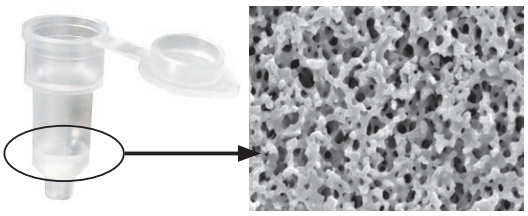
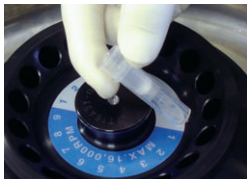
Low Molecular Weight Compounds Extraction & Purification

MonoSpin™ Series



MonoSpin　　Silica monolith Enlarged picture



Centrifuge Operation

Optimal for sample purification and enrichment

MonoSpin is an SPE column packed with monolithic silica and is excellent for the sample pretreatment of small sample volume with easy and quick operation by centrifuge.

Features

Easy to Operate
Easy operation by centrifuge

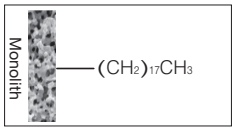
Fast
Speedy sample treatment with superb monolith silica through pore even for biological samples

Small Sample Volume
Excellent for the pretreatment for samples of 50-800 μL

Various Functional Groups
There are 10 kinds of functional groups for MonoSpin series.

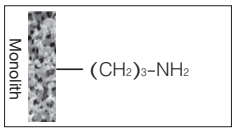
Product Lineup

MonoSpin™ C18



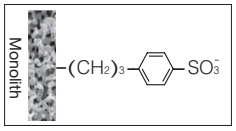
Octadecyl functional group. Optimal for drug extraction in biological samples, and desalting & enrichment of peptide samples.

MonoSpin™ NH2



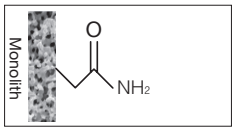
Bonded with aminopropyl. Optimal for the enrichment of sugar chain and/or hydrophilic compounds by HILIC mode.

MonoSpin™ SCX



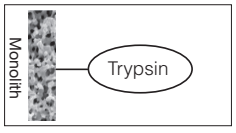
Bonded with propyl benzene sulfonic acid combining both strong cation exchange & hydrophobic interaction. Optimal for the extraction of basic drugs.

MonoSpin™ Amide



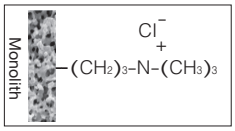
Bonded with amide groups. Optimal for the extraction of sugar chains and various acidic and basic hydrophilic compounds by HILIC mode.

MonoSpin™ Trypsin



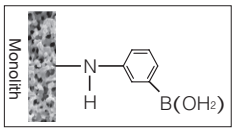
Trypsin is fixed to monolithic silica for fast and easy protein digestion.

MonoSpin™ SAX



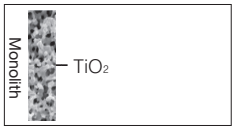
Bonded with Trimethyl aminopropyl combining both strong anion exchange & weak hydrophobic interaction. Optimal for the extraction of acidic drugs.

MonoSpin™ PBA



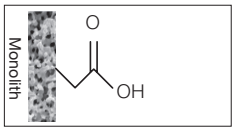
Specific column combined with phenyl boronic acid. Excellent for the selective extraction of cis diol compounds, such as catechol amines.

MonoSpin™ TiO



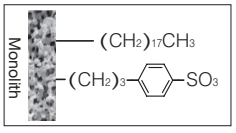
Monolith skeleton coated with titanium dioxide. Excellent for the enrichment of phosphopeptides

MonoSpin™ CBA



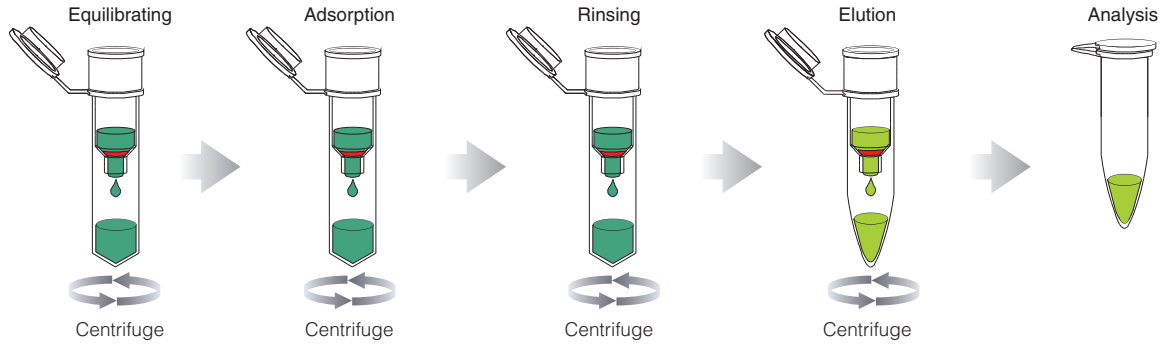
Bonded with carboxy acid combining both weak cation exchange. Optimal for the extraction of basic drugs.

MonoSpin™ C18-CX



Octadecy functional group and benzensulfonic acid are fixed to monolithic silica for hydrophobic and ion exchange functions. Better cleanup performance for basic drugs in blood serum and urinary samples than singular function columns such as C18 or SCX.

How to Operate



Specifications

Description	Specification
Packing material	Silica Monolith (Highly pure silica gel)
Through Pore Diameter	5 μm(Tio 20 μm)
Meso Pore Diameter	10 nm(Tio 15 nm)
Surface Area	350 m^2/g
Sample Volume	50 - 800 μL

MonoSpin™ Part Numbers

Description	Quantity	Cat.No.
MonoSpin C18	50 pcs	5010-21700
	100 pcs	5010-21701
MonoSpin Amide	50 pcs	5010-21727
	100 pcs	5010-21728
MonoSpin CBA	50 pcs	5010-21729
	100 pcs	5010-21730
MonoSpin NH2	50 pcs	5010-21710
	100 pcs	5010-21711
MonoSpin SCX	50 pcs	5010-21725
	100 pcs	5010-21726
MonoSpin SAX	50 pcs	5010-21720
	100 pcs	5010-21721
MonoSpin PBA	50 pcs	5010-21715
	100 pcs	5010-21716
MonoSpin TiO	50 pcs	5010-21705
	100 pcs	5010-21706
MonoSpin Trypsin*	50 pcs	7820-11300
	100 pcs	7820-11301
MonoSpin C18-CX	50 pcs	5010-21731
	100 pcs	5010-21732

"Based on monolithic technology, Merck KGaA, Darmstadt, Germany"
*Keep cool once delivered

<BENEFITS>

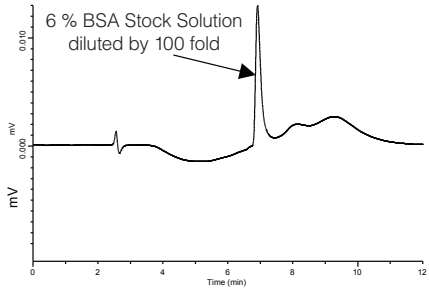
To demonstrate the performance of FastRemover, a BSA solution was prepared as follows:

1. 200 uL of plasma is thoroughly mixed in a test tube containing 800uL of Acetonitrile.
2. The FastRemover and collection plate are attached to a vacuum manifold.
3. The BSA sample mixture is loaded into the 96-well plate and vacuum applied above 0.02 MPa（0.2 Bar）for 2 minutes.

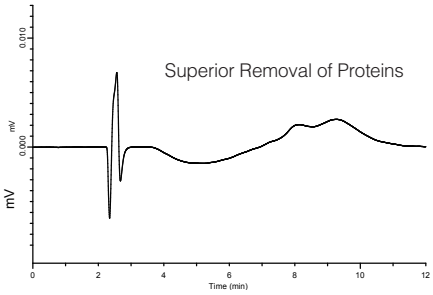
* Methanol can be used as well as a replacement of Acetonitrile.

Performance of Removal of Proteins

Standard Sample



After filtrated with FastRemover



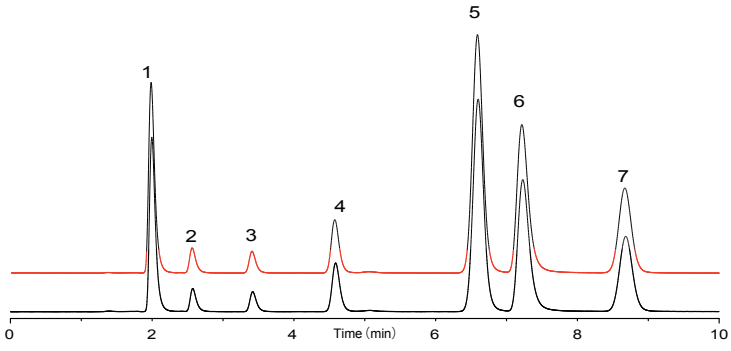
Analytical Conditions

Column	:Inertsil WP300 C8 (5 um, 150 x 2.1 mm I.D.)
Eluent:	:A) 0.1% TFA in CH_3CN
	B) 0.1 % TFA in H_2O
	A/B=10/90 – 5 min - 50/50
Flow Rate	:0.2 mL/min
Col.Temp.	:40 ℃
Detection	:280 nm
Injection Vol.	:2 μL

<Adsorption Test>

A standard mixture containing 7 compounds were analyzed to evaluate potential non-specific adsorption to the plate. As shown in the following chromatograms, FastRemover provides minimal loss of target samples.

Black: **Before treatment with FastRemover**
Red: **After treatment with FastRemover**



Adsorption to the Plate Excellent Non-Specific

Analytical Conditions

Column	:Inertsil ODS-3 (3 um, 150 x 2.1 mm I.D.)
Eluent:	:48% CH3CN (0.7 % KH2PO4 + 0.17% SDS, pH 4.5)
Flow Rate	:0.2 mL/min
Col.Temp.	:40 ℃
Detection	:230 nm
Injection Vol.	:1 μL

Samples
1. Acetaminophen
2. Pyridine
3. Phenol
4. Hexobarbital
5. Propranolol
6. Berberine
7. Doxepin