

MonoSelect C18 for HTS

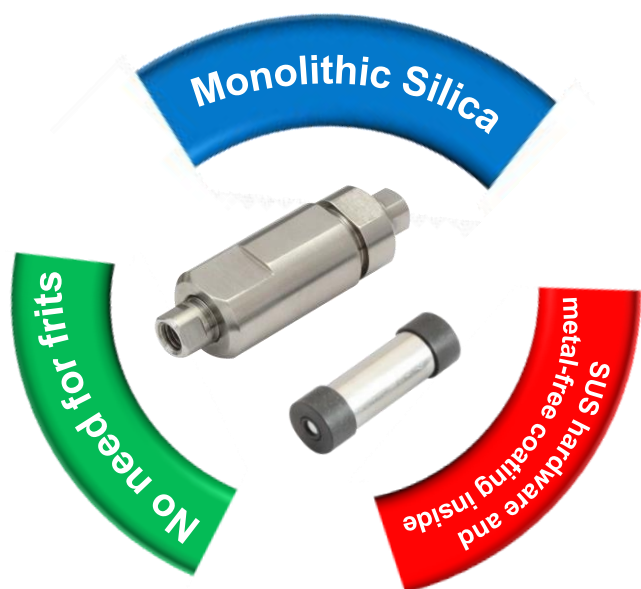
Monolithic silica-based column for
High-Throughput Screening (HTS)

designed for LC and LC/MS



Why choose MonoSelect C18 for HTS?

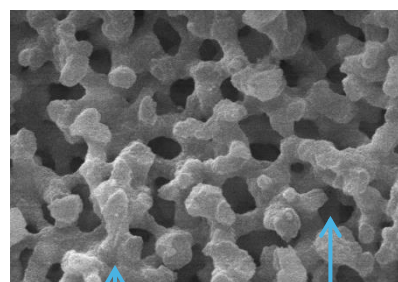
MonoSelect C18 for HTS is based on monolithic silica technology. The very low flow resistance and the excellent separation performances make it suitable for High-Throughput Screenings (HTS). Due to its metal-free hardware, sharp peaks can be obtained also when analyzing metal chelators. The particular structure of MonoSelect C18 for HTS prevents from clogging and delivers high resistance.



- Suitable for High-Throughput Screenings (HTS)
- Suppression of adsorption by metal chelation
- High durability

Monolithic Silica

GL Sciences' monolithic silica consists of precisely controlled μm -sized co-continuous silica skeletons and through-pores. The high external porosity of this structure results in a lower pressure than that of particle-packed columns. Due to the mesopores in the silica skeletons, the surface areas of monolithic silica and particle-packed columns are comparable.



Silica skeleton

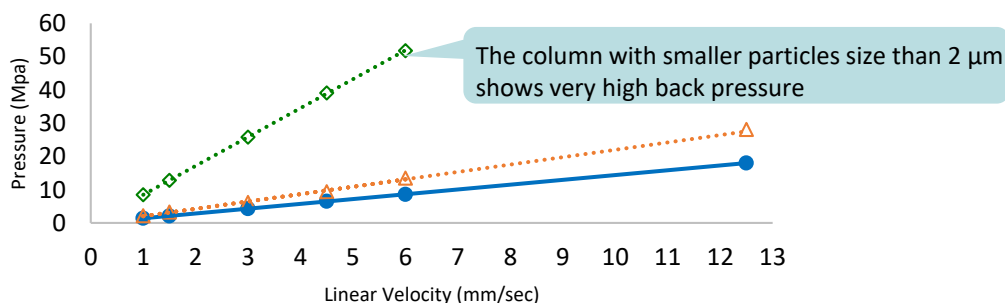
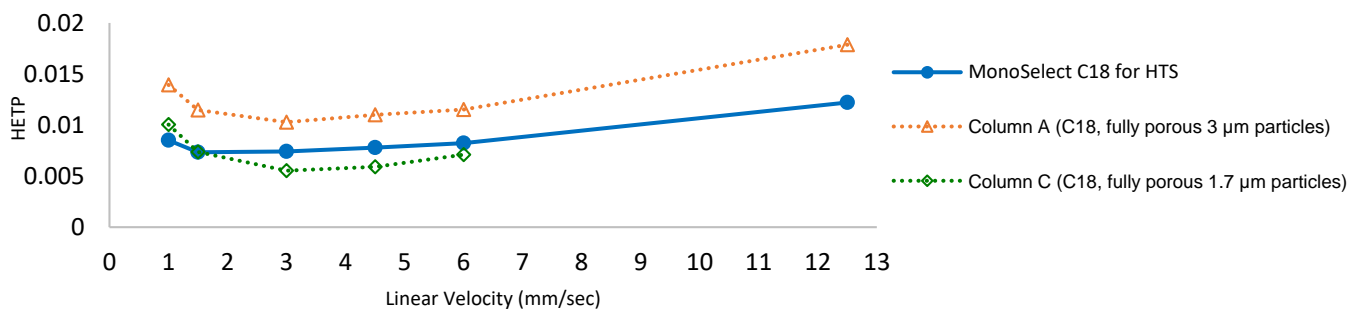
through-pore

Specifications

• Support Material	: High Purity Monolithic Silica Gel	• pH Range	: 2-7.5
• Bonded Phase	: Octadecyl	• Max. Operating Temperature:	: 70°C
• Max. Operating Pressure	: 40 MPa	• Carbon Loading	: 7 %
• End-capping	: Yes		

Why choose MonoSelect C18 for HTS?

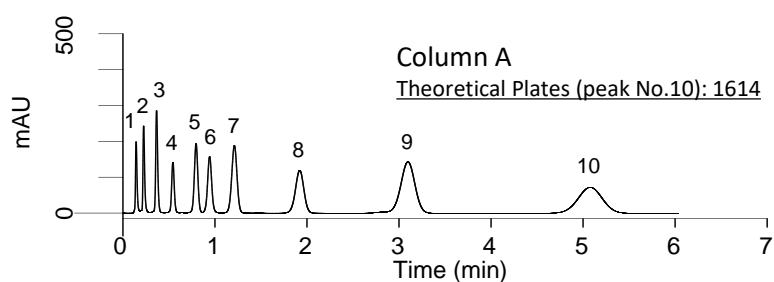
MonoSelect C18 for HTS allows for equal or even better separation than C18 3 μm silica particle packed columns, and it can be used at both low or high flow rates. The back pressure is only 1/6 of the pressure generated by 1.7 μm silica particle packed columns, making it suitable for high throughput analysis.



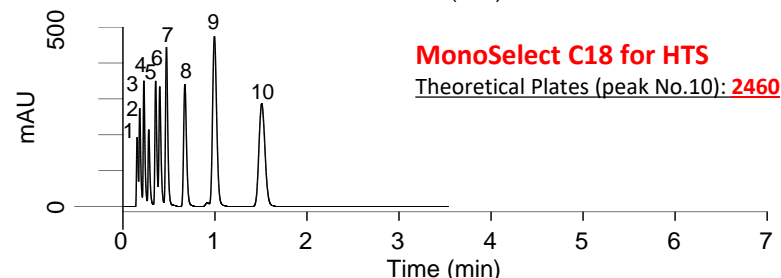
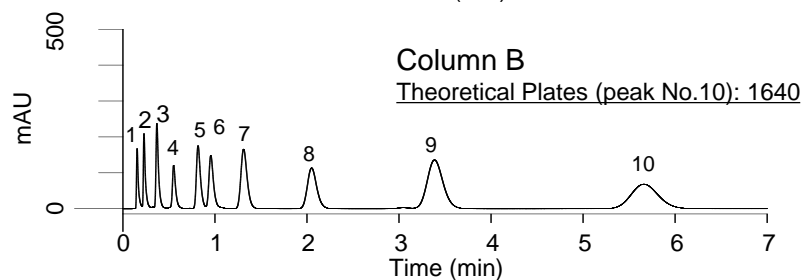
Contact us for more detailed analytical conditions.

Suitable elution time for high-throughput analysis

The faster elution of MonoSelect C18 for HTS compared to other C18 columns and its improved sensitivity make it the best choice for high-throughput analysis.



Column : MonoSelect C18 for HTS (20 x 2.1 mm I.D.)
 Column A (3 μm , 20 x 2.1 mm I.D.)
 Column B (3 μm , 20 x 2.1 mm I.D.)
 Eluent : $\text{CH}_3\text{CN}/\text{H}_2\text{O} = 50/50, \text{v/v}$
 Flow Rate : 0.3 mL/min
 Col. Temp. : 40°C
 Detection : UV 254 nm
 Injection. Vol. : 1.0 μL
 Sample :
 1) Thiourea
 2) Acetanilide
 3) Acetophenone
 4) Propiophenone
 5) Butyrophenone
 6) Benzophenone
 7) Naphtalene
 8) Hexanophenone
 9) Heptanophenone
 10) Octanophenone

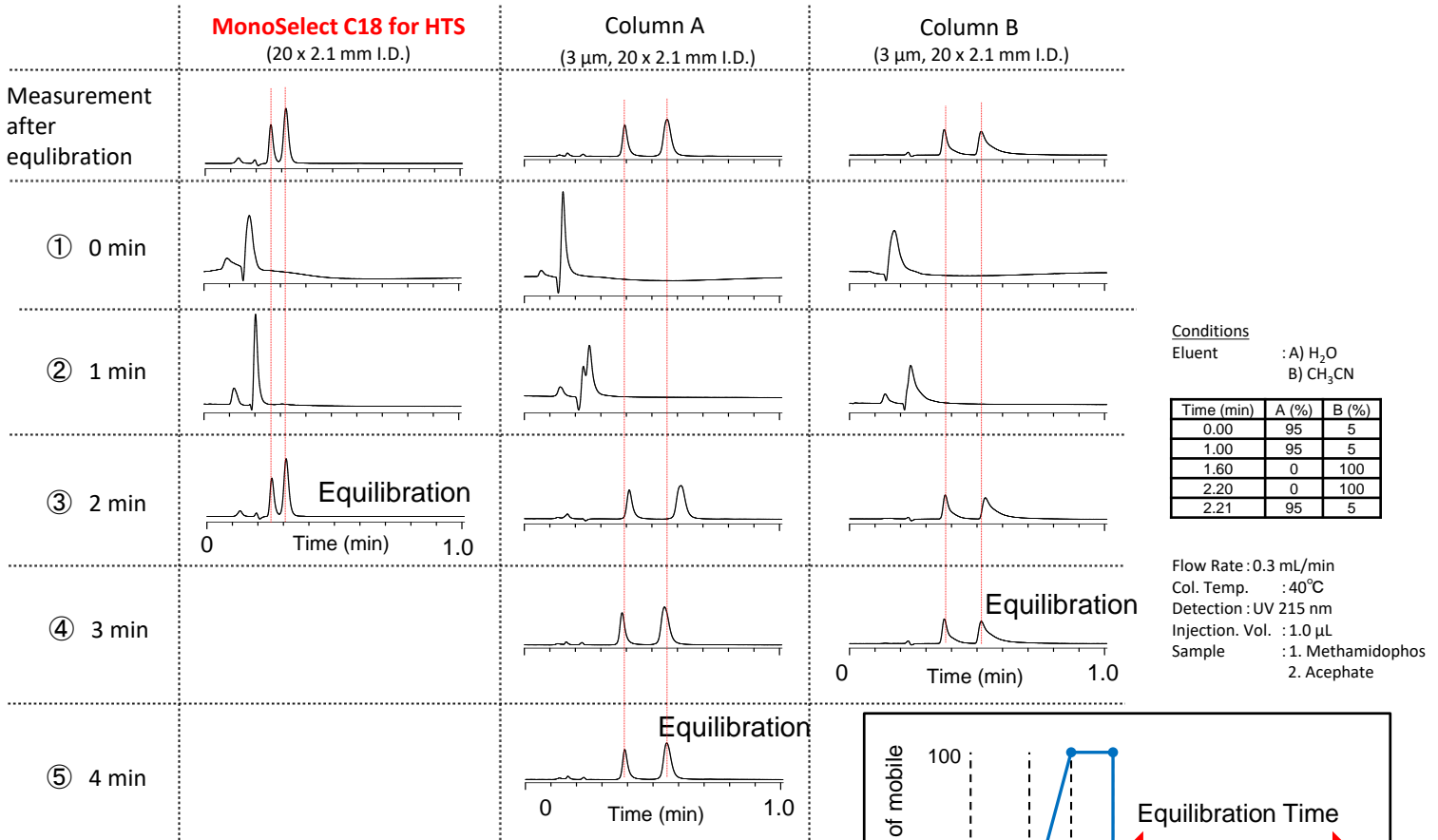


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MonoSelect C18 for HTS

Up to the limits of the fastest equilibration

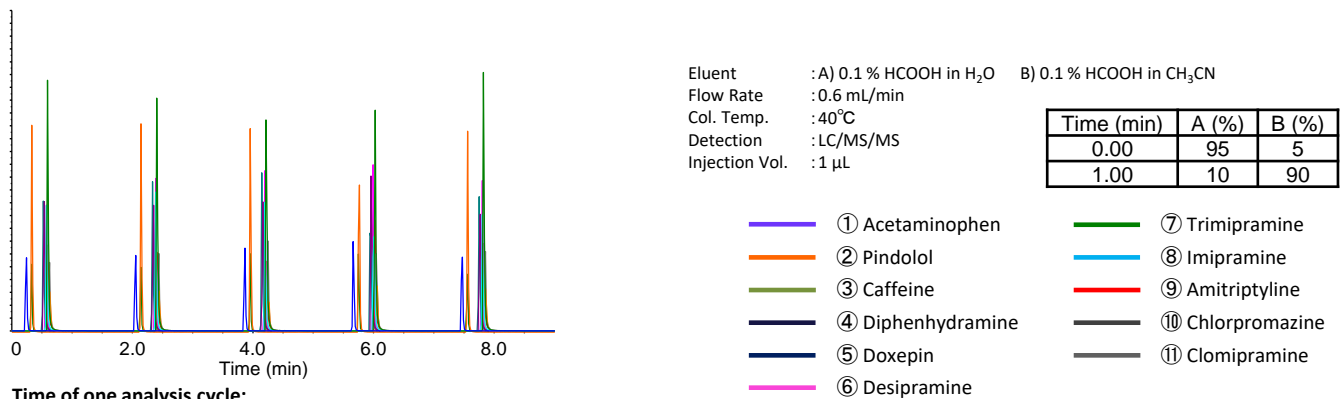
The equilibration time plays an important role in the result repeatability in gradient analysis. MonoSelect C18 for HTS enables faster equilibration compared to packed columns of the same dimensions, which is desirable for rapid analysis.



Contact us for more detailed analytical conditions.

Superior repeatability during continuous injections

Below data was obtained by performing a continuous injection test on a sample containing 11 compounds and comparing the repeatability of the peak area obtained by each column. The superior repeatability of MonoSelect C18 for HTS is attributed to its fast equilibration.



Time of one analysis cycle:

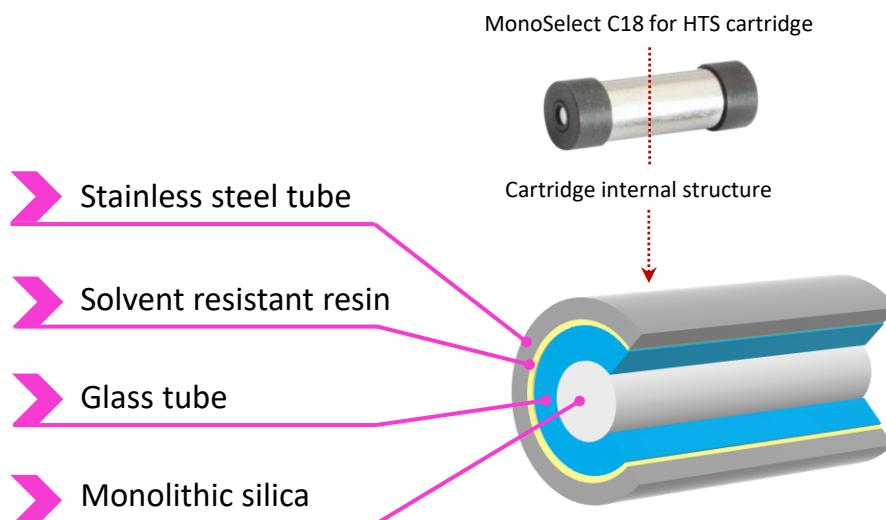
1 min Analysis Time + 1 min Sample Injection Time (the stabilization is performed during this time) = 2 min

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	Ave.
MonoSelect C18 for HTS	2.21%	2.76%	8.89%	4.64%	6.51%	8.39%	3.22%	4.97%	3.17%	4.00%	4.66%	4.86%
Column A	16.0%	13.1%	13.7%	11.0%	7.31%	7.25%	5.80%	6.81%	6.64%	4.88%	7.56%	9.10%
Column B	6.61%	6.45%	9.02%	3.36%	6.49%	7.86%	7.44%	7.62%	6.98%	6.80%	8.96%	7.05%

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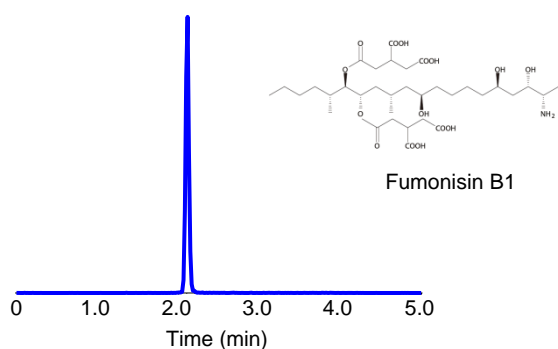
Stainless steel and glass double structure to prevent absorption

MonoSelect C18 for HTS structure includes an external stainless hardware and an internal glass tube. The structure does not contain any sintered metal frit, which could cause adsorption of metal chelators. This delivers outstanding sensitivity for such analytes.



【Analysis of Fumonisin B1】

Fumonisin B1 is a type of mycotoxin, and the several carboxyl groups of this compound could be a metal chelators. With MonoSelect C18 for HTS, it is possible to obtain a sharp peak even when analyzing this kind of compound.

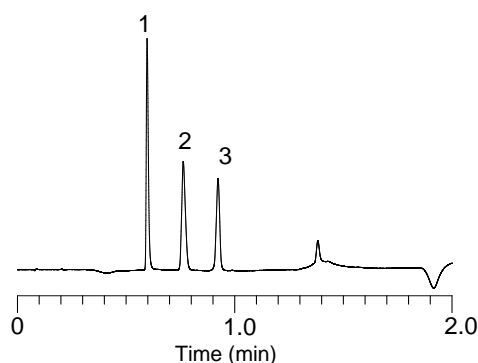


Column : MonoSelect C18 for HTS (20 x 2.1 mm I.D.)
 Eluent A) 0.1% HCOOH in H₂O
 B) CH₃CN
 Flow Rate : 0.3 mL/min
 Col. Temp. : 40°C
 Detection : LC/MS/MS
 Sample : Fumonisin B1

Time (min)	A (%)	B (%)
0.00	80	20
3.00	5	95
3.01	80	20
5.00	80	20

【Analysis of ATP】

ATP contains 3 phosphate groups. Also in this case, good peak shape can be obtained with MonoSelect C18 for HTS.



Column : MonoSelect C18 for HTS (2.1 x 20 mm)
 Eluent A) 5 mM DBAA in H₂O
 B) 5 mM DBAA in CH₃OH
 Flow Rate : 0.6 mL/min
 Col. Temp. : 40°C
 Detection : UV 280 nm
 Sample : 1. AMP
 2. ADP
 3. ATP

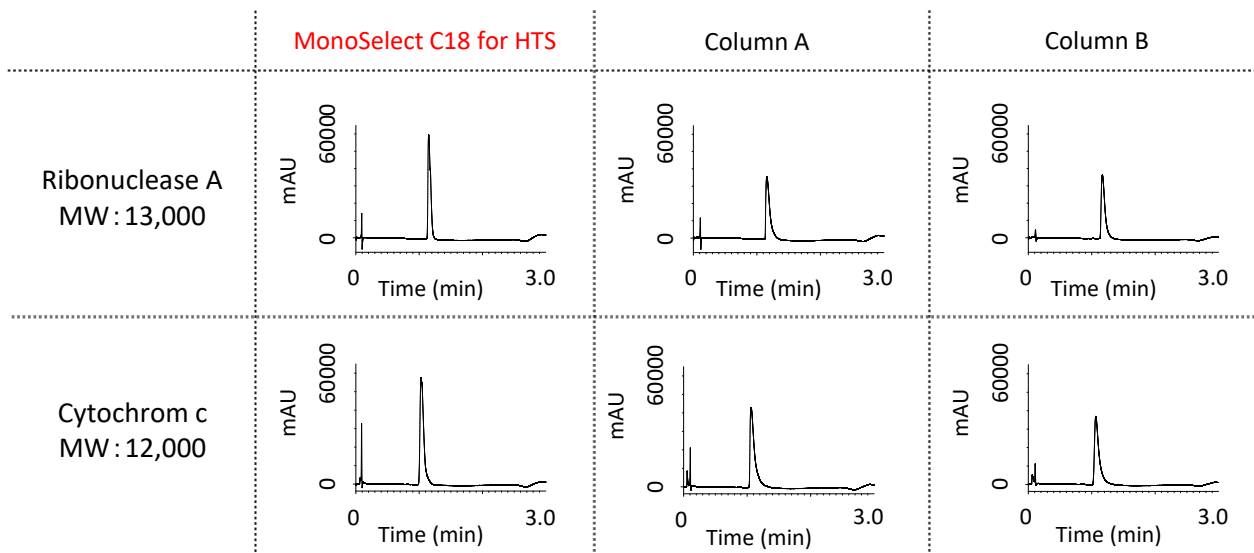
Time (min)	A (%)	B (%)
0.00	100	0
0.10	80	20
0.50	70	30
1.00	40	60
1.01	10	90
1.60	10	90
1.61	100	0
2.00	100	0

Contact us for more detailed analytical conditions.

MonoSelect C18 for HTS

Analysis of proteins

Peaks of macromolecules tend to be distorted with columns packed with particles having small pores. On the other hand, MonoSelect for HTS yields sharp peaks of macromolecules due to the mesopores in the monolithic skeletons.



Column : MonoSelect C18 for HTS (20 x 2.1 mm I.D.)
 Column A (3 μ m, 20 x 2.1 mm I.D.)
 Column B (3 μ m, 20 x 2.1 mm I.D.)
 Eluent : A) 0.1% TFA in H₂O
 B) 0.1% TFA in CH₃CN

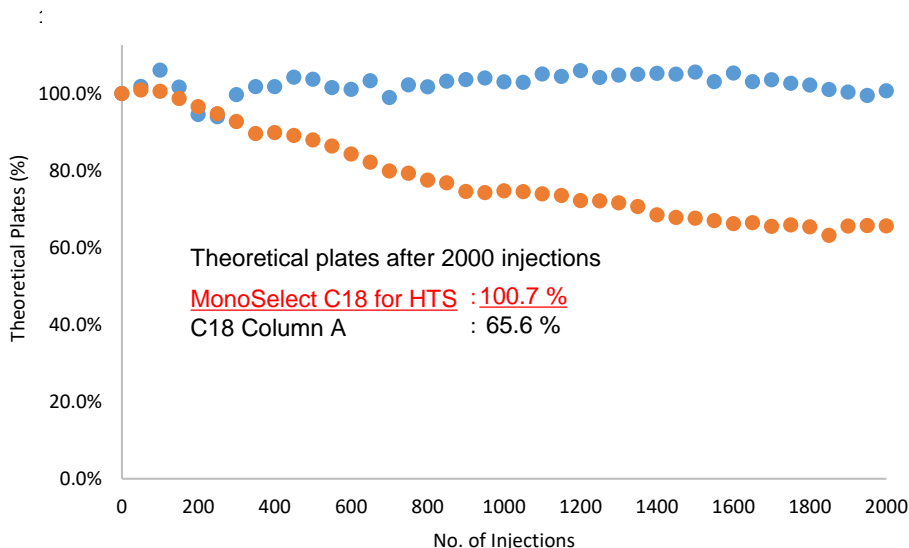
Flow Rate : 0.3 mL/min
 Col. Temp. : 60°C
 Detection : UV 230 nm
 Inj. Vol. : 5.0 μ L

Time (min)	A (%)	B (%)
0.00	80	20
3.00	60	40

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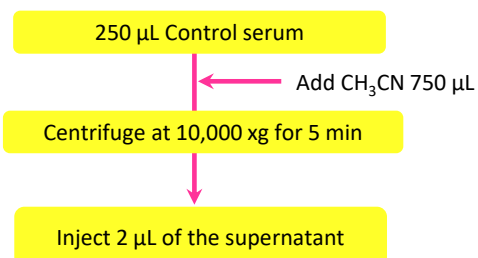
Superior Durability

When analyzing compounds contained in physiological samples, proteins must be removed before the analysis in order to avoid column clogging caused by the proteins themselves. However, it is difficult to completely remove all the proteins and this generally leads to the column deterioration over time. The large through-pores of MonoSelect C18 for HTS avoids accumulation of interfering compounds in biological samples. This results in longer repeatability over time compared to particle-packed columns.



- MonoSelect C18 for HTS (2.1 x 20 mm)
- C18 Column A (3 μ m, 2.1 x 20 mm)

Eluent : CH₃CN/H₂O = 50/50,v/v
 Flow Rate : 0.4 mL/min
 Col. Temp. : 40°C
 Inj. Vol. : 2 μ L
 Sample : Naphthalene



Contact us for more detailed analytical conditions.

Products

MonoSelect C18 for HTS Holder Cartridge Kits

Description	Specifications	Cat.No.
10mm Holder Cartridge Kit	2.1 mm I.D. x 10 mm cartridge 1PC Holder for 10mm cartridge 1PC	5020-10810
20mm Holder Cartridge Kit	2.1 mm I.D. x 20 mm cartridge 1PC Holder for 20mm cartridge 1PC	5020-10811

* The end- fitting is UP type (Parker style).



MonoSelect C18 for HTS Cartridges

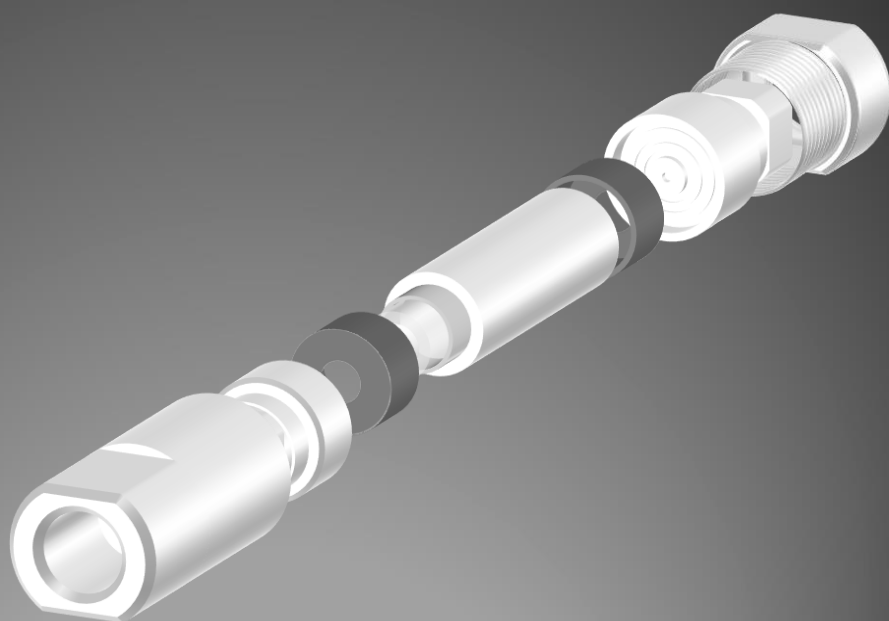
Description	I.D. (mm)	Length (mm)	Cat.No.	Qty.
MonoSelect C18 for HTS Cartridge	2.1	10	5020-10812	1PC
		20	5020-10813	1PC

MonoSelect C18 for HTS Holder

Description	Length of the Cartridge Applicable (mm)	Cat.No.	Qty.
MonoSelect C18 for HTS Holder	10mm	5020-10814	1PC
	20mm	5020-10815	1PC

* The end- fitting is UP type (Parker style).

GL Sciences Inc.



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