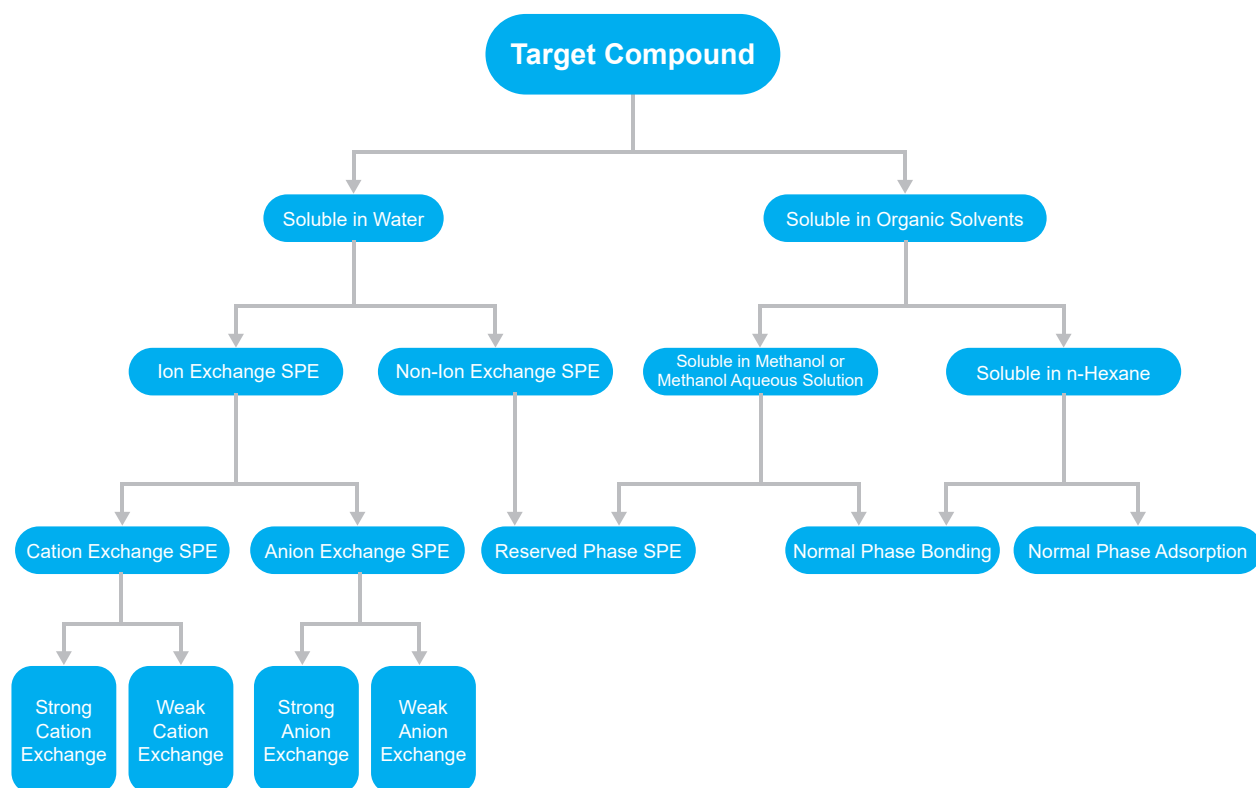


SPE Cartridge Sorbent Selection Guide



Mechanism of Action

Type	Reversed Phase	Normal Phase	Ion Exchange	Other
Mechanism	The reversed phase column sorbent is less polar substance, which extract medium or less polar substances from the extract through hydrophobic interaction.	The normal phase column sorbent is a strong polar substance, which extract strong polar substance from the extract through hydrophilic interaction.	The ion exchange column sorbent is charged, which extract corresponding charged ions by interaction force.	Solid Supported Liquid-Liquid Extraction (SLE), Graphite-Carbon Black (GCB), etc.
Typical Application	Degreasing by reversed phase column in the detection of veterinary drug residues in foods of animal origin.	Remove organic acids from plant-based foods by normal phase column in pesticide residues test.	The MCX column adsorbs the target alkaline compounds such as melamine, ractopamine, etc., then rinse to remove impurities.	Extract aromatic amines in aqueous solution by SLE in azo dyes detection.

Chromatography

Solid Phase Extraction Cartridge Operation Procedures

Distinguish whether the SPE cartridge is used to adsorb the target compound or impurities before experiment. If the SPE cartridge adsorbs the target compound, process will be in 4 steps: activating, loading, washing and elution. If the SPE cartridge adsorbs the impurities, process will be in 3 steps: activating, loading and elution. 1-2 mL/min flow rate and Vacuum Manifolds with pressure control function are recommended.

General Procedures



① Activating



② Loading



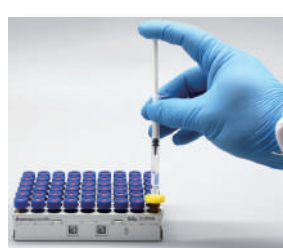
③ Washing



④ Elution



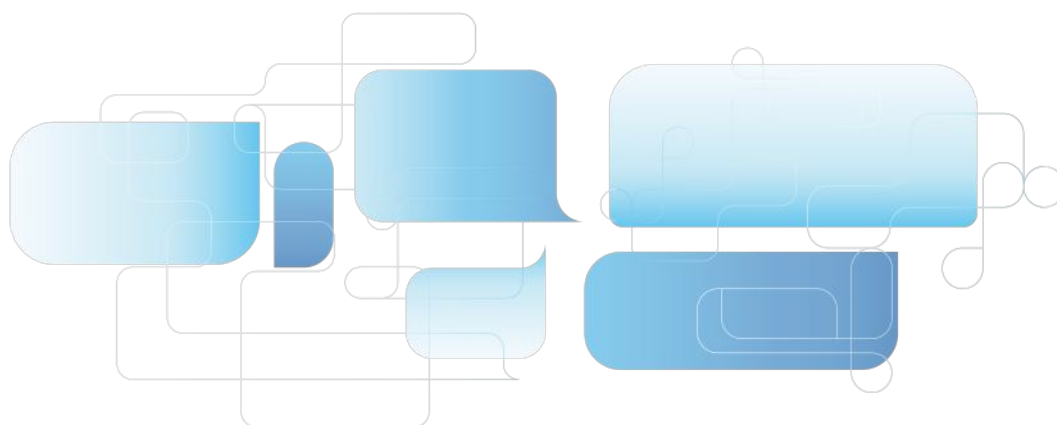
⑦ Analysis



⑥ Filtration

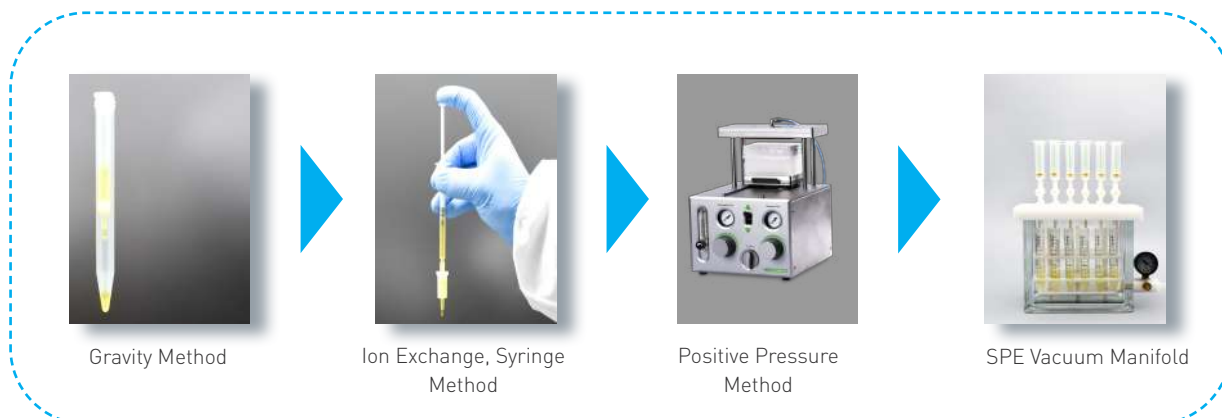


⑤ Concentration



Chromatography

SPE Cartridge Directions



Solvent Selection

SPE Cartridges	Category	Low Elution Strength Solvent (Weak Solvent)
Reversed Phase Cartridges	HLB, C18, C8	Water, Acetonitrile, Methanol
Normal Phase Cartridges	Florisil, ALN, Silica	n-Hexane, Cyclohexane
Cation Exchange Cartridges	MCX, SCX, WCX, PRS	Acidic or Neutral Solution
Anion Exchange Cartridges	MAX, SAX, WA X	Alkaline or Neutral Solution

The elution strength gradually increases during the experiments. In general, weak solvent is used during activating and loading. Weak solvent (might mixed with small amount of strong solvent) used during washing. Strong solvent (might mixed with small amount of weak solvent) during elution.

Analysis and Solutions of Low Recovery Rate

① Analyze the Solution Collected Each Step

When the absolute recovery of the target substance is low, detect the solution collected after each step, then optimize the filtration method.

Detected Target	Reason	Solution
Low recovery of blank spike	Improper SPE cartridge or improper operation	Replace the SPE cartridge or exclude improper solvent
Good recovery of blank spike, but low recovery of pre spike	Matrix effect interference	Optimize pretreatment method or use matrix standard for quantification
Good recovery of pre spike, but low recovery of matrix spike	Low extraction efficiency	Change the extraction solvent or the extraction method

② Add Spike in Different Steps

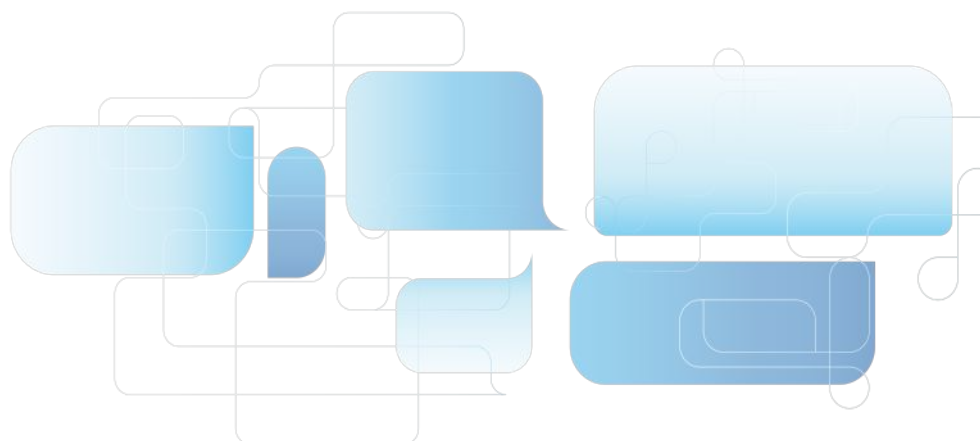
Detected Target	Reason	Solution
Low recovery of blank spike	Improper SPE cartridge or improper operation	Replace the SPE cartridge or exclude improper solvent
Good recovery of blank spike, but low recovery of pre spike	Matrix effect interference	Optimize pretreatment method or use matrix standard for quantification
Good recovery of pre spike, but low recovery of matrix spike	Low extraction efficiency	Change the extraction solvent or the extraction method

Notes: ① Blank spike: add a spike to pure solvent. ② Pre spike: add a spike to blank matrix extract. ③ Matrix spiked: add a spike to blank matrix.

Chromatography

Solid Phase Extraction (SPE) Cartridge Product List

SorbentPhase	GVS	Waters	Agilent	Phenomenex	Supelco	Agela
C18	C18	Sep-pak tC18	Bond Elut C18	Strata C18-E	Sepelclean ENVI-18	Cleanert C18
C18-Ne	C18-n	Sep-pak C18	Bond Elut C180H	Strata C18-U		Cleanert C18-N
C8	C8	Sep-pak C8	Bond Elut C8	Strata C8	Sepelclean ENVI-8	Cleanert C8
CN	CN	Sep-pak CN	Bond Elut CN-E	Strata CN	Sepelclean LC-CN	Cleanert CN
NH2	NH2	Sep-pak NH2	Bond Elut NH2	Strata NH2	Sepelclean LC-NH2	Cleanert NH2
PSA	PSA		Bond Elut PSA	Strata PSA	Sepelclean PSA	Cleanert PSA
SAX	SAX		Bond Elut SAX	Strata SAX	Sepelclean LC-SAX	Cleanert SAX
SCX	SCX		Bond Elut SCX	Strata SCX	Sepelclean LC-SI	Cleanert SCX
Silica	Silica	Sep-pak SI	Bond Elut SI	Strata SI-I	Sepelclean LC-SCX	Cleanert Silica
HLB	HLB	Oasis HLB	Bond Elut Plexa	Strata-X	Supel-Select HLB	Cleanert PEP
HLB	HLB-lim	Oasis PRIME HLB				
MCX	MCX	Oasis MCX	Bond Elut Plexa PCX	Strata-XC	Supel-Select SCX	Cleanert PCX
MAX	MAX	Oasis MAX	Bond Elut Plexa PAX	Strata-XA	Supel-Select SAX	Cleanert PAX
Florisil	Florisil	Sep-pak FI	Bond Elut FL	Strata FR-PR	Sepelclean LC-Florisil	Cleanert Florisil
Graphitized Bond	Carb-GCB		Bond Elut Carbon		Sepelclean ENVI Carb	Cleanert PestiCarb
Alumina-N	ALN	Sep-pak Alumina-N	Bond Elut Alumina-N	Strata Alumina-N	Sepelclean LC-Alumina-N	Cleanert AluminaN
Alumina-A	ALA	Sep-pak Alumina-A	Bond Elut Alumina-A	Strata Alumina-A	Sepelclean LC-Alumina-A	Cleanert AluminaA
Alumina-B	ALB	Sep-pak Alumina-B	Bond Elut Alumina-B	Strata Alumina-B	Sepelclean LC-Alumina-B	Cleanert AluminaB
GCB/NH2	Carb-GCB/NH2		Bond Elut Carb/NH2		Sepelclean ENVI Carb/NH2	Cleanert PestiCarb/NH2
GCB/PSA	Carb-GCB/PSA		Bond Elut Carb/PSA		Sepelclean ENVI Carb-ll/PSA	



Chromatography

Polymer Sorbent

GVS provides various specifications and sorbents of polymeric SPE Cartridges. Each batch has passed performance verification to meet the pretreatment needs of various sample matrices. We provide excellent products of high recoveries and good stability to customers.

HLB Hydrophilic-Lipophilic Balanced

Extracting non-polar to moderately polar acidic, neutral and alkaline compounds

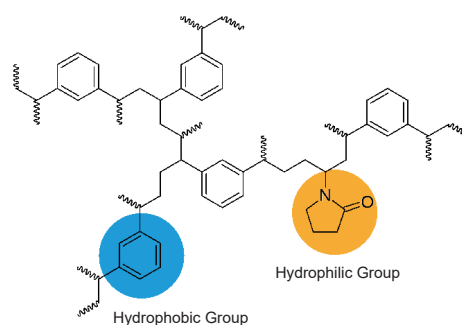
Specifications

Surface area: 600 m²/g Particle size: 40 µm Pore size: 300 Å

Ordering information

Product Code	Description	Qty.
SPEB00HLB01030A	30mg/1mL	100 Pcs/Box
SPEB00HLB03060A	60mg/3mL	50 Pcs/Box
SPEB00HLB03200A	200mg/3mL	50 Pcs/Box
SPEB00HLB06150A	150mg/6mL	30 Pcs/Box
SPEB00HLB06200A	200mg/6mL	30 Pcs/Box
SPEB00HLB06500A	500mg/6mL	30 Pcs/Box
SPEB00HLB12500A	500mg/12mL	20 Pcs/Box
SPEB00HLB01060A	60mg/1mL	100 Pcs/Box
SPEB00HLB01100A	100mg/1mL	100 Pcs/Box
SPEB00HLB03030A	30mg/3mL	50 Pcs/Box
SPEB00HLB061000A	1g/6mL	30 Pcs/Box

Note: equivalent to Waters Oasis HLB



MAX Mixed-mode Anion Exchange

Extracting acidic compounds

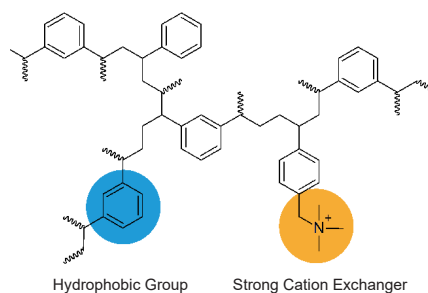
Specifications

Surface area: 600 m²/g

Ordering information

Product Code	Description	Qty.
SPEB00MAX01030A	30mg/1mL	100 Pcs/Box
SPEB00MAX01060A	60mg/1mL	100 Pcs/Box
SPEB00MAX03030A	30mg/3mL	50 Pcs/Box
SPEB00MAX03060A	60mg/3mL	50 Pcs/Box
SPEB00MAX03200A	200mg/3mL	50 Pcs/Box
SPEB00MAX03500A	500mg/3mL	50 Pcs/Box
SPEB00MAX06150A	150mg/6mL	30 Pcs/Box
SPEB00MAX06200A	200mg/6mL	30 Pcs/Box
SPEB00MAX06500A	500mg/6mL	30 Pcs/Box
SPEB00MAX12500A	500mg/12mL	20 Pcs/Box
SPEB00MAX121000A	1g/12mL	20 Pcs/Box

Note: equivalent to Waters Oasis MAX



Chromatography

MCX Mixed-mode Cation Exchange

Extracting alkaline compounds

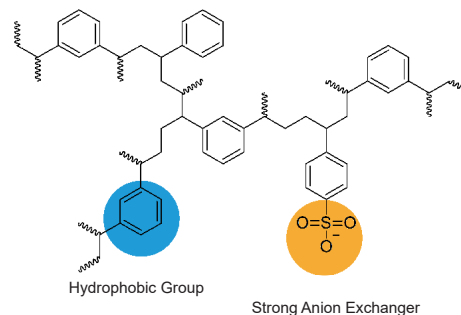
Specifications

Surface area: 600 m²/g Particle size: 40 µm Pore size: 300 Å

Ordering information

Product Code	Description	Qty.
SPEB00MCX01030A	30mg/1mL	100 Pcs/Box
SPEB00MCX01060A	60mg/1ml	100 Pcs/Box
SPEB00MCX03030A	30mg/3ml	50 Pcs/Box
SPEB00MCX03060A	60mg/3mL	50 Pcs/Box
SPEB00MCX03500A	500mg/3ml	50 Pcs/Box
SPEB00MCX06150A	150mg/6mL	30 Pcs/Box
SPEB00MCX06200A	200mg/6mL	30 Pcs/Box
SPEB00MCX06500A	500mg/6mL	30 Pcs/Box
SPEB00MCX12500A	500mg/12mL	20 Pcs/Box
SPEB00MCX121000A	1g/12ml	20 Pcs/Box

Note: equivalent to Waters Oasis MCX



WCX Weak Cation Exchange

Extracting strong bases

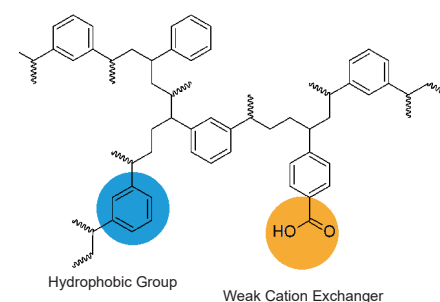
Specifications

Surface area: 600 m²/g Particle size: 40 µm Pore size: 300 Å

Ordering information

Product Code	Description	Qty.
SPEB00WCX01030A	30mg/1mL	100 Pcs/Box
SPEB00WCX01060A	60mg/1ml	100 Pcs/Box
SPEB00WCX03030A	30mg/3ml	50 Pcs/Box
SPEB00WCX03060A	60mg/3mL	50 Pcs/Box
SPEB00WCX03500A	500mg/3mL	50 Pcs/Box
SPEB00WCX06150A	150mg/6mL	30 Pcs/Box
SPEB00WCX06200A	200mg/6mL	30 Pcs/Box
SPEB00WCX06500A	500mg/6mL	30 Pcs/Box
SPEB00WCX12500A	500mg/12ml	20 Pcs/Box
SPEB00WCX121000A	1g/12ml	20 Pcs/Box

Note: equivalent to Waters Oasis WCX



WAX Weak Anion Exchange

Extracting strong acids

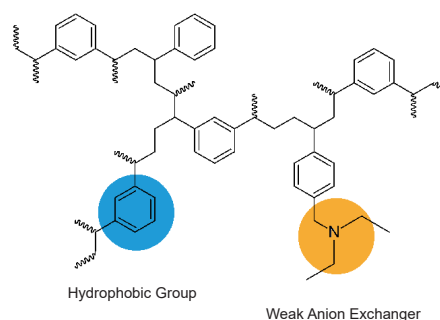
Specifications

Surface area: 600 m²/g Particle size: 40 µm Pore size: 300 Å

Ordering information

Product Code	Description	Qty.
SPEB00WAX01030A	30mg/1mL	100 Pcs/Box
SPEB00WAX01060A	60mg/1ml	100 Pcs/Box
SPEB00WAX03030A	30mg/3ml	50 Pcs/Box
SPEB00WAX03060A	60mg/3mL	50 Pcs/Box
SPEB00WAX03500A	500mg/3mL	50 Pcs/Box
SPEB00WAX06150A	150mg/6mL	30 Pcs/Box
SPEB00WAX06200A	200mg/6mL	30 Pcs/Box
SPEB00WAX06500A	500mg/6mL	30 Pcs/Box
SPEB00WAX12500A	500mg/12ml	20 Pcs/Box
SPEB00WAX121000A	1g/12ml	20 Pcs/Box

Note: equivalent to Waters Oasis WAX



HLB Lim Cartridges for Multi-Residue Analysis of Veterinary Drug



HLB Lim cartridge is a new type of solid phase extraction column packed with special sorbent. Comparing to traditional SPE cartridges, it removes interfering substances such as fat, phospholipid and pigment faster to reduce matrix effect.

The HLB Lim Cartridge greatly simplifies the process of sample preparation. Activation and equilibration steps can be skipped. Filtering the sample directly after extraction saves a lot of time and reagents so that the sample preparation is simpler and more efficient.

Features

- One step purification and shorter pretreatment time
- High recovery rate and good reproducibility
- Suitable for multi-matrix and multi-residue analysis of veterinary drug
- Save solvent and cost

Typical Recovery

Compound	Recovery (%)
Tetracycline	97.7
Chlortetracycline	87.9
Oxytetracycline	87.7
Ractopamine	95.8
Salbutamol	108
Clenbuterol	91.6

Ordering information

Product Code	Description	Qty.
SPEB00HLB03200A	HLB Lim Cartridges, 3 mL	50 Pcs/Box

Chromatography

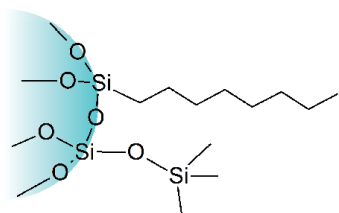
SPE Cartridges



SPE cartridges generally include traditional silica-based SPE cartridges and inorganic chemical based SPE cartridges. GVS independently researches and develops sorbents to ensure its stability and performance. Normal phase, reverse phase, and ion exchange phase are available to improve sample preparation efficiency.

C8 Octyl

Extracting non-polar compounds



Specifications

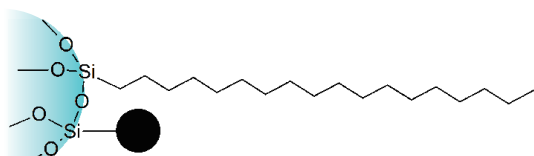
Carbon content: 9% Surface area: 280 m²/g
Particle size: 40 - 75 μm Pore size: 70 Å

Ordering information

Product Code	Description	Qty.
SPEB000C801100A	100mg/1mL	100 Pcs/Box
SPEB000C803200A	200mg/3mL	50 Pcs/Box
SPEB000C803500A	500mg/3mL	50 Pcs/Box
SPEB000C806500A	500mg/6mL	30 Pcs/Box
SPEB000C8061000A	1000mg/6mL	30 Pcs/Box
SPEB000C8122000A	2000mg/12mL	20 Pcs/Box

C18 A Unendcapped Octadecyl

Extracting non-polar compounds



Specifications

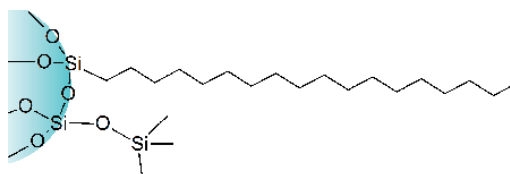
Carbon content: 12% Surface area: 300 m²/g
Particle size: 40 - 75 μm Pore size: 70 Å

C18 A Ordering information

Product Code	Description	Qty.
SPEB0C18A01100A	100mg/1mL	100 Pcs/Box
SPEB0C18A03200A	200mg/3mL	50 Pcs/Box
SPEB0C18A03500A	500mg/3mL	50 Pcs/Box
SPEB0C18A06500A	500mg/6mL	30 Pcs/Box
SPEB0C18A061000A	1000mg/6mL	30 Pcs/Box
SPEB0C18A121000A	1000mg/12mL	20 Pcs/Box
SPEB0C18A122000A	2000mg/12mL	20 Pcs/Box

C18 Endcapped Octadecyl

Extracting non-polar compounds



Specifications

Carbon content: 17.6% Surface area: 300 m²/g
Particle size: 40 - 60 μm Pore size: 70 Å

Ordering information

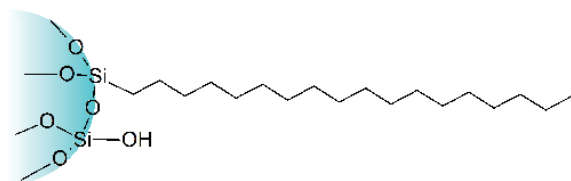
Product Code	Description	Qty.
SPEB00C1801100A	100mg/1mL	100 Pcs/Box
SPEB00C1803060A	60mg/3mL	50 Pcs/Box
SPEB00C1803200A	200mg/3mL	50 Pcs/Box
SPEB00C1803500A	500mg/3mL	50 Pcs/Box
SPEB00C1806500A	500mg/6mL	30 Pcs/Box
SPEB00C18061000A	1000mg/6mL	30 Pcs/Box
SPEB00C18121000A	1000mg/12mL	20 Pcs/Box
SPEB00C18122000A	2000mg/12mL	20 Pcs/Box
SPEB00C1803250A	250mg/3mL	50 Pcs/box
SPEB00C1803300A	300mg/3mL	50 Pcs/Box
SPEB00C1806200A	200mg/6mL	30 Pcs/Box
SPEB00C1806300A	300mg/6mL	30 Pcs/Box
SPEB00C18065000A	5g/60mL	12 Pcs/Box

Note: equivalent to Waters Sep-Pak tC18/C18, Agilent Bond Elut C18, Supelco Supelclean ENVI-18

Chromatography

C18N Unendcapped Octadecyl

Extracting polar and non-polar compounds



Specifications

Carbon content: 17% Surface area: 300 m²/g
Particle size: 40 - 75 µm Pore size: 70 Å

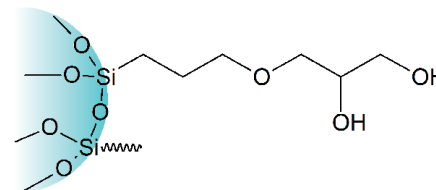
Ordering information

Product Code	Description	Qty.
SPEB0C18N01100A	100mg/1mL	100 Pcs/Box
SPEB0C18N03200A	200mg/3mL	50 Pcs/Box
SPEB0C18N03500A	500mg/3mL	50 Pcs/Box
SPEB0C18N06500A	500mg/6mL	30 Pcs/Box
SPEB0C18N061000A	1000mg/6mL	30 Pcs/Box
SPEB0C18N121000A	1000mg/12mL	20 Pcs/Box
SPEB0C18N122000A	2000mg/12mL	20 Pcs/Box
SPEB0C18N06200A	200mg/6mL	30 Pcs/Box
SPEB0C18N06300A	300mg/6mL	30 Pcs/Box
SPEB0C18N605000A	5g/60mL	12 Pcs/Box

Note: equivalent to Agilent Bond Elut C18-OH

Diol Dihydroxy

Extracting polar compounds



Specifications

Surface area: 290 m²/g Carbon content: 5.5%
Particle size: 40-75 µm Pore size: 70 Å

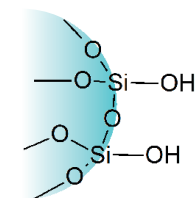
Ordering information

Product Code	Description	Qty.
SPEB0DIOL01100A	100mg/1mL	100 Pcs/Box
SPEB0DIOL03200A	200mg/3mL	50 Pcs/Box
SPEB0DIOL03500A	500mg/3mL	50 Pcs/Box
SPEB0DIOL06500A	500mg/6mL	30 Pcs/Box
SPEB0DIOL061000A	1000mg/6mL	30 Pcs/Box
SPEB0DIOL121000A	1000mg/12mL	20 Pcs/Box
SPEB0DIOL122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Waters Sep-Pak Diol & Agilent Bond Elut 20H

Silica Unbounded Silica Gel

Extracting polar compounds



Specifications

Surface area: 480 m²/g
Particle size: 40 - 75 µm
Pore size: 70 Å

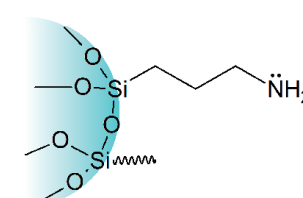
Ordering information

Product Code	Description	Qty.
SPEBSILIC01100A	100mg/1mL	100 Pcs/Box
SPEBSILIC03100A	100mg/3mL	50 Pcs/Box
SPEBSILIC03200A	200mg/3mL	50 Pcs/Box
SPEBSILIC03500A	500mg/3mL	50 Pcs/Box
SPEBSILIC06500A	500mg/6mL	30 Pcs/Box
SPEBSILIC061000A	1000mg/6mL	30 Pcs/Box
SPEBSILIC062000A	2g/6mL	30 Pcs/Box
SPEBSILIC121000A	1000mg/12mL	20 Pcs/Box
SPEBSILIC122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Agilent Bond Elut Silica & Waters Sep-Pak Silica

NH₂ Aminopropyl

Extracting moderately polar and acidic compounds



Specifications

Surface area: 200 m²/g Carbon content: 4.5%
Particle size: 40-75 µm Pore size: 70 Å

Ordering information

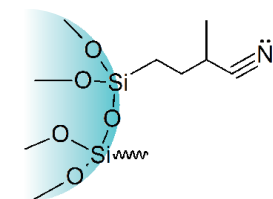
Product Code	Description	Qty.
SPEB00NH201100A	100mg/1mL	100 Pcs/Box
SPEB00NH203200A	200mg/3mL	50 Pcs/Box
SPEB00NH203250A	250mg/3mL	50 Pcs/Box
SPEB00NH203500A	500mg/3mL	50 Pcs/Box
SPEB00NH206500A	500mg/6mL	30 Pcs/Box
SPEB00NH2061000A	1000mg/6mL	30 Pcs/Box
SPEB00NH2121000A	1000mg/12mL	20 Pcs/Box
SPEB00NH2122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Waters Sep-Pak NH₂ & Agilent Bond Elut NH₂

Chromatography

CN Cyanopropyl

Extracting polar and non-polar compounds, enriching metal ions



Specifications

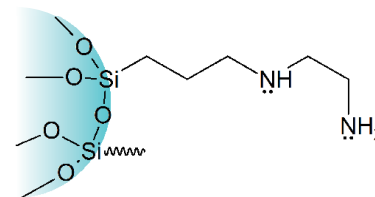
Surface area: 280 m²/g Carbon content: 5.8%
Particle size: 40 - 75 µm Pore size: 70 Å

Ordering information

Product Code	Description	Qty.
SPEB000CN01100A	100mg/1mL	100 Pcs/Box
SPEB000CN03200A	200mg/3mL	50 Pcs/Box
SPEB000CN03500A	500mg/3mL	50 Pcs/Box
SPEB000CN06500A	500mg/6mL	30 Pcs/Box
SPEB000CN061000A	1000mg/6mL	30 Pcs/Box
SPEB000CN122000A	2000mg/12mL	20 Pcs/Box

PSA Primary-Secondary Amine

Extracting strong acids, polar compounds and metal ions



Specifications

Surface area: 500 m²/g Carbon content: 8%
Particle size: 50-75 µm Pore size: 70 Å

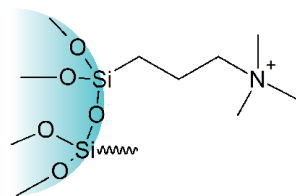
Ordering information

Product Code	Description	Qty.
SPEB00PSA01100A	100mg/1mL	100 Pcs/Box
SPEB00PSA03200A	200mg/3mL	50 Pcs/Box
SPEB00PSA03500A	500mg/3mL	50 Pcs/Box
SPEB00PSA06500A	500mg/6mL	30 Pcs/Box
SPEB00PSA061000A	1000mg/6mL	30 Pcs/Box
SPEB00PSA121000A	1000mg/12mL	20 Pcs/Box
SPEB00PSA122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Agilent Bond Elut PSA

SAX Strong Anion Exchange

Extracting acidic compounds



Specifications

Surface area: 510 m²/g Particle size: 40-75 µm
Pore size: 70 Å

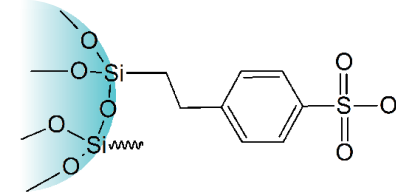
Ordering information

Product Code	Description	Qty.
SPEB00SAX01030A	30mg/1mL	100 Pcs/Box
SPEB00SAX01060A	60mg/1mL	100 Pcs/Box
SPEB00SAX01100A	100mg/1mL	100 Pcs/Box
SPEB00SAX03060A	60mg/3mL	50 Pcs/Box
SPEB00SAX03200A	200mg/3mL	50 Pcs/Box
SPEB00SAX03500A	500mg/3mL	50 Pcs/Box
SPEB00SAX06200A	200mg/6mL	30 Pcs/Box
SPEB00SAX06500A	500mg/6mL	30 Pcs/Box
SPEB00SAX061000A	1000mg/6mL	30 Pcs/Box
SPEB00SAX121000A	1000mg/12mL	20 Pcs/Box
SPEB00SAX122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Supelco Supelclean LC-SAX

SCX Strong Cation Exchange

Extracting basic compounds



Specifications

Surface area: 510 m²/g Particle size: 40 - 75 µm
Pore size: 70 Å

Ordering information

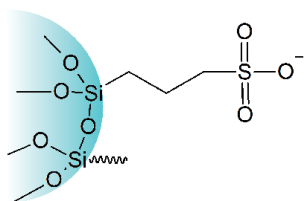
Product Code	Description	Qty.
SPEB00SCX01030A	30mg/1mL	100 Pcs/Box
SPEB00SCX01100A	100mg/1mL	100 Pcs/Box
SPEB00SCX03060A	60mg/3mL	50 Pcs/Box
SPEB00SCX03200A	200mg/3mL	50 Pcs/Box
SPEB00SCX03500A	500mg/3mL	50 Pcs/Box
SPEB00SCX06200A	200mg/6mL	30 Pcs/Box
SPEB00SCX06500A	500mg/6mL	30 Pcs/Box
SPEB00SCX061000A	1000mg/6mL	30 Pcs/Box
SPEB00SCX121000A	1000mg/12mL	20 Pcs/Box
SPEB00SCX122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Waters Sep-Pak CN

Chromatography

PRS Propylsulfonic Acid

Extracting weak bases in biological fluids



Specifications

Surface area: 310 m²/g Carbon content: 4.5%
Particle size: 40-75 µm Pore size: 70 Å

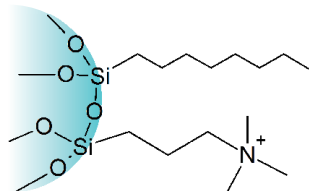
Ordering information

Product Code	Description	Qty.
SPEB00PRS01100A	100mg/1mL	100 Pcs/Box
SPEB00PRS03200A	200mg/3mL	50 Pcs/Box
SPEB00PRS03500A	500mg/3mL	50 Pcs/Box
SPEB00PRS06500A	500mg/6mL	30 Pcs/Box
SPEB00PRS061000A	1000mg/6mL	30 Pcs/Box
SPEB00PRS121000A	1000mg/12mL	20 Pcs/Box
SPEB00PRS122000A	2g/12mL	20 Pcs/Box

Note: equivalent to Agilent Bond Elut PRS

C8/SAX Octyl/Strong Anion Exchange

Extracting acidic drugs in biological fluids



Specifications

Surface area: 510 m²/g Particle
size: 40-75 µm
Pore size: 70 Å

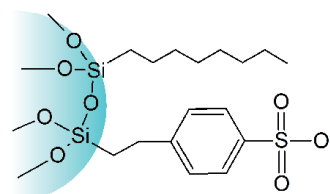
Ordering information

Product Code	Description	Qty.
SPEBC8SAX01100A	100mg/1mL	100 Pcs/Box
SPEBC8SAX01030A	30mg/1mL	100 Pcs/Box
SPEBC8SAX03200A	200mg/3mL	50 Pcs/Box
SPEBC8SAX03500A	500mg/3mL	50 Pcs/Box
SPEBC8SAX06200A	200mg/6mL	30 Pcs/Box
SPEBC8SAX06500A	500mg/6mL	30 Pcs/Box
SPEBC8SAX061000A	1000mg/6mL	30 Pcs/Box
SPEBC8SAX121000A	1000mg/12mL	20 Pcs/Box
SPEBC8SAX122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Agilent Bond Elut Certify II & Phenomenex Screen-A

C8/SAX Octyl/Strong Anion Exchange

Extracting acidic drugs in biological fluids



Specifications

Surface area: 510 m²/g Particle size: 40-75 µm
Pore size: 70 Å

Ordering information

Product Code	Description	Qty.
SPEBC8SCX01030A	30mg/1mL	100 Pcs/Box
SPEBC8SCX01100A	100mg/1mL	100 Pcs/Box
SPEBC8SCX03200A	200mg/3mL	50 Pcs/Box
SPEBC8SCX03500A	500mg/3mL	50 Pcs/Box
SPEBC8SCX06200A	200mg/6mL	30 Pcs/Box
SPEBC8SCX06500A	500mg/6mL	30 Pcs/Box
SPEBC8SCX061000A	1000mg/6mL	30 Pcs/Box
SPEBC8SCX121000A	1000mg/12mL	20 Pcs/Box
SPEBC8SCX122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Agilent Bond Elut Certify & Phenomenex Screen-C

Carb-GCB Graphitized Carbon Black

Extracting herbicides in drinking water

Specifications

Surface area: 100 m²/g Particle
size: 100-300 mesh
Ordering information

Product Code	Description	Qty.
SPEB00GCB03500A	500mg/3mL	50 Pcs/Box
SPEB00GCB03250A	250mg/3mL	50 Pcs/box
SPEB00GCB06500A	500mg/6mL	30 Pcs/Box
SPEB00GCB061000A	1000mg/6mL	30 Pcs/Box

Note: equivalent to Agilent Bond Elut Carbon

Carb-GCB/PSA

Graphitized Carbon Black/ Primary- Secondary Amine
Bilayer

Cleanup of samples in multiresidual pesticide analysis

Specifications

Surface area: 100 m²/g Particle size: 100-300 mesh

PSA Specifications

Surface area: 500 m²/g Carbon content: 8%
Particle size: 40-75 µm Pore size: 70 Å

Ordering information

Product Code	Description	Qty.
SPEB0PSGC065X5A	500mg/500mg/6mL	30 Pcs/Box

Chromatography

Carb-GCB/NH₂

Graphitized Carbon Black/Aminopropyl Bilayer

Cleanup of samples in multiresidual pesticide analysis

GCB Specifications

Surface area: 100 m²/g Particle size: 100-300 mesh

NH₂ Specifications

Carbon content: 4.5% Surface area: 200 m²/g

Particle size: 40 - 75 µm Pore size: 70 Å

Ordering information

Product Code	Description	Qty.
SPEB0NHGC065X5A	500mg/500mg/6mL	30 Pcs/Box
SPEB0NHGC065X2A	500mg/250mg/6mL	30 Pcs/Box
SPEB0NHGC065X5A	500mg/500mg/6mL	30 Pcs/Box
SPEB0NHGC121X1A	1g/1g/12mL	20 Pcs/Box

Florisil Pesticide Grade

Extracting multiresidual pesticides

Specifications

Particle size: 150 - 250 µm

Ordering information

Product Code	Description	Qty.
SPEBFLORI01100A	100mg/1mL	100 Pcs/Box
SPEBFLORI03200A	200mg/3mL	50 Pcs/Box
SPEBFLORI03500A	500mg/3mL	50 Pcs/Box
SPEBFLORI06500A	500mg/6mL	30 Pcs/Box
SPEBFLORI061000A	1000mg/6mL	30 Pcs/Box
SPEBFLORI121000A	1000mg/12mL	20 Pcs/Box
SPEBFLORI122000A	2000mg/12mL	20 Pcs/Box

ALA, ALN, ALB, Alumina

Extracting aromatic amines

Specifications

Surface area >150 m²/g

pH: Acidic Alumina pH 4.0

Neutral Alumina pH 7.0

Basic Alumina pH 9.5

Ordering information

① Acidic Alumina (ALA)

Product Code	Description	Qty.
SPEB00ALA01100A	100mg/1mL	100 Pcs/Box
SPEB00ALA03200A	200mg/3mL	50 Pcs/Box
SPEB00ALA03500A	500mg/3mL	50 Pcs/Box
SPEB00ALA06500A	500mg/6mL	30 Pcs/Box
SPEB00ALA061000A	1g/6mL	30 Pcs/Box
SPEB00ALA062000A	2g/6mL	30 Pcs/Box
SPEB00ALA121000A	1g/12mL	20 Pcs/Box
SPEB00ALA122000A	2g/12mL	20 Pcs/Box

Note: equivalent to Waters Sep-Pak Alumina-A

② Neutral Alumina(ALN)

Product Code	Description	Qty.
SPEB00ALN01100A	100mg/1mL	100 Pcs/Box
SPEB00ALN03200A	200mg/3mL	50 Pcs/Box
SPEB00ALN03500A	500mg/3mL	50 Pcs/Box
SPEB00ALN06500A	500mg/6mL	30 Pcs/Box
SPEB00ALN061000A	1000mg/6mL	30 Pcs/Box
SPEB00ALN062000A	2g/6mL	20 Pcs/Box
SPEB00ALN121000A	1000mg/12mL	20 Pcs/Box
SPEB00ALN122000A	2000mg/12mL	20 Pcs/Box
SPEB00ALN124000A	4g/12mL	20 Pcs/Box
SPEB00ALN125000A	5g/12mL	20 Pcs/Box

Note: equivalent to Waters Sep-Pak Alumina-N

③ Basic Alumina(ALB)

Product Code	Description	Qty.
SPEB00ALB01100A	100mg/1mL	100 Pcs/Box
SPEB00ALB03200A	200mg/3mL	50 Pcs/Box
SPEB00ALB03500A	500mg/3mL	50 Pcs/Box
SPEB00ALB06500A	500mg/6mL	30 Pcs/Box
SPEB00ALB061000A	1000mg/6mL	30 Pcs/Box
SPEB00ALB062000A	2g/6mL	30 Pcs/Box
SPEB00ALB121000A	1000mg/12mL	20 Pcs/Box
SPEB00ALB122000A	2000mg/12mL	20 Pcs/Box

Note: equivalent to Waters Sep-Pak Alumina-B

Chromatography

Mycotoxin Clean-up Columns

Mycotoxin Rapid Testing Solutions

Mycotoxin immunoaffinity column is an affinity chromatography column made by the principle of immunoaffinity chromatography for the analysis of antigens. After extraction, dilution, and column passing, most impurities can be removed.

General Procedures of Mycotoxin Clean-Up Columns



① Activating



② Washing & Eluting



③ Concentration



④ Filtration



⑤ Analysis

Aflatoxin Immunoaffinity Columns

Aflatoxin is a highly toxic substance, which is harmful to human and animal liver tissues. Aflatoxin Immunoaffinity Columns are based on the antigen-antibody specific reaction, binding the antibody to the gel to combine with aflatoxin specificity, thereby achieving the effect of separation and purification.



Ordering information

Product Code	Description	Qty.
IMMBAFLT0001A	Aflatoxin B1,B2,G1,G2 , 1mL	25 Pcs/Box
IMMBAFLT0003A	Aflatoxin B1,B2,G1,G2 , 3mL	20 Pcs/Box
IMMBAFLB1001A	Aflatoxin B1, 1mL	25 Pcs/Box
IMMBAFLB1003A	Aflatoxin B1, 3mL	20 Pcs/Box
IMMBAFLM1001A	Aflatoxin M1, 1mL	25 Pcs/Box
IMMBAFLM1003A	Aflatoxin M1, 3mL	20 Pcs/Box

Zearalenone Immunoaffinity Columns

Zearalenone is widely found in moldy corn, sorghum, wheat, oats, barley and other cereal crops and milk, and is the most widely contaminated Fusarium toxin in the world. It has estrogenic effects, mainly acts on the reproductive system, and is very harmful to humans and animals. Zearalenone Immunoaffinity Columns can be used to extract and enrich zearalenone from samples ,which makes high targeted purification performance come true.



Ordering information

Product Code	Description	Qty.
IMMBZEARA001A	Zearalenone, 1mL	25 Pcs/Box
IMMBZEARA003A	Zearalenone, 3mL	20 Pcs/Box

Chromatography

Four-in-one (ADOZ) Immunoaffinity Columns

ADOZ immunoaffinity column is suitable for the purification of aflatoxin B1, B2, G1, G2, zearalenone, DON, ochratoxin A in samples of grain, food, feed, nuts, peanuts, soy sauce, etc. This method can treat four toxins at one time, greatly improving the pretreatment efficiency, and the recoveries of the four toxins can reach more than 80%.

Ordering information

Product Code	Description	Qty.
IMMBFIOAD003A	3mL	10 Pcs/Box

Deoxynivalenol Immunoaffinity Columns

DON, also known as deoxynivalenol, is mostly distributed in wheat, barley, corn and other grains, and has a certain harmful effect on the human body. It is three-level carcinogen in the EU classification standard. DON Immunoaffinity Columns can selectively separate deoxynivalenol from the sample by the specific binding of antibody and antigen to achieve good purification effect.



Ordering information

Product Code	Description	Qty.
IMMBDEOXY001A	Deoxynivalenol, 1mL	25 Pcs/Box
IMMBDEOXY003A	Deoxynivalenol, 3mL	20 Pcs/Box

Ochratoxin A Immunoaffinity Columns

Ochratoxin A is very common in moldy grains and feed. It comes from the aspergillus and penicillium on various crops (wheat, corn, barley, oats, rye, rice and millet), peanuts, vegetables (beans), etc., which cause enormous harm to the kidneys and livers of human and animal. Ochratoxin A immunoaffinity column can selectively adsorb ochratoxin A in the sample extract, so as to have a very targeted purification effect on ochratoxin A in the sample solution.



Ordering Information

Product Code	Description	Qty.
IMMBORCRA001A	Ochratoxin A, 1mL	25 Pcs/Box
IMMBORCRA003A	Ochratoxin A, 3mL	20 Pcs/Box

Chromatography

T-2 Toxin Immunoaffinity Columns

T-2 toxin is a mycotoxin produced by a variety of *Fusarium* species. It mainly pollutes wheat, barley, corn and other food crops and their products, and poses great harm to human health and animal husbandry. T-2 toxin immunoaffinity column can selectively adsorb the T-2 toxin in the sample solution to specifically purify T-2 toxin. The purified sample solution can be directly used in the liquid phase test.

Ordering information

Product Code	Description	Qty.
IMMBT2TOX001A	T-2 toxin, 1mL	25 Pcs/Box
IMMBT2TOX003A	T-2 toxin, 3mL	20 Pcs/Box

Fumonisin FB Immunoaffinity Column

Fumonisin FB is a mycotoxin, which is a watersoluble metabolite produced by *Fusarium moniliforme*. It is a kind of diester compound composed by different polyhydric alcohols and glycerol tricarboxylic acid. Fumonisin has FA1, FA2, FB1, FB2, FB3 etc. FB1 is the main component.

Ordering information

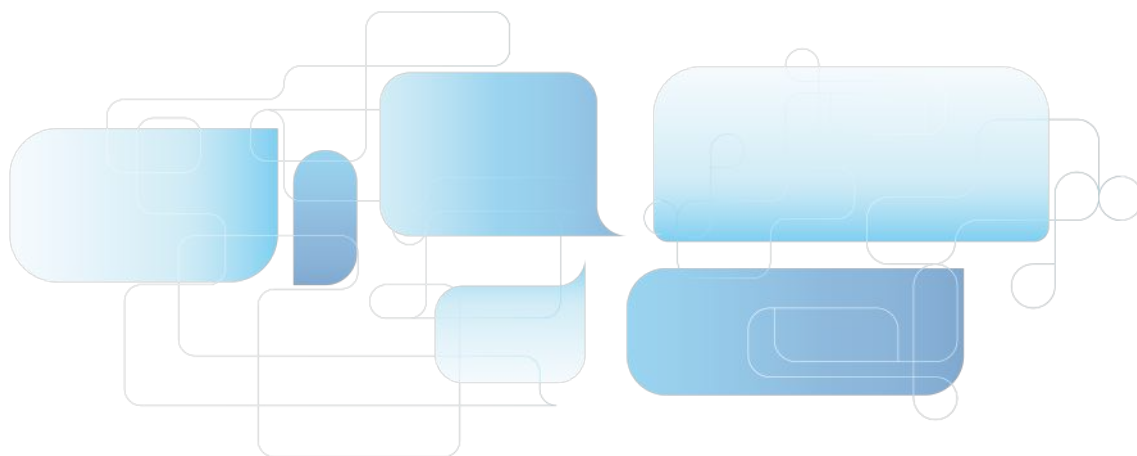
Product Code	Description	Qty.
IMMBFUMFB003A	Fumonisin FB, 3mL	20 Pcs/Box

Tetrodotoxin Immunoaffinity Column

Tetrodotoxin is an amino perhydro quinazolin compound, which is one of the most toxic neurotoxins found in nature. It was once considered to be the most toxic non-protein toxin in nature. The toxin has a local stimulating effect on the intestinal tract. After absorption, it acts on nerve endings and nerve centers rapidly. It can block sodium ion channels on nerve excitation membrane with high selectivity and affinity, and block nerve conduction, thus causing nerve paralysis and death. Tetrodotoxin immunoaffinity column has a strong targeted purification effect on the extraction and enrichment of tetrodotoxin.

Ordering information

Product Code	Description	Qty.
IMMBTETRO003A	Tetrodotoxin, 3mL	20 Pcs/Box



Chromatography

Multi-Functional Purification Column

Multi-Functional Purification Column contains multiple adsorption matrices to adsorb quickly and selectively of lipids, organic acids, proteins, pigments and other impurities. The matrices do not absorb the target to realize fast purification.

Features

- Complete purification in 30s
- Easy operation and high efficiency
- Stored at room temperature for more than 18 months
- Recovery rate $\geq 90\%$, RSD $\leq 5\%$

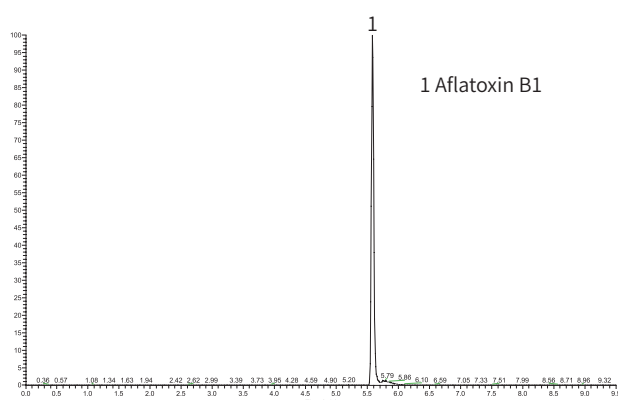
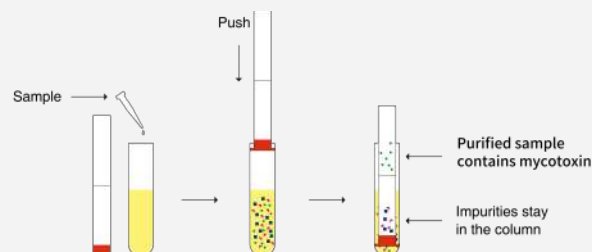


Table 1 Recovery of aflatoxin B1 in 20 $\mu\text{g/kg}$ peanut oil

Compound	Recovery (%)	Average recoveries (%)	RSD (%)	Average recoveries (%)	RSD (%)
1	2	3			
Aflatoxin B1	81.9	84.5	82.4	82.9	1.7

Procedures

1. Extract sample.
2. Add the extracted sample to the test tube and insert the rubber-tipped end of the purification column into the test tube.
3. Push the purification column to the bottom of the test tube.
4. The purified sample passes through sorbent to the top of the purification column.
5. The purified sample can be analyzed after concentrate.



Ordering information

Product Code	Description	Application	Qty.
CUCMFP1819A	228 Multi-Functional Purification Column	Patulin, Aflatoxin B1 B2 G1 G2	25 Pcs/Box
CUCMFP1820A	226 Multi-Functional Purification Column	Zearalenone, Aflatoxin B1 B2 G1 G2	25 Pcs/Box
CUCMFP1821A	224 Multi-Functional Purification Column	Zearalenone	25 Pcs/Box
CUCMFP1823A	223 Multi-Functional Purification Column	Aflatoxin M1 M2	25 Pcs/Box
CUCMFP1824A	230 Multi-Functional Purification Column	Deoxynivalenol	25 Pcs/Box
CUCMFP1818A	229 Multi-Functional Purification Column	Ochratoxin A	25 Pcs/Box
CUCMFP1822A	302 Multi-Functional Purification Column	Multiple functions	25 Pcs/Box

Chromatography

Special SPE Cartridges

Cartridges for Ion chromatography Preparation

In ion chromatography, organic, metal and other interfering ions may affect the analysis of target compounds. The pretreatment columns are based on the principle of reversed phase adsorption or ion exchange, can effectively remove interferences and ensure the accuracy of the results.

Ordering information

Product Code	Description	Format	Qty.
SPEB0IC18001A	C18 cartridge	300mg	50 Pcs/Box
SPEB0IC0H001A	H cartridge	1mL	50 Pcs/Box
SPEB0ICNA001A	Na cartridge	1mL	50 Pcs/Box

Destaining Cartridges for Chrome (VI) Testing

Chrome (VI) in leather articles are converted from Chrome (III) in the process of leather production. The toxic substance has been banned by China and EU. To determine Chrome (VI), pigments in leather should be removed firstly.

Destaining cartridges for Chrome (VI) testing are dedicatedly optimized, capable of helping you remove pigments.

Features

- Optimized for destaining leather samples
- Improved recovery and repeatability
- Complying with official methods

Applications

- Determination of Chrome (VI) in leather

Ordering information

Product Code	Description	Qty.
SPEB0PACR121000A	1000mg/12mL	20 Pcs/Box

Polyamide(PA) SPE Cartridges

For Testing Artificial Color in Extraction Samples

PA is a macromolecule substance polymerized by Amide monomer(hexanolactam, adipamide, Oxalic acid), its amido linkage is easily to bring Hydrogen bond with other Polar bond groups, this enables to remove interferences such as artificial color from samples, this is used for testing artificial color.

PA SPE cartridges are filled with special optimized PA sorbent which enables its good decoloring and high recovery.



Specifications

- Particle Size: 100-200 mesh

Ordering information

Product Code	Description	Qty.
SPEB0PACR03500A	500mg/3mL	50 Pcs/Box
SPEB0PACR06500A	500mg/6mL	30 Pcs/Box
SPEB0PACR061000A	1000mg/6mL	30 Pcs/Box

Cartridges for Plasticizer Testing

Determination of phthalate esters

Plasticizers are currently used in plastic and packaging food contact materials and their products are mostly phthalate esters (PAEs), some of which are carcinogenic and reproductively toxic. As toxic PAEs leached into food cause health risks for human beings, their use is strictly limited in EU, the U.S., China, Japan, etc.

GVS cartridges for plasticizer testing are made of glass tubes and PTFE frits that prevent impurities from being introduced into the sample. Dedicatedly optimized PSA sorbent also enables thorough cleanup and satisfactory recoveries for official methods.

Features

- Chemically inert glass tubes
- High purity PTFE frits
- Satisfactory recoveries for official methods

Applications

- Determination of phthalate esters in foods



Ordering information

Product Code	Description	Qty.
SPEB00PAE065X5A	500mg/500mg/6mL	30 Pcs/Box