plus Ordering Information

Particle Size: 3.5 µm		Particle Size: 5 µm	
Size	Part No	Size	Part No
30 x 2.1 mm	XPR18P-300-032135	30 x 2.1 mm	XPR18P-300-032135
50x2.1 mm	XPR18P-300-052135	50x2.1 mm	XPR18P-300-052135
100 x2.1 mm	XPR18P-300-102135	100 x2.1 mm	XPR18P-300-102135
150 x2.1 mm	XPR18P-300-152135	150 x2.1 mm	XPR18P-300-152135
30x3.0 mm	XPR18P-300-033035	30x3.0 mm	XPR18P-300-033035
50x3.0 mm	XPR18P-300-053035	50x3.0 mm	XPR18P-300-053035
100 x3.0 mm	XPR18P-300-103035	100 x3.0 mm	XPR18P-300-103035
150 x3.0 mm	XPR18P-300-153035	150 x3.0 mm	XPR18P-300-153035
250 x3.0 mm	XPR18P-300-253035	250 x3.0 mm	XPR18P-300-253035
30 x 4.6 mm	XPR18P-300-034635	30 x 4.6 mm	XPR18P-300-034635
50x 4.6 mm	XPR18P-300-054635	50x 4.6 mm	XPR18P-300-054635
100 x4.6 mm	XPR18P-300-104635	100 x4.6 mm	XPR18P-300-104635
150 x4.6 mm	XPR18P-300-154635	150 x4.6 mm	XPR18P-300-154635
200 x4.6 mm	XPR18P-300-204635	200 x4.6 mm	XPR18P-300-204635
250 x4.6 mm	XPR18P-300-254635	250 x4.6 mm	XPR18P-300-254635

## BioPulite® Gold Protein C4 Column

As high-purity silica ,Gold protein C4 column is mainly used for protein separation, it is cost-effective and suitable for biomacromolecule analysis.

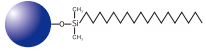
Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Gold Protein C4		1.3%	100	Yes	300Å	3.5,5µm	L1	2-8	60°C (Low pH) 40°C (High pH)

### BioPulite® Gold Protein C4 Ordering Information

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDC4-300-032150
50x2.1 mm	GDC4-300-052150
100 x2.1 mm	GDC4-300-102150
150 x2.1 mm	GDC4-300-152150
30x3.0 mm	GDC4-300-033050
50x3.0 mm	GDC4-300-053050
100 x3.0 mm	GDC4-300-103050
150 x3.0 mm	GDC4-300-153050
250 x3.0 mm	GDC4-300-253050
30 x 4.6 mm	GDC4-300-034650
50x 4.6 mm	GDC4-300-054650
100 x4.6 mm	GDC4-300-104650
150 x4.6 mm	GDC4-300-154650
200 x4.6 mm	GDC4-300-204650
250 x4.6 mm	GDC4-300-254650

# BioPulite® Gold Protein C18 Column

Gold Protein C18 is made of high purity silica, stable in pH 2-8, and 300Å pore size is suitable for large molecular weight compounds, so it is a cost-effective choice for biomolecule analysis.

Stationary Phase	Bonded Phase	Carbon Load	Surface area	End-capped	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Gold Protein C18		8.5%	100	Yes	300Å	5µm	L1	2-8	60°C (Low pH) 40°C (High pH)

## ◆ Application Cases

### Determination of salmon calcitonin related substances

Method: Pharmacopoeia of the People's Republic of China 2020

Column: MicroPulite® Gold C18 300Å 5µm 250\*4.6mm (Part No: GDC18-300-254650)

Wavelength: UV 220nm

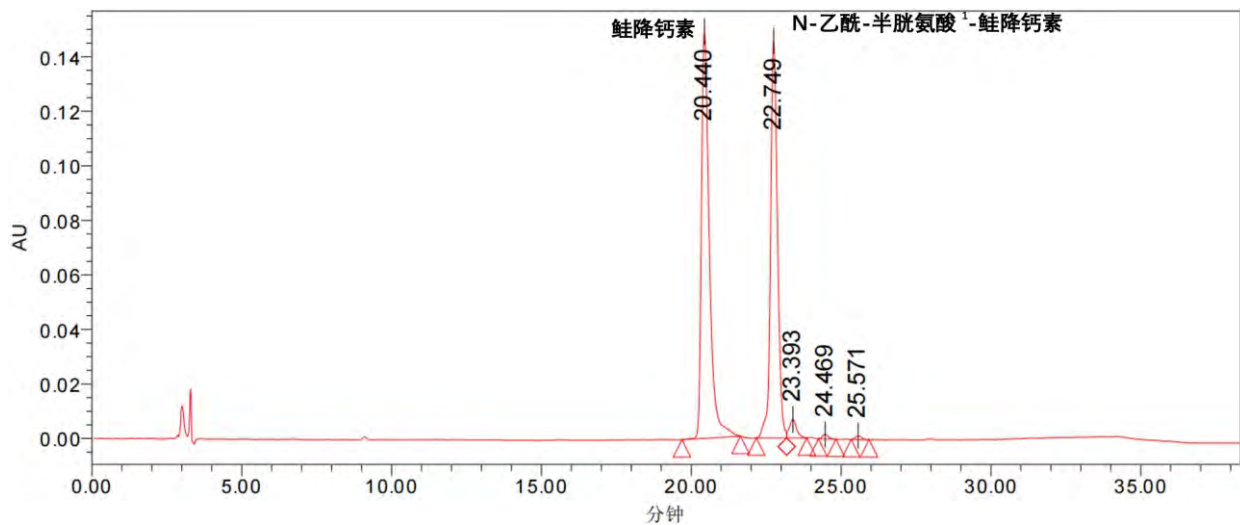
Flow rate: 1.0mL/min

Column temperature: 40°C

Mobile phase: Phase A: 0.02mol/L tetramethylammonium hydroxide solution (pH adjusted to 2.5 with phosphoric acid)-acetonitrile=(9:1); Phase B: 0.02mol/L tetramethylammonium hydroxide solution (pH adjusted to 2.5 with phosphoric acid)-acetonitrile=(2:3)

T/min	A%	B%
0	72	28
30	48	52
32	72	28
55	72	28

Chromatogram:



## BioPulite® Gold Protein C18 Ordering Information

Particle Size: 5 µm	
Size	Part No
30 x 2.1 mm	GDC18-300-032150
50x2.1 mm	GDC18-300-052150
100 x2.1 mm	GDC18-300-102150
150 x2.1 mm	GDC18-300-152150
30x3.0 mm	GDC18-300-033050
50x3.0 mm	GDC18-300-053050
100 x3.0 mm	GDC18-300-103050
150 x3.0 mm	GDC18-300-153050
250 x3.0 mm	GDC18-300-253050
30 x 4.6 mm	GDC18-300-034650
50x 4.6 mm	GDC18-300-054650
100 x4.6 mm	GDC18-300-104650
150 x4.6 mm	GDC18-300-154650
200 x4.6 mm	GDC18-300-204650
250 x4.6 mm	GDC18-300-254650

# MicroPulite® Peptide Series: Designed for peptide separation

The MicroPulite® Peptide series is used for the separation and analysis of peptides in reverse phase . XP tC18 and PHS XP tC18 are based on hybrid silica particles, triple-bonded modification and a unique double endcapped technology, which provides better tolerance to high pH and high temperature, sharper and superior peaks . HSS T3 is made of high strength silica , can enhance retention of polar peptide .

- Excellent peak shape and performance ,due to hybrid, triple-bonded and endcapped technology
- Different selectivity ,meet the needs of separation various properties peptides
- Flexibility,various specifications to meet HPLC/UHPLC/UPLC requirements
- Good reproducibility,quality control strictly, stable from batch to batch

Stationary Phase	Bonded Phase	Carbon Load	Pore Size	Particle Size	USP Classification	pH range	Temperature limit
Peptide XP	tC18	18%	130Å	双封端	1.7、2.5、3.5、5µm	L1	1-12
Peptide PHS XP	tC18	15%	130Å	双封端	1.7、2.5、3.5、5µm	L1	1-11
Peptide HSS	T3	11%	100Å	双封端	1.8、2.5、3.5、5µm	L1	1-8

## ◆ Application Cases

### Sample Information

Angiotensinogen (1-7) DRVYIHP, Bradykinin RPPGFSPFR, Angiotensin I DRVYIHPFHL, Angiotensin II DRVYIHPF

### Detection conditions

Wavelength:220nm

Mobile phase A:0.1% TFA water

Mobile phase B:0.1% TFA acetonitrile

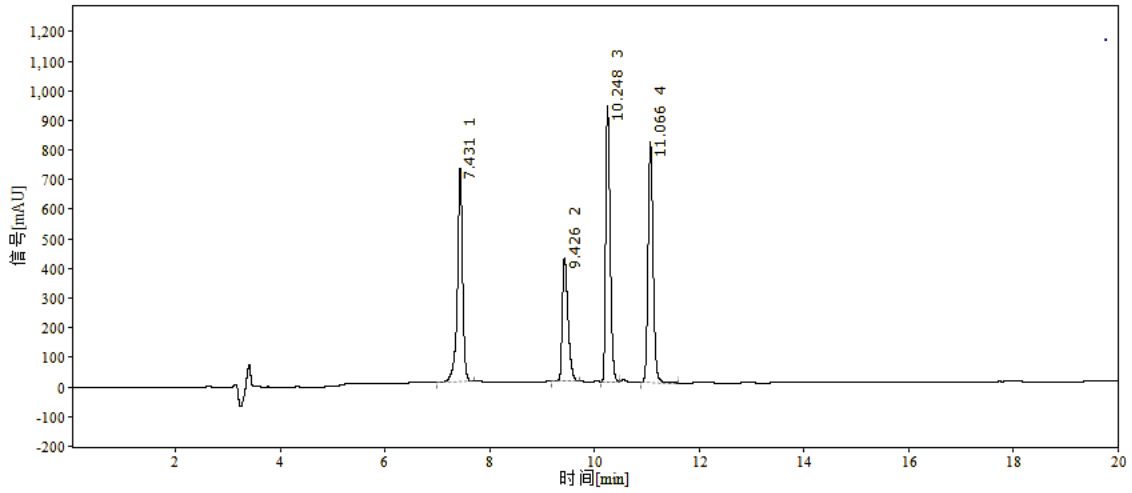
### Column

MicroPulite® Peptide XP tC18 4.6\*250mm

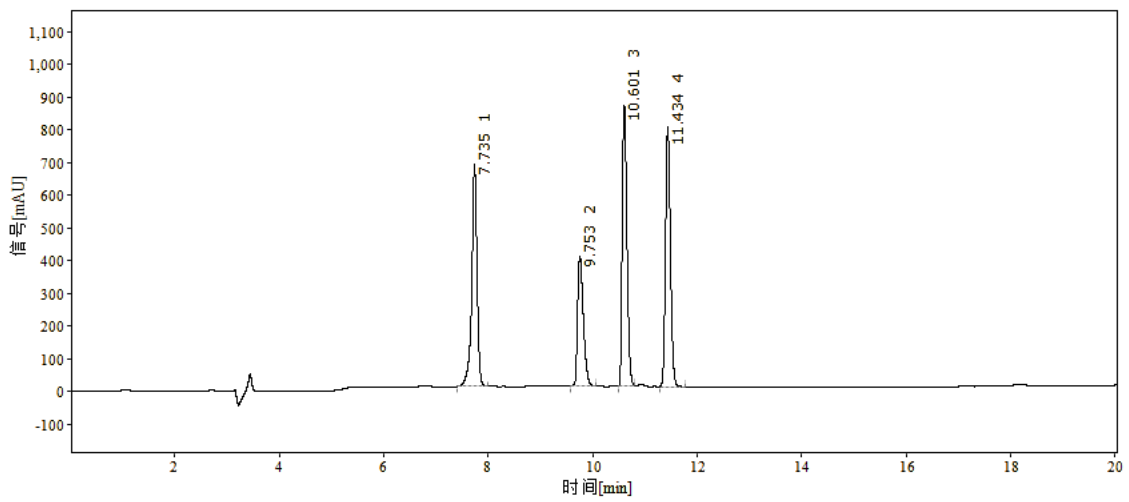
MicroPulite® Peptide HSS T3 4.6\*250mm

MicroPulite® Peptide PHS XP tC18 4.6\*250mm

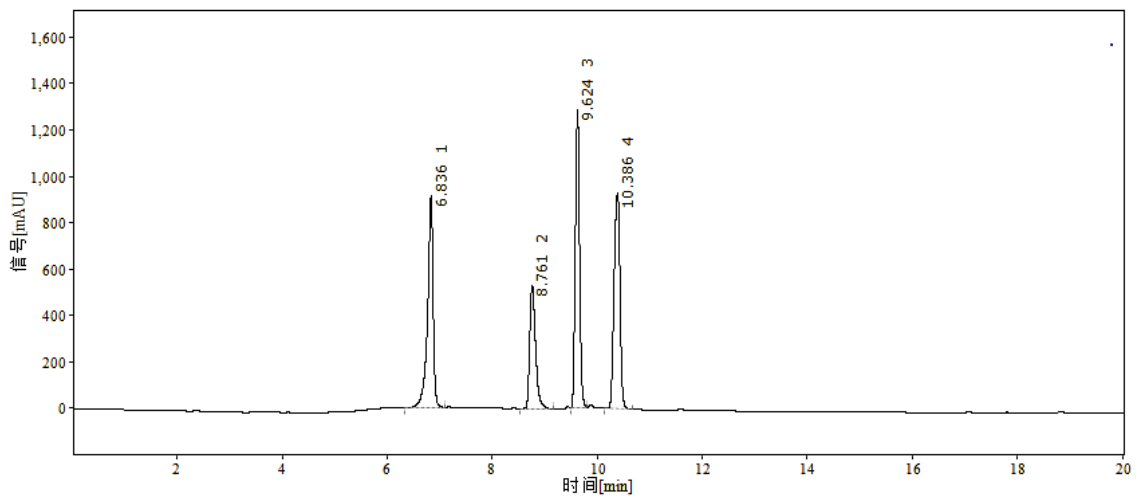
Chromatogram:



MicroPulite® Peptide XP tC18 Mixed standard



MicroPulite® Peptide HSS T3 Mixed standard



MicroPulite® Peptide PHS XP tC18 Mixed standard

## WeChromlite® Series Guard Column

Guard Column connect to the inlet of the analysis column , which is a short column (5-30mm long) and has the same stationary phase as analysis column. Guard Column can remove solid particle and chemical pollutants from the system, sample, and mobile phase, it maintain the performance of column and extend the column life as much as possible.

WePure Biotech Guard Column has the characters of simple structure, small connection volume,easy to use and convenient disassembly, it is suitable for analysis of complex samples ,such as pharmaceutical, traditional Chinese medicine,food,environment and other fields.

**Split Guard Column:**Compared to the analysis column, it is independent and needs to be connected to the analysis column through joints and connect pipelines. Users can also choose appropriate protection column lengths and types based on different sample. The Goard column install flexibly and has fewer breakdowns.

**Direct connect Guard Column:**Can be installed directly on the analysis column without the need of additional pipelines or connectors. Direct connect Guard Column has small dead volume,it is also easy to use .



Split Guard Column(PrePulite®)



Direct connect Guard Column(MicroPulite®)

Product	pH	Packing Type	Particle Size (μm)	Specification (mm)	Part No
WeChromlite® Series Guard Cartridge	1-12	XP tC18	2.5	2.1*4	GC-XPtC18-214025-3P
				3*4	GC-XPtC18-304025-3P
				4.6*10	GC-XPtC18-4610025-3P
			3	2.1*4	GC-XPtC18-214030-3P
				3*4	GC-XPtC18-304030-3P
				4.6*10	GC-XPtC18-4610030-3P
			3.5	2.1*4	GC-XPtC18-214035-3P
				3*4	GC-XPtC18-304035-3P
				4.6*10	GC-XPtC18-4610035-3P
			5	2.1*4	GC-XPtC18-214050-3P
				3*4	GC-XPtC18-304050-3P
				4.6*10	GC-XPtC18-4610050-3P
				10*10	GC-XPtC18-10010050-1P
				20*10	GC-XPtC18-20010050-1P
				30*10	GC-XPtC18-30010050-1P
	7	10*10	GC-XPtC18-10010070-1P		
		20*10	GC-XPtC18-20010070-1P		
		30*10	GC-XPtC18-30010070-1P		
	10	10*10	GC-XPtC18-100100100-1P		
		20*10	GC-XPtC18-200100100-1P		
		30*10	GC-XPtC18-300100100-1P		
	2-8	Gold C18	3	2.1*4	GC-GDC18-214030-3P
				3*4	GC-GDC18-304030-3P
				4.6*10	GC-GDC18-4610030-3P
			3.5	2.1*4	GC-GDC18-214035-3P
				3*4	GC-GDC18-214035-3P
				4.6*10	GC-GDC18-4610035-3P
			5	2.1*4	GC-GDC18-214050-3P
				3*4	GC-GDC18-304050-3P
				4.6*10	GC-GDC18-4610050-3P
10*10				GC-GDC18-10010050-1P	
20*10				GC-GDC18-20010050-1P	
30*10				GC-GDC18-30010050-1P	
7			10*10	GC-GDC18-10010070-1P	
			20*10	GC-GDC18-20010070-1P	
			30*10	GC-GDC18-30010070-1P	
10	10*10	GC-GDC18-100100100-1P			
	20*10	GC-GDC18-200100100-1P			
	30*10	GC-GDC18-300100100-1P			

Product	pH	Packing Type	Particle Size (μm)	Specification (mm)	Part No
WeChromlite® Series Guard Cartridge	1-8	HSS T3	2.5	2.1*4	GC-HST3-214025-3P
				3*4	GC-HST3-304025-3P
				4.6*10	GC-HST3-4610025-3P
			3.5	2.1*4	GC-HST3-214035-3P
				3*4	GC-HST3-304035-3P
				4.6*10	GC-HST3-4610035-3P
	2-8	Perfect T3	3	2.1*4	GC-PFT3-214030-3P
				3*4	GC-PFT3-304030-3P
				4.6*10	GC-PFT3-4610030-3P
			5	2.1*4	GC-PFT3-214050-3P
				3*4	GC-PFT3-304050-3P
				4.6*10	GC-PFT3-4610050-3P
				10*10	GC-PFT3-10010050-1P
				20*10	GC-PFT3-20010050-1P
				30*10	GC-PFT3-30010050-1P
			7	10*10	GC-PFT3-10010070-1P
				20*10	GC-PFT3-20010070-1P
				30*10	GC-PFT3-30010070-1P
			10	10*10	GC-PFT3-100100100-1P
				20*10	GC-PFT3-200100100-1P
				30*10	GC-PFT3-300100100-1P

Product	Operating Pressure (Mpa)	Specifications (mm)	Part No
WeChromlite® Series Cartridge holder	120	2.1	GC-21
	60	3.0	GC-30
	40	4.6	GC-46
	40	10	GC-100
	40	20	GC-200
	40	30	GC-300

\*The column cartridge needs to be purchased separately according to the type and specifications of column .



## HPLC Guard Column

- Extend the column life
- the chromatogram no change
- Easy to use

Description	Specifications	Backpressure	Efficiency	Peak Asym
MicroPulite® XP tC18	4.6*250 mm, 5μm	6.7MPa (Use Guard Column)	102333.67	1.09
		6.5MPa (nonuse Guard Column)	96362.56	1.10

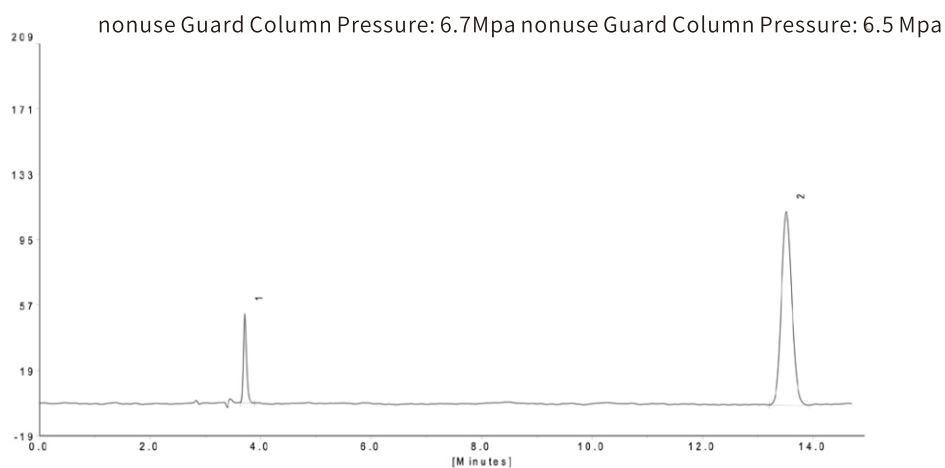
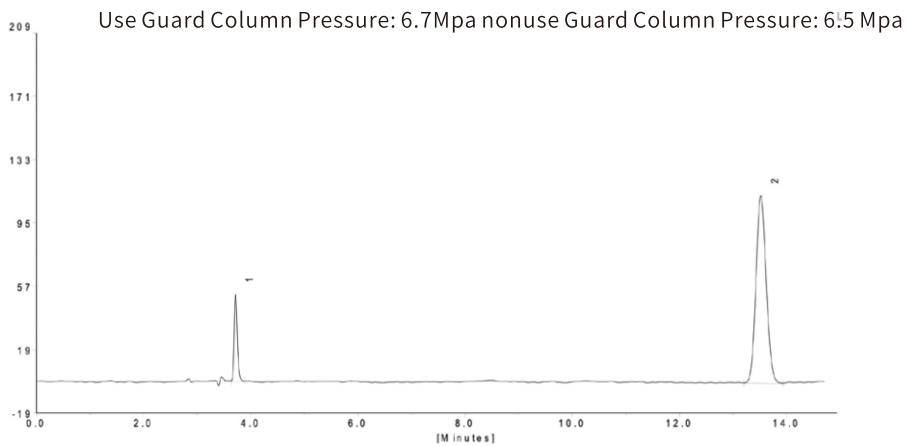
### Chromatographic conditions

Mobile phase : A: 0.1% TFA water ; B: 0.1% TFA acetonitrile

Velocity of flow: 0.8 mL/min

Temperature: 25°C

Wavelength: 254 nm



## Buffer Range, LC- MS compatibility, and Cutoff wavelength of Common Buffers

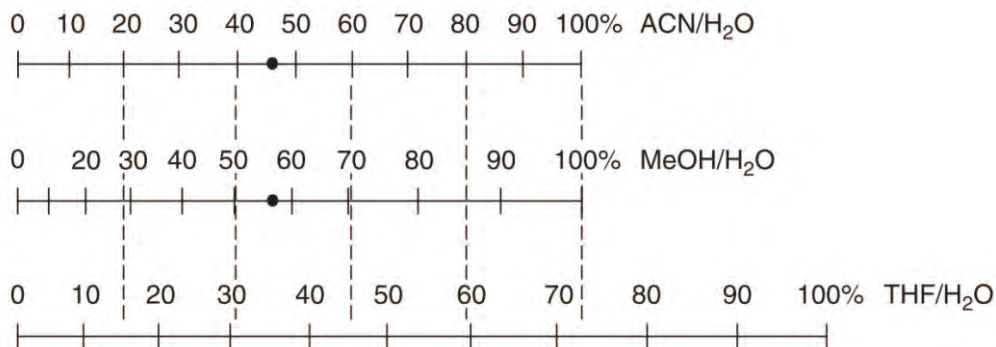
Buffer reagent	pH buffer reagent	LC-MS compatibility	UV cutoff wavelength
Phosphate( $pK_i$ )	1.1-3.1	NO	<200nm
Phosphate( $pK_i$ )	6.2-8.2		
Phosphate( $pK_i$ )	11.3-13.3		
Acetate	3.8-5.8	YES	210nm(10mm)
Citrate( $pK_i$ )	2.1-4.1	NO	230nm(10mm)
Citrate( $pK_i$ )	3.7-5.7		
Citrate( $pK_i$ )	4.4-6.4		
Trifuracetic Acid(0.1%)	2.0	YES	210nm
Phosphoric Acid(0.1%)	2.0	NO	210nm(10mm)
Formic Acid(0.1%)	2.7	YES	<200nm
Ammonium Formate	2.7-4.7	YES	190nm
Supercarbonate	5.4-7.4	YES (Ammonium)	210nm(10mm)
Carbonate	9.2-11.2	NO (Nak etc)	200nm
Borate	8.3-10.3	NO	190nm
Ammonium	8.2-10.2	YES	200nm(10mm)
Diethylammonium	9.5-11.5	NO	235nm(10mm)
Triethylammonium	9.7-11.7	NO	<200nm(10mm)
Trometamol	7.3-9.3	NO	205nm(10mm)

# Common solvent mixing table

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
1	Acetic acid																															Acetic acid	
2	Acetone																																Acetone
3	Acetonitrile																																Acetonitrile
4	Bbenzene																																Bbenzene
5	N-butanol																																N-butanol
6	Carbon tetroxide																																Carbon tetroxide
7	Chloroform																																Chloroform
8	Cyclohexane																																Cyclohexane
9	Cyclopentane																																Cyclopentane
10	Dichloroethane																																Dichloroethane
11	Dichloromethane																																Dichloromethane
12	Dimethylformamide																																Dimethylformamide
13	Dimethyl sulfoxide																																Dimethyl sulfoxide
14	Dioxane																																Dioxane
15	Ethyl acetate																																Ethyl acetate
16	Ethanol																																Ethanol
17	Ethyl ether																																Ethyl ether
18	Heptane																																Heptane
19	N-hexane																																N-hexane
20	Methanol																																Methanol
21	Methyl ethyl ketone																																Methyl ethyl ketone
22	Isooctane																																Isooctane
23	N-pentane																																N-pentane
24	Propan-2-ol																																Propan-2-ol
25	2-propanol																																2-propanol
26	Tetrachloroethane																																Tetrachloroethane
27	Tetrahydrofuran																																Tetrahydrofuran
28	Toluene																																Toluene
29	Trichloroethane																																Trichloroethane
30	Water																																Water
31	Xylenes																																Xylenes

Immiscibility
  Mutually dissolvable

Comparison of solvent strength between Acetonitrile (ACN)、Methanol (MeOH) and Tetrahydrofuran (THF)



## Common solvent properties

Solvent	Cutoff wavelength(nm) <sup>a</sup>	Refractivity RI <sup>b</sup>	Viscosity(cP)	Boiling point(°C) <sup>c</sup>	ε (silica) <sup>d</sup>
Acetone	330	1.359	0.36	56	0.53
Acetonitrile	190	1.344	0.38	82	0.52
n-Butanol	215	1.399	2.98	118	0.40
1-Oxymethanol	220	1.402	0.45	78	0.20
Chloroform	245	1.446	0.57	61	0.26
Cyclohexane	200	1.424	1.00	81	0.00
Dimethylformamide	268	1.430	0.92	153	
Dimethyl sulfoxide	268	1.478	224	189	0.50
1,4-Dioxane	215	1.422	1.37	101	0.51
Ethyl acetate	256	1.372	0.45	77	0.48
Heptane	200	1.388	0.40	98	0.00
n-Hexane	195	1.375	0.31	69	0.00
Isooctane	215	1.391	0.50	99	0.00
Methanol	205	1.328	0.55	65	0.70
Methyl tert-butyl ether	210	1.369	0.27	55	0.48
Methyl ethyl ketone	329	1.379	0.43	80	0.40
Dichloromethane	233	1.424	0.44	40	0.30
Propan-2-ol	205	1.377	2.40	82	0.60
n-Propanol	210	1.386	2.30	97	0.60
Tetrahydrofuran	212	1.407	0.55	66	0.53
Toluene	284	1.497	0.59	111	0.22
Water	190	1.333	1.00	100	

a. The solvent absorption value is 1.0 Au£-The wavelength of the detection pool is 10 mm

b. Index of refraction

c. Boiling Point

d. Solvent strength parameters

# ISO 9001 Certificate of WePure Biotech





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