# Sample Preparation

## Chromatography & Mass Spectrometry

biocomma

www.biocomma.com

Biocomma Limited Huizhou Production Base

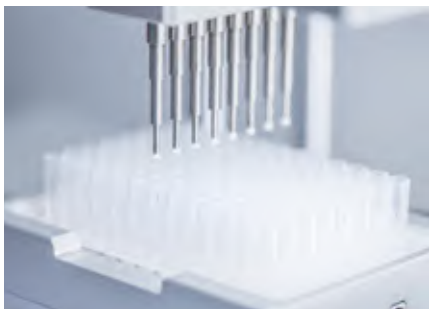
# Company Profile

Biocomma's mission is providing innovative consumables and comprehensive solutions based on innovations of materials to global clients in sciences and healthcare fields.

Since Biocomma established in 2006, we continue to increase R&D and engineering investment to build a technical innovation and industrialization platform which focus on polymer filtration materials, adsorption materials, and biological membrane materials. Also, technical breakthrough has been realized in related materials

Biocomma's accumulation of years of consumable categories covers the collection, transportation, filtration, separation, purification, preservation, culture, etc. In addition, we also lay out respiratory care and disposable sterile medical consumables. Our products can be widely applied to scientific research, analysis and testing, drug research and development, in vitro diagnosis, medical rehabilitation and other fields.

After years of growth and development, Biocomma's products have been widely recognized by the market. Now we have become an important supplier of laboratory filters, gene synthesis tools, sample collection and other consumable products. We established close cooperation with dozens of industry leaders worldwide, and our business covers more than 50 countries and regions.



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SpinFlow®

# High Throughput Micro-Filter Solution

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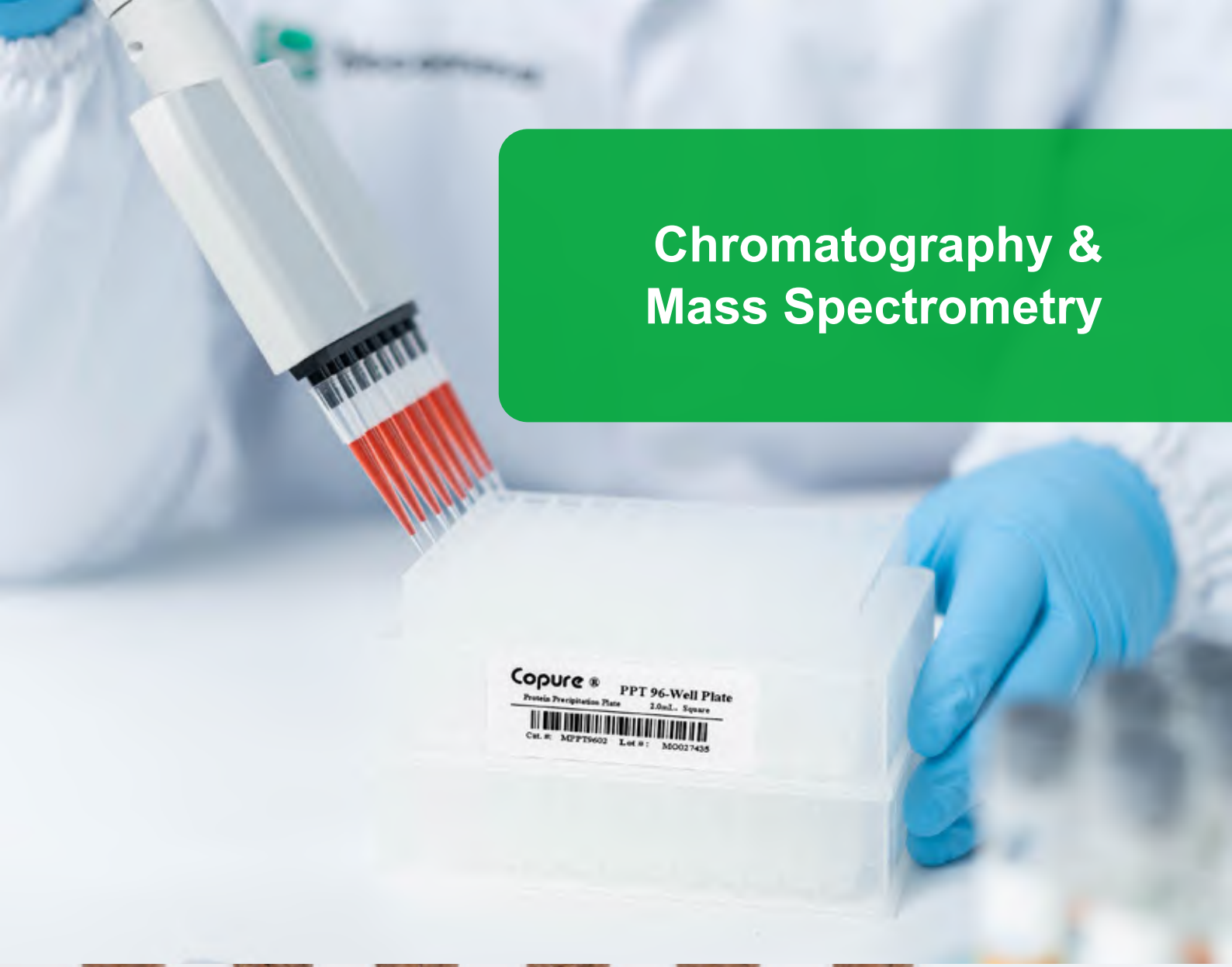
# Chromatography & Mass Spectrometry



# Copure® High-Throughput Residue Analysis of Veterinary Drug Solution

In 2018, Biocomma launched the first HLB Lim Cartridges for Multi-Residue Analysis of Veterinary Drug which used to remove phospholipid. The sorbent is keeping optimization and win wide market recognition in terms of purification performance.

In order to further improve the detection efficiency, Biocomma continues to develop and innovate. In 2022, we launched Copure® 24-Well HLB Lim Plates which purify 24 samples with biocomma® Positive Pressure 24 Processor to realize simpler procedures and more reliable results. Copure® 24-Well HLB Lim Plates are the first choice of veterinary drug residue purification for high-throughput detection in laboratory.

# Copure®
# 24-Well HLB Lim Plates

## Features

- **High-Throughput:** 24 samples can be processed at a time, suitable for automated preparation workstations
- **Limited Matrix Effects:** HLB Lim media removes interference impurities such as fat, phospholipid and pigment quickly and efficiently
- **Good Stability:** reduce experimental error, higher reproducible data
- **Easy Operation:** skipped activation and equilibration steps, also, cooperate with biocomma® Positive Pressure 24 Processor to simplify the purification process

## Procedures

### Copure® 24-Well HLB Lim Plates

1. Pipette the sample supernatant to a Copure® 24-Well HLB Lim Plates.

2. Filter with biocomma® Positive Pressure 24 Processor.

3. Concentrate by biocomma® 24-Well Plate Intelligent Nitrogen Evaporator

4. Filter by biocomma® Syringe Filter and Sample Vials.

5. Liquid chromatography mass spectrometry analysis.

## TIC Chromatogram of 36 Drug Residue in Pork Samples

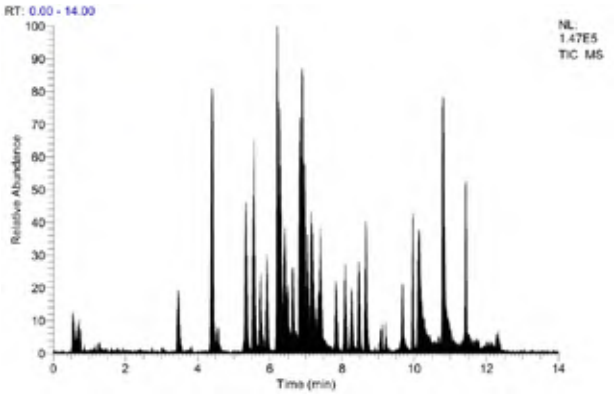



Figure 1 10 µg/kg Spike in Pork Samples

## TIC Chromatogram of 36 Drug Residue in Chicken Samples

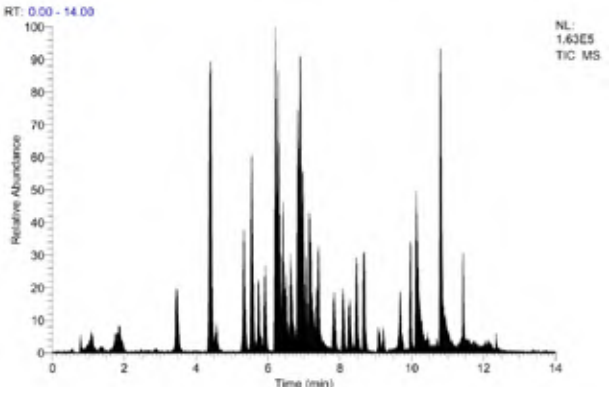



Figure 2 10 µg/kg Spike in Chicken Samples

## TIC Chromatogram of 36 Drug Residue in Shrimp Samples

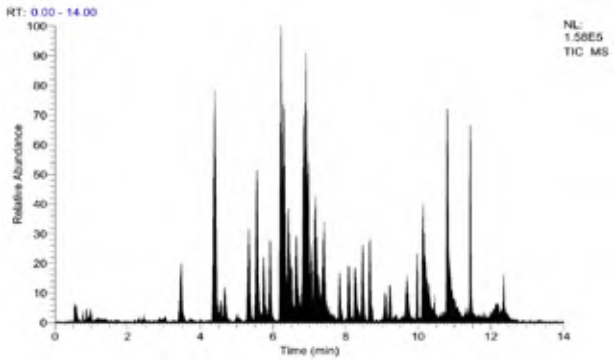



Figure 3 10 µg/kg Spike in Shrimp Samples

# Conclusion

The fast and high-throughput detection of 36 residue analysis of veterinary drug realized by Copure® 24-Well HLB Lim Plates. LC-MS/MS method for the determination of 36 drug residue of tetracyclines, sulfonamides and quinolones in pork, chicken and shrimp. The recovery rates of the two spike of 10 ng/g and 20 ng/g are between 60-110%, and the CV values is less than 10% (n=8), which meet the standard of experimental requirements.

### Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| COHLB24200-lim | Copure® 24-Well HLB Lim Plates | 1 Pc/Box |
| SDC-3000-D | biocomma® Multi-Tube Vortex Mixer | 1 Set/Ctn. |
| BCY2402 | Positive Pressure 24 Processor | 1 Set/Ctn. |
| 24WP-S100 | 24 Well Collection Plate, square well | 1 Pc/Box |
| BCN2403 | 24 Well Intelligent Nitrogen Evaporator, Flat Bottom Plate | 1 Set/Ctn. |

# Copure® High-Throughput Pesticide Residue Purification Solution

In 2010, Biocomma launched optional Copure® QuEChERS kits to establish standard-compliant detection methods in laboratory quickly for many years. The kits win wide market recognition in terms of purification performance.

In order to further improve the detection efficiency, Biocomma continues to develop and innovate. In 2022, we launched Copure® 24-Well Pesticide Residue Purification Plates which purify 24 samples with biocomma® Positive Pressure 24 Processor to realize simpler procedures and more reliable results. The purification does not need filtration by syringe filter any more, and the filtrate can be analysis directly.

# Copure® 24-Well Pesticide Residue Purification Plates

## Features:

- **High-Throughput:** 24 samples can be processed at a time, suitable for automated preparation workstations
- **High Recovery Rate:** equivalent to the recovery rate and purification effect of the traditional QuEChERS method
- **Good Stability:** reduce experimental error, higher reproducible data
- **No Syringe Filter Needed:** the sample filtered with 0.22μm nylon membrane can be tested on the machine directly
- **Easy Operation:** cooperate with biocomma® Positive Pressure 24 Processor to simplify the purification process

# Procedures

## Copure® 24-Well Pesticide Residue Purification Plates

1. Pipette the sample supernatant to a Copure® 24-Well Pesticide Residue Purification Plate.

2. Filter with biocomma® Positive Pressure 24 Processor, and the sample vials are placed in the sample vial tray to collect the sample.

3. Cap the vials, no syringe filter filtration needed.

4. Direct mass spectrometry analysis.

# Strawberry

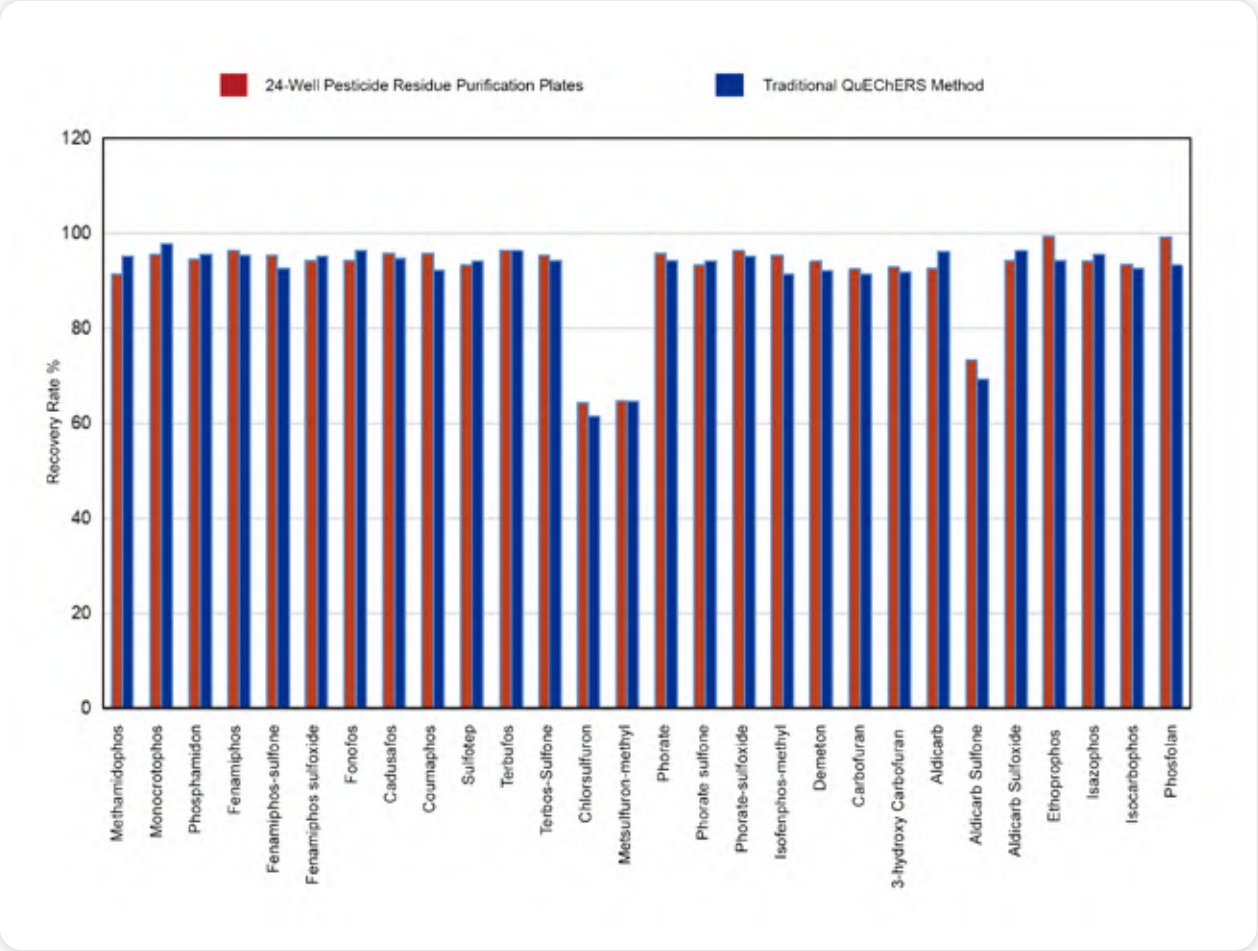



Figure 1 Recovery Rate Comparison of Multi-Pesticide Residues (5 ng/g)

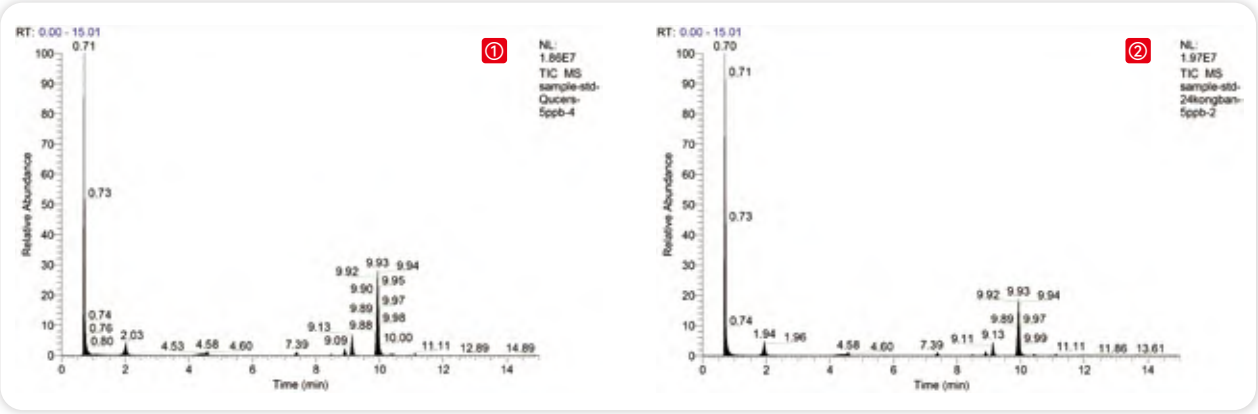



Figure 2 TIC Chromatograms of Multi-Pesticide Residues After Different Purification Methods (5 ng/g)

( ① Traditional QuEChERS Method ② Copure® 24-Well Pesticide Residue Purification Plates)

# Conclusion

According to the results, the Copure® 24-Well Pesticide Residue Purification Plates are more stable. The simpler and more convenient operation reduces the detection time and significantly improve the detection efficiency.

## Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| NC24001 | Copure® 24-Well Pesticide Residue Purification Plates (suitable for vegetables, fruits and edible fungi with light pigment) | 1 Pc/Box |
| NC24002 | Copure® 24-Well Pesticide Residue Purification Plates (suitable for vegetables, fruits and edible fungi with dark pigment) | 1 Pc/Box |
| NC24003 | Copure® 24-Well Pesticide Residue Purification Plates (suitable for grains, oil and nuts) | 1 Pc/Box |
| NC24004 | Copure® 24-Well Pesticide Residue Purification Plates (suitable for tea and spices) | 1 Pc/Box |
| COQ050010H | Extraction Salts + 50 mL Tube: 4 g $MgSO_4$, 1 g NaCl, 1 g Trisodium Citrate, 0.5 g Disodium Citrate | 50 Pcs/Box |
| COQ050020H | Extraction Salts + 50 mL Tube: 6 g $MgSO_4$, 1.5 g NaOAc | 50 Pcs/Box |
| SDC-3000-D | biocomma® Multi-Tube Vortex Mixer | 1 Set/Ctn. |
| NC24DZ | 24-Well Vial Tray | 1 Set/Ctn. |
| BCY2402 | Positive Pressure 24 Processor | 1 Set/Ctn. |
| BCN2403 | 24 Well Intelligent Nitrogen Evaporator, Flat Bottom Plate | 1 Set/Ctn. |

# Copure®

# Fast Mycotoxin Determination Solution

In 2016, Biocomma launched Copure® Multi-Functional Purification Column which adsorb quickly and selectively of lipids, organic acids, proteins, pigments and other impurities to realize fast purification. The purification columns win wide market recognition in terms of purification performance.

In order to further improve the detection efficiency, Biocomma continues to develop and innovate. In 2022, we launched Copure® 24-Well Multi-Functional Purification Plates which purify 24 samples with biocomma® Positive Pressure 24 Processor to realize more sensitive analysis, shorter instrument downtime and higher efficiency. Copure® 24-Well Multi-Functional Purification Plates are the first choice for quantitative detection needs in laboratory.

# Copure® 24-Well Multi-Functional Purification Plates

## Features:

- ✓ **High throughput:** process 24 samples in one time, suitable for automated sample preparation workstations.
- ✓ **High recovery rate:** good purification effect, no background interference, high recoveries
- ✓ **Good stability:** reduce experimental errors, highly reproducible experimental data.
- ✓ **Simple and fast:** the purification can be finished within 30 seconds. Achieve selective adsorption of impurities such as pigments, lipids, and proteines in sample.

# Procedures

## Copure® 24-Well HLB Lim Plates

1. Pipette the sample supernatant to a Copure® 24-Well Multi-Functional Purification Plates.

2. Filter with biocomma® Positive Pressure 24 Processor.

3. Concentrate by biocomma® 24-Well Plate Intelligent Nitrogen Evaporator

4. Filter by biocomma® Syringe Filter and Sample Vials.

5. Liquid chromatography mass spectrometry analysis.

# Corn Flour

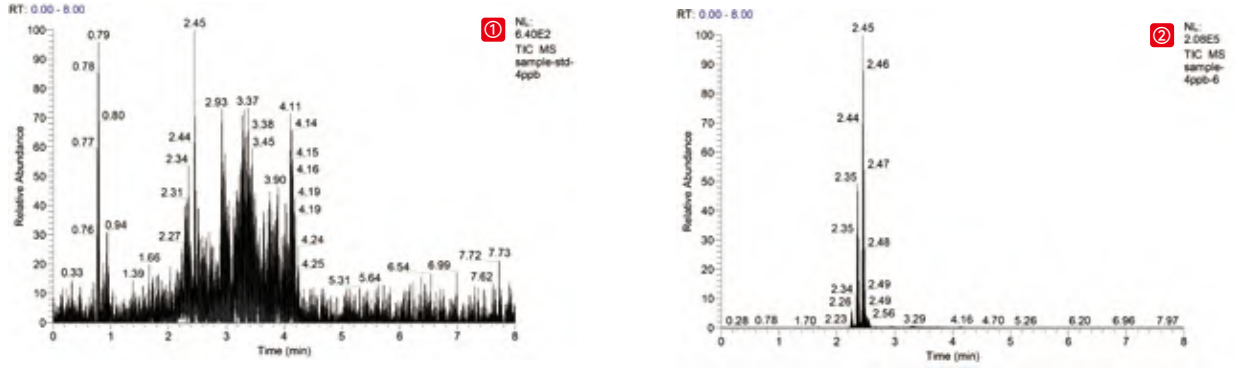



Figure 1 TIC Chromatograms of Corn Flour Sample

( ① Before Purification ② After Purification by Copure® 226 Multifunctional Clean-Up Plate)

| Test | Spike (ng/g) | Copure® 226 Multifunctional Clean-Up Plate | |
|---|---|---|---|
| | | Recovery (%, n=24) | CV (%) |
| AFT B1 | 0.5 | 105 | 3.92 |
| | 1.0 | 101 | 2.41 |
| AFT B2 | 0.5 | 102 | 4.12 |
| | 1.0 | 95.8 | 4.15 |
| AFT G1 | 0.5 | 105 | 2.69 |
| | 1.0 | 104 | 4.13 |
| AFT G2 | 0.5 | 101 | 4.28 |
| | 1.0 | 95.4 | 3.75 |

Based on Figure 1, the impurities are obviously adsorbed, therefore miscellaneous peaks are fewer in the TIC chromatogram. As result, the purified sample is cleaner, and the purification effect is better.

Based on Table 1, the recovery rates of aflatoxin in the 24 wells are between 90-110%, and the CV value of the recovery rate between wells is less than 5%, which meet the standard of experimental requirements.

# Conclusion

According to the results, the Copure® 24-Well Multi-Functional Purification Plates are more stable. The miscellaneous peaks are less on the chromatogram, and no interfering peaks next to the target peaks result in more accurate quantification.

## Ordering Information

| Cat. # | Description | Application | Qty. |
|---|---|---|---|
| COAF228-GTL | Copure® 228 Multifunctional Clean-Up Plate | Patulin, Aflatoxin B1, B2, G1, G2 | 1 Pc/Box |
| COAF226-GTL | Copure® 226 Multifunctional Clean-Up Plate | Zearalenone, Alatoxin B1, B2, G1, G2 | 1 Pc/Box |
| COAF224-GTL | Copure® 224 Multifunctional Clean-Up Plate | Zearalenone | 1 Pc/Box |
| COAF223-GTL | Copure® 223 Multifunctional Clean-Up Plate | Aflatoxin M1, M2 | 1 Pc/Box |
| COAF230-GTL | Copure® 230 Multifunctional Clean-Up Plate | Deoxynivalenol | 1 Pc/Box |
| COAF229-GTL | Copure® 229 Multifunctional Clean-Up Plate | Ochratoxin | 1 Pc/Box |
| COAF302-GTL | Copure® 302 Multifunctional Clean-Up Plate | Multiple functions | 1 Pc/Box |
| BCY2401 | Positive Pressure 24 Processor | | 1 Set/Ctn |
| BCN2403 | 24-Well Plate Intelligent Nitrogen Evaporator | | 1 Set/Ctn |

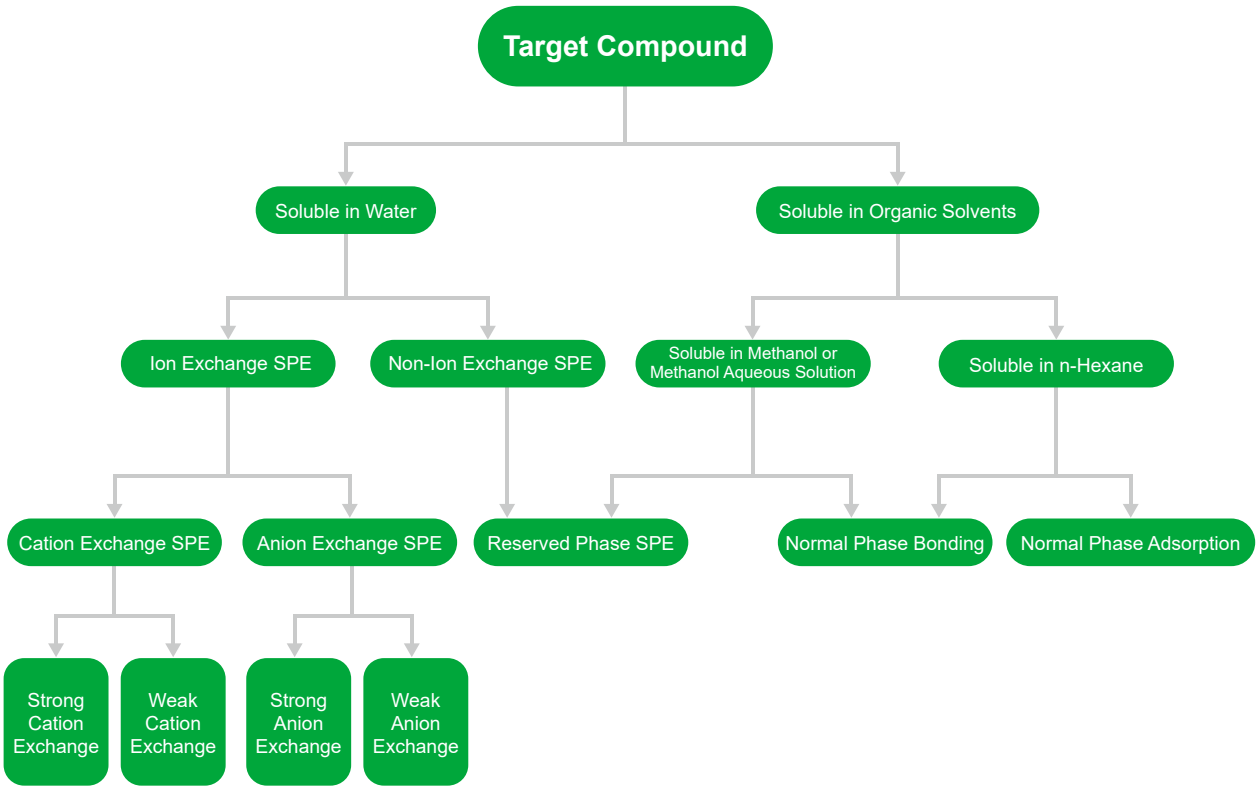
# Pretreatment for Food Safety Testing

*Detection of pesticide residue, animal residue, mycotoxin, and additives*

Biocomma Limited is committed to pretreatment of complex matrix samples in food analysis field. Our products effectively remove interfering components in the samples to ensure satisfactory recovery and repeatability of each target.

Food analysis products include polymer-based solid-phase extraction (SPE) cartridges, silica-based SPE cartridges, inorganic-based SPE cartridges, MS Series 96-well SPE plates, dispersive SPE (QuChERS), immunoaffinity cartridges, multifunctional purification column, and SPE specialty column, etc., which are widely applied to food analysis and testing of pesticide and veterinary drug residues, food additives, mycotoxins, pollutants, etc.

# SPE Cartridge Sorbent Selection Guide




## Mechanism of Action

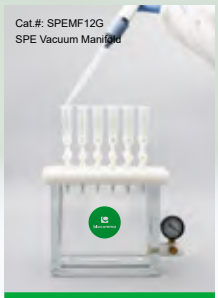
| Type | Reversed Phase | Normal Phase | Ion Exchange | Other |
|---|---|---|---|---|
| Mechanism | The reversed phase column sorbent is less polar substance, which extract medium or less polar substances from the extract through hydrophobic interaction. | The normal phase column sorbent is a strong 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. |

# Solid Phase Extraction Cartridge Operation Procedures

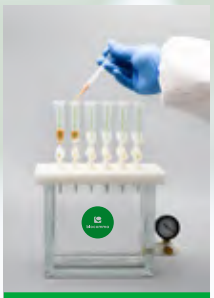
Distinguish whether the SPE cartridge is used to adsorb the target compound or impurities before experiment. If the SPE cartridge adsorbs the target compound, process will be in 4 steps: activating, loading, washing and elution. If the SPE cartridge adsorbs the impurities, process will be in 3 steps: activating, loading and elution.

1-2 mL/min flow rate and Vacuum Manifolds with pressure control function are recommended.

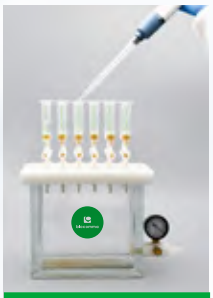
## General Procedures


Cat.#: SPEMF12G
SPE Vacuum Manifold

① Activating



② Loading



③ Washing

④ Elution

⑦ Analysis

Cat.#: SF130-22-NL/ SF130-22-PES
V2-T/V2-TL/V2-A/V2-AL Syringe
Filters/ Vials

⑥ Filtration

Cat.#:BN 24
Water-Bath Nitrogen Evaporator
Nitrogen Evaporato

⑤ Concentration

# SPE Cartridge Directions

Gravity Method

Ion Exchange, Syringe Method

Positive Pressure Method

SPE Vacuum Manifold

## Solvent Selection:

| SPE Cartridges | Category | Low Elution Strength Solvent (Weak Solvent) | High Elution Strength Solvent (Strong Solvent) |
|---|---|---|---|
| Reversed Phase Cartridges | HLB, C18, C8 | Water, Acetonitrile, Methanol | Ethyl, Acetate, Ether |
| Normal Phase Cartridges | Florisil, ALN, Silica | n-Hexane, Cyclohexane | Acetone, Dichloromethane |
| Cation Exchange Cartridges | MCX, SCX, WCX, PRS | Acidic or Neutral Solution | Alkaline Solution |
| Anion Exchange Cartridges | MAX, SAX, WA X | Alkaline or Neutral Solution | Acid 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 |
|---|---|---|
| Sample | Improper strong solvent | Concentrate the sample, change to weak solvent |
| Wash Solution | Excessive washing | Decrease the volume of wash solution, or decrease the wash strength (increase the proportion of weak solvent or decrease the proportion of strong solvent) |
| Re-Elute* | Insufficient elution | Increase the elution volume, or increase the eluent strength (decrease the proportion of weak solvent or increase the proportion of strong solvent) |

*After elution, elute the SPE cartridge with stronger solvent again

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.

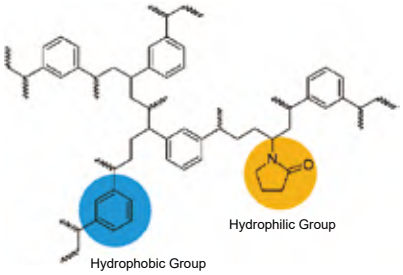
# Solid Phase Extraction (SPE) Cartridge Product List

| SorbentPhase | Biocomma | Waters | Agilent | Phenomenex | Supelco | Agela |
|---|---|---|---|---|---|---|
| C18 | Copure® C18 | Sep-pak tC18 | Bond Elut C18 | Strata C18-E | Sepelclean ENVI-18 | Cleanert C18 |
| C18-Ne | Copure® C18-n | Sep-pak C18 | Bond Elut C18OH | Strata C18-U | | Cleanert C18-N |
| C8 | Copure® C8 | Sep-pak C8 | Bond Elut C8 | Strata C8 | Sepelclean ENVI-8 | Cleanert C8 |
| CN | Copure® CN | Sep-pak CN | Bond Elut CN-E | Strata CN | Sepelclean LC-CN | Cleanert CN |
| NH2 | Copure® NH2 | Sep-pak NH2 | Bond Elut NH2 | Strata NH2 | Sepelclean LC-NH2 | Cleanert NH2 |
| PSA | Copure® PSA | | Bond Elut PSA | Strata PSA | Sepelclean PSA | Cleanert PSA |
| SAX | Copure® SAX | | Bond Elut SAX | Strata SAX | Sepelclean LC-SAX | Cleanert SAX |
| SCX | Copure® SCX | | Bond Elut SCX | Strata SCX | Sepelclean LC-SI | Cleanert SCX |
| Salica | Copure® Silica | Sep-pak SI | Bond Elut SI | Strata SI-I | Sepelclean LC-SCX | Cleanert Silica |
| HLB | Copure® HLB | Oasis HLB | Bond Elut Plexa | Strata-X | Supel-Select HLB | Cleanert PEP |
| HLB | Copure® HLB-lim | Oasis PRIME HLB | | | | |
| MCX | Copure® MCX | Oasis MCX | Bond Elut Plexa PCX | Strata-XC | Supel-Select SCX | Cleanert PCX |
| MAX | Copure® MAX | Oasis MAX | Bond Elut Plexa PAX | Strata-XA | Supel-Select SAX | Cleanert PAX |
| Florisil | Copure® Florisil | Sep-pak FI | Bond Elut FL | Strata FR-PR | Sepelclean LC-Florisil | Cleanert Florisil |
| Graphitized Bond | Copure® Carb-GCB | | Bond Elut Carbon | | Sepelclean ENVI Carb | Cleanert PestiCarb |
| Alumina-N | Copure® ALN | Sep-pak Alumina-N | Bond Elut Alumina-N | Strata Alumina-N | Sepelclean LC-Alumina-N | Cleanert AluminaN |
| Alumina-A | Copure® ALA | Sep-pak Alumina-A | Bond Elut Alumina-A | Strata Alumina-A | Sepelclean LC-Alumina-A | Cleanert AluminaA |
| Alumina-B | Copure® ALB | Sep-pak Alumina-B | Bond Elut Alumina-B | Strata Alumina-B | Sepelclean LC-Alumina-B | Cleanert AluminaB |
| GCB/NH2 | Copure® Carb-GCB/NH2 | | Bond Elut Carb/NH2 | | Sepelclean ENVI Carb/NH2 | Cleanert PestiCarb/NH2 |
| GCB/PSA | Copure® Carb-GCB/PSA | | Bond Elut Carb/PSA | | Sepelclean ENVI Carb-II/PSA | |

# Polymer Sorbent

biocomma® 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**

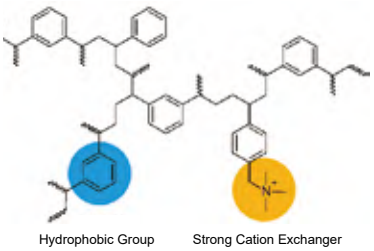
Surface area: 600 $m^2/g$ Particle size: 40 μm Pore size: 300 Å

## Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| COHLB130 | 30mg/1mL | 100 Pcs/Box |
| COHLB360 | 60mg/3mL | 50 Pcs/Box |
| COHLB3200 | 200mg/3mL | 50 Pcs/Box |
| COHLB6150 | 150mg/6mL | 30 Pcs/Box |
| COHLB6200 | 200mg/6mL | 30 Pcs/Box |
| COHLB6500 | 500mg/6mL | 30 Pcs/Box |
| COHLB12500 | 500mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Oasis HLB

# MAX Mixed-mode Anion Exchange




Extracting acidic compounds

**Specifications**

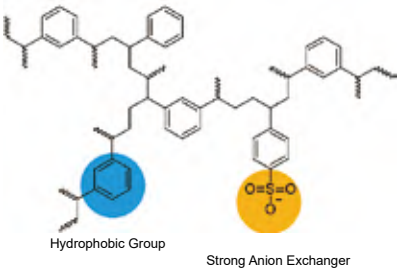
Surface area: 600 $m^2/g$

## Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| COMAX130 | 30mg/1mL | 100 Pcs/Box |
| COMAX360 | 60mg/3mL | 50 Pcs/Box |
| COMAX3200 | 200mg/3mL | 50 Pcs/Box |
| COMAX6150 | 150mg/6mL | 30 Pcs/Box |
| COMAX6200 | 200mg/6mL | 30 Pcs/Box |
| COMAX6500 | 500mg/6mL | 30 Pcs/Boxx |
| COMAX12500 | 500mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Oasis MAX

# MCX Mixed-mode Cation Exchange




Extracting alkaline compounds

**Specifications**

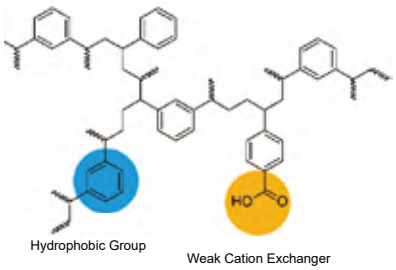
Surface area: 600 $m^2/g$ Particle size:40 μm Pore size: 300 Å

## Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| COMCX130 | 30mg/1mL | 100 Pcs/Box |
| COMCX360 | 60mg/3mL | 50 Pcs/Box |
| COMCX3200 | 200mg/3mL | 50 Pcs/Box |
| COMCX6150 | 150mg/6mL | 30 Pcs/Box |
| COMCX6200 | 200mg/6mL | 30 Pcs/Box |
| COMCX6500 | 500mg/6mL | 30 Pcs/Box |
| COMCX12500 | 500mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Oasis MCX

# WCX Weak Cation Exchange



Hydrophobic Group Weak Cation Exchanger

Extracting strong bases

**Specifications**

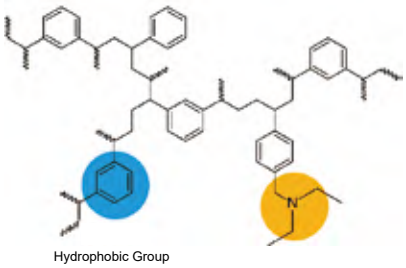
Surface area: 600 $m^2/g$ Particle size:40 μm Pore size:300 Å

## Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| COWCX130 | 30mg/1mL | 100 Pcs/Box |
| COWCX360 | 60mg/3mL | 50 Pcs/Box |
| COWCX3200 | 200mg/3mL | 50 Pcs/Box |
| COWCX3500 | 500mg/3mL | 50 Pcs/Box |
| COWCX6150 | 150mg/6mL | 30 Pcs/Box |
| COWCX6200 | 200mg/6mL | 30 Pcs/Box |
| COWCX6500 | 500mg/6mL | 30 Pcs/Box |

Note: equivalent to Waters Oasis WCX

# WAX Weak Anion Exchange



Hydrophobic Group Weak Anion Exchanger

Extracting strong acids

**Specifications**

Surface area: 600 $m^2/g$ Particle size: 40 μm Pore size: 300 Å

## Ordering Information

| Cat..# | Description | Qty. |
|---|---|---|
| COWAX130 | 30mg/1mL | 100 Pcs/Box |
| COWAX360 | 60mg/3mL | 50 Pcs/Box |
| COWAX3200 | 200mg/3mL | 50 Pcs/Box |
| COWAX3500 | 500mg/3mL | 50 Pcs/Box |
| COWAX6150 | 150mg/6mL | 30 Pcs/Box |
| COWAX6200 | 200mg/6mL | 30 Pcs/Box |
| COWAX6500 | 500mg/6mL | 30 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

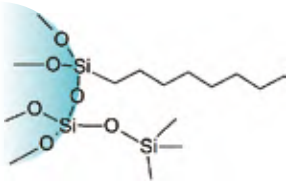
| Cat..# | Description | Qty. |
|---|---|---|
| COHLB3200-Lim | Copure® HLB Lim Cartridges,3 mL | 50 Pcs/Box |

# SPE Cartridges

SPE cartridges generally include traditional silica-based SPE cartridges and inorganic chemical based SPE cartridges. Biocomma® 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 $m^2/g$

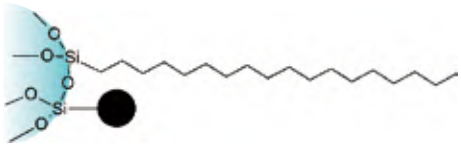
Particle size: 40 - 75 µm  Pore size: 70 Å

## Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COC81100 | 100mg/1mL | 100 Pcs/Box |
| COC83200 | 200mg/3mL | 50 Pcs/Box |
| COC83500 | 500mg/3mL | 50 Pcs/Box |
| COC86500 | 500mg/6mL | 30 Pcs/Box |
| COC861000 | 1000mg/6mL | 30 Pcs/Box |
| COC8121000 | 1000mg/12mL | 20 Pcs/Box |
| COC8122000 | 2000mg/12mL | 20 Pcs/Box |

# C18A Unendcapped Octadecyl

Extracting non-polar compounds



## Specifications

Carbon content: 12%  Surface area: 300 $m^2/g$

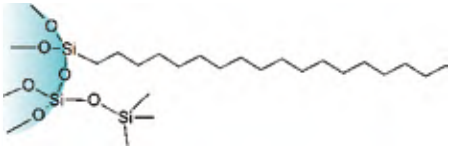
Particle size: 40 - 75 µm  Pore size: 70 Å

## Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COC18A1100 | 100mg/1mL | 100 Pcs/Box |
| COC18A3200 | 200mg/3mL | 50 Pcs/Box |
| COC18A3500 | 500mg/3mL | 50 Pcs/Box |
| COC18A6500 | 500mg/6mL | 30 Pcs/Box |
| COC18A61000 | 1000mg/6mL | 30 Pcs/Box |
| COC18A121000 | 1000mg/12mL | 20 Pcs/Box |
| COC18A122000 | 2000mg/12mL | 20 Pcs/Box |

# C18 Endcapped Octadecyl

Extracting non-polar compounds



## Specifications

Carbon content: 17.6%  Surface area: 300 $m^2/g$

Particle size: 40 - 60 µm  Pore size: 70 Å

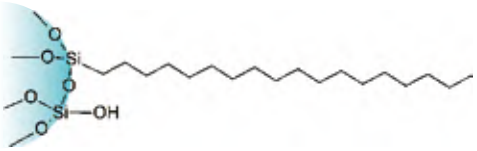
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COC181100 | 100mg/1mL | 100 Pcs/Box |
| COC18360 | 60mg/3mL | 50 Pcs/Box |
| COC183200 | 200mg/3mL | 50 Pcs/Box |
| COC183500 | 500mg/3mL | 50 Pcs/Box |
| COC186500 | 500mg/6mL | 30 Pcs/Box |
| COC1861000 | 1000mg/6mL | 30 Pcs/Box |
| COC18121000 | 1000mg/12mL | 20 Pcs/Box |
| COC18122000 | 2000mg/12mL | 20 Pcs/Box |

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

# C18N Unendcapped Octadecyl

Extracting polar and non-polar compounds



## Specifications

Carbon content: 17%  Surface area: 300 $m^2/g$

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

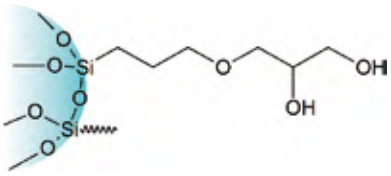
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COC18N1100 | 100mg/1mL | 100 Pcs/Box |
| COC18N3200 | 200mg/3mL | 50 Pcs/Box |
| COC18N3500 | 500mg/3mL | 50 Pcs/Box |
| COC18N6500 | 500mg/6mL | 30 Pcs/Box |
| COC18N61000 | 1000mg/6mL | 30 Pcs/Box |
| COC18N121000 | 1000mg/12mL | 20 Pcs/Box |
| COC18N122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Agilent Bond Elut C18-OH

# Diol Dihydroxy

Extracting polar compounds



## Specifications

Surface area: 290 $m^2/g$ Carbon content:5.5%

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

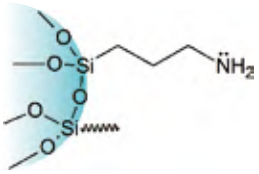
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| CODI1100 | 100mg/1mL | 100 Pcs/Box |
| CODI3200 | 200mg/3mL | 50 Pcs/Box |
| CODI3500 | 500mg/3mL | 50 Pcs/Box |
| CODI6500 | 500mg/6mL | 30 Pcs/Box |
| CODI61000 | 1000mg/6mL | 30 Pcs/Box |
| CODI121000 | 1000mg/12mL | 20 Pcs/Box |
| CODI122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Sep-Pak Diol & Agilent Bond Elut 2OH

# NH2 Aminopropyl

Extracting moderately polar and acidic compounds



## Specifications

Surface area: 200 $m^2/g$ Carbon content: 4.5%

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

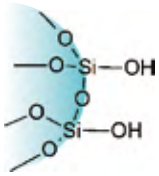
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| CONH1100 | 100mg/1mL | 100 Pcs/Box |
| CONH3100 | 100mg/3mL | 50 Pcs/Box |
| CONH3200 | 200mg/3mL | 50 Pcs/Box |
| CONH3500 | 500mg/3mL | 50 Pcs/Box |
| CONH6200 | 200mg/6mL | 30 Pcs/Box |
| CONH6500 | 500mg/6mL | 30 Pcs/Box |
| CONH61000 | 1000mg/6mL | 30 Pcs/Box |
| CONH121000 | 1000mg/12mL | 20 Pcs/Box |
| CONH122000 | 2000mg/12mL | 20 Pcs/Box |

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

# Silica Unbounded Silica Gel

Extracting polar compounds



## Specifications

Surface area: 480 $m^2/g$

Particle size: 40 - 75 μm

Pore size: 70 Å

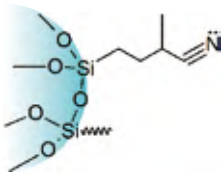
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COSIL1100 | 100mg/1mL | 100 Pcs/Box |
| COSIL3200 | 200mg/3mL | 50 Pcs/Box |
| COSIL3500 | 500mg/3mL | 50 Pcs/Box |
| COSIL6500 | 500mg/6mL | 30 Pcs/Box |
| COSIL61000 | 1000mg/6mL | 30 Pcs/Box |
| COSIL121000 | 1000mg/12mL | 20 Pcs/Box |
| COSIL122000 | 2000mg/12mL | 20 Pcs/Box |

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

# CN Cyanopropyl

Extracting polar and non-polar compounds, enriching metal ions



## Specifications

Surface area: 280 $m^2/g$ Carbon content: 5.8%

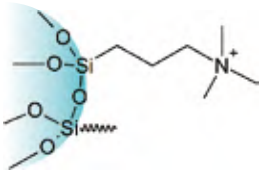
Particle size: 40 - 75 μm Pore size: 70 Å

## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COCN1100 | 100mg/1mL | 100 Pcs/Box |
| COCN3200 | 200mg/3mL | 50 Pcs/Box |
| COCN3500 | 500mg/3mL | 50 Pcs/Box |
| COCN6500 | 500mg/6mL | 30 Pcs/Box |
| COCN61000 | 1000mg/6mL | 30 Pcs/Box |
| COCN121000 | 1000mg/12mL | 20 Pcs/Box |
| COCN122000 | 2000mg/12mL | 20 Pcs/Box |

# SAX Strong Anion Exchange

Extracting acidic compounds



## Specifications

Surface area: 510 $m^2/g$ Particle size: 40-75 μm

Pore size: 70 Å

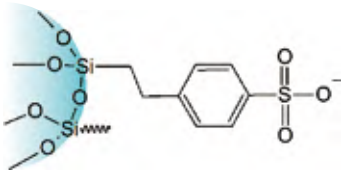
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COSAX130 | 30mg/1mL | 100 Pcs/Box |
| COSAX1100 | 100mg/1mL | 100 Pcs/Box |
| COSAX3100 | 100mg/3mL | 50 Pcs/Box |
| COSAX3200 | 200mg/3mL | 50 Pcs/Box |
| COSAX3500 | 500mg/3mL | 50 Pcs/Box |
| COSAX6200 | 200mg/6mL | 30 Pcs/Box |
| COSAX6500 | 500mg/6mL | 30 Pcs/Box |
| COSAX61000 | 1000mg/6mL | 30 Pcs/Box |
| COSAX121000 | 1000mg/12mL | 20 Pcs/Box |
| COSAX122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Supelco Supelclean LC-SAX

# SCX Strong Cation Exchange

Extracting basic compounds



## Specifications

Surface area: 510 $m^2/g$ Particle size: 40 - 75 μm

Pore size: 70 Å

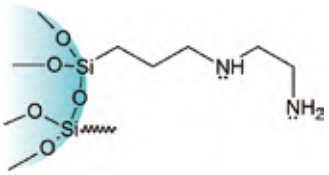
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COSCX130 | 30mg/1mL | 100 Pcs/Box |
| COSCX1100 | 100mg/1mL | 100 Pcs/Box |
| COSCX3100 | 100mg/3mL | 50 Pcs/Box |
| COSCX3200 | 200mg/3mL | 50 Pcs/Box |
| COSCX3500 | 500mg/3mL | 50 Pcs/Box |
| COSCX6200 | 200mg/6mL | 30 Pcs/Box |
| COSCX6500 | 500mg/6mL | 30 Pcs/Box |
| COSCX61000 | 1000mg/6mL | 30 Pcs/Box |
| COSCX121000 | 1000mg/12mL | 20 Pcs/Box |
| COSCX122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Sep-Pak CN

# PSA Primary-Secondary Amine

Extracting strong acids, polar compounds and metal ions



## Specifications

Surface area: 500 $m^2/g$ Carbon content: 8%

Particle size: 50-75 μm Pore size: 70 Å

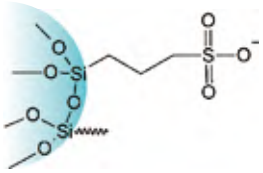
## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COPSA1100 | 100mg/1mL | 100 Pcs/Box |
| COPSA3100 | 100mg/3mL | 50 Pcs/Box |
| COPSA3200 | 200mg/3mL | 50 Pcs/Box |
| COPSA3500 | 500mg/3mL | 50 Pcs/Box |
| COPSA6200 | 200mg/6mL | 30 Pcs/Box |
| COPSA6500 | 500mg/6mL | 30 Pcs/Box |
| COPSA61000 | 1000mg/6mL | 30 Pcs/Box |
| COPSA121000 | 1000mg/12mL | 20 Pcs/Box |
| COPSA122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Agilent Bond Elut PSA

# PRS Propylsulfonic Acid

Extracting weak bases in biological fluids



## Specifications

Surface area: 310 $m^2/g$ Carbon content: 4.5%

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

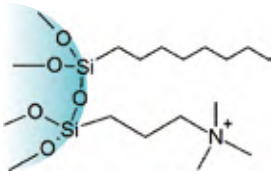
## Ordering Information

| Cat.# | Format | Qty. |
|---|---|---|
| COPRS1100 | 100mg/1mL | 100 Pcs/Box |
| COPRS3200 | 200mg/3mL | 50 Pcs/Box |
| COPRS3500 | 500mg/3mL | 50 Pcs/Box |
| COPRS6500 | 500mg/6mL | 30 Pcs/Box |
| COPRS61000 | 1000mg/6mL | 30 Pcs/Box |
| COPRS121000 | 1000mg/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 $m^2/g$

Particle size: 40-75 μm

Pore size: 70 Å

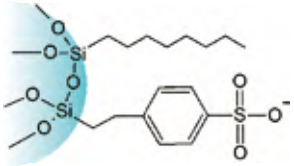
### Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COC8SAX1100 | 100mg/1mL | 100 Pcs/Box |
| COC8SAX3200 | 200mg/3mL | 50 Pcs/Box |
| COC8SAX3500 | 500mg/3mL | 50 Pcs/Box |
| COC8SAX6500 | 500mg/6mL | 30 Pcs/Box |
| COC8SAX61000 | 1000mg/6mL | 30 Pcs/Box |
| COC8SAX121000 | 1000mg/12mL | 20 Pcs/Box |
| COC8SAX122000 | 2000mg/12mL | 20 Pcs/Box |

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

# C8/SCX Octyl/Strong Cation Exchange

Extracting basic drugs in biological fluids



### Specifications

Surface area: 510 $m^2/g$

Particle size: 40-75 μm

Pore size: 70 Å

### Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COC8SCX1100 | 100mg/1mL | 100 Pcs/Box |
| COC8SCX3200 | 200mg/3mL | 50 Pcs/Box |
| COC8SCX3500 | 500mg/3mL | 50 Pcs/Box |
| COC8SCX6500 | 500mg/6mL | 30 Pcs/Box |
| COC8SCX61000 | 1000mg/6mL | 30 Pcs/Box |
| COC8SCX121000 | 1000mg/12mL | 20 Pcs/Box |
| COC8SCX122000 | 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 $m^2/g$

Particle size: 100-300 mesh

### Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COGCB1100 | 100mg/1mL | 100 Pcs/Box |
| COGCB3200 | 200mg/3mL | 50 Pcs/Box |
| COGCB3500 | 500mg/3mL | 50 Pcs/Box |
| COGCB6500 | 500mg/6mL | 30 Pcs/Box |
| COGCB61000 | 1000mg/6mL | 30 Pcs/Box |
| COGCB121000 | 1000mg/12mL | 20 Pcs/Box |
| COGCB122000 | 2000mg/12mL | 20 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

### GCB Specifications

Surface area: 100 $m^2/g$

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

| Cat.# | Description | Qty. |
|---|---|---|
| COPSGC32525 | 250mg/250mg/3mL | 50 Pcs/box |
| COPSGC655 | 500mg/500mg/6mL | 30 Pcs/Box |
| COPSGC653 | 300mg/500mg/6mL | 30 Pcs/Box |

# Carb-GCB/NH2

## Graphitized Carbon Black/Aminopropyl Bilayer

Cleanup of samples in multiresidual pesticide analysis

### GCB Specifications

Surface area: 100 $m^2/g$  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

| Cat.# | Description | Qty. |
|---|---|---|
| CONHGC32525 | 250mg/250mg/3mL | 50 Pcs/Box |
| CONHGC655 | 500mg/500mg/6mL | 30 Pcs/Box |
| CONHGC653 | 300mg/500mg/6mL | 30 Pcs/Box |

# PH Phenyl

Extracting non-polar compounds

### Specifications

Surface area: 480$m^2/g$  Carbon content: 8.8%

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

### Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COPH3500 | 500mg/3mL | 50 Pcs/Box |
| COPH6500 | 500mg/6mL | 30 Pcs/Box |

Note: equivalent to Waters Sep-Pak CN

# Florisil Pesticide Grade Florisil

Extracting multiresidual pesticides

### Specifications

Particle size: 150 - 250 μm

### Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COFL1100 | 100mg/1mL | 100 Pcs/Box |
| COFL3200 | 200mg/3mL | 50 Pcs/Box |
| COFL3500 | 500mg/3mL | 50 Pcs/Box |
| COFL6500 | 500mg/6mL | 30 Pcs/Box |
| COFL61000 | 1000mg/6mL | 30 Pcs/Box |
| COFL121000 | 1000mg/12mL | 20 Pcs/Box |
| COFL122000 | 2000mg/12mL | 20 Pcs/Box |

# ALA, ALN, ALB, Alumina

Extracting aromatic amines

### Specifications

Surface area >150 $m^2/g$

pH : Acidic Alumina pH 4.0

Neutral Alumina pH 7.0

Basic Alumina pH 9.5

### Ordering Information

① Acidic Alumina (ALA)

| Cat.# | Description | Qty. |
|---|---|---|
| COALA1100 | 100mg/1mL | 100 Pcs/Box |
| COALA3200 | 200mg/3mL | 50 Pcs/Box |
| COALA3500 | 500mg/3mL | 50 Pcs/Box |
| COALA6500 | 500mg/6mL | 30 Pcs/Box |
| COALA61000 | 1000mg/6mL | 30 Pcs/Box |
| COALA121000 | 1000mg/12mL | 20 Pcs/Box |
| COALA122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Sep-Pak Alumina-A

② Neutral Alumina(ALN)

| Cat.# | Description | Qty. |
|---|---|---|
| COALN1100 | 100mg/1mL | 100 Pcs/Box |
| COALN3200 | 200mg/3mL | 50 Pcs/Box |
| COALN3500 | 500mg/3mL | 50 Pcs/Box |
| COALN6500 | 500mg/6mL | 30 Pcs/Box |
| COALN61000 | 1000mg/6mL | 30 Pcs/Box |
| COALN121000 | 1000mg/12mL | 20 Pcs/Box |
| COALN122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Sep-Pak Alumina-N

③ Basic Alumina(ALB)

| Cat.# | Description | Qty. |
|---|---|---|
| COALB1100 | 100mg/1mL | 100 Pcs/Box |
| COALB3200 | 200mg/3mL | 50 Pcs/Box |
| COALB3500 | 500mg/3mL | 50 Pcs/Box |
| COALB6500 | 500mg/6mL | 30 Pcs/Box |
| COALB61000 | 1000mg/6mL | 30 Pcs/Box |
| COALB121000 | 1000mg/12mL | 20 Pcs/Box |
| COALB122000 | 2000mg/12mL | 20 Pcs/Box |

Note: equivalent to Waters Sep-Pak Alumina-B

# 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

Note: 1.The extraction solution is acetonitrile: water 84:16 or methanol: water 70:30;
2. For samples with more protein, filter through glass fiber filter paper before loading is recommended.

# 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFMT101 | Aflatoxin B1,B2,G1,G2 , 1mL | 25 Pcs/Box |
| COAFMT103 | Aflatoxin B1,B2,G1,G2 , 3mL | 20 Pcs/Box |
| COAFMB101 | Aflatoxin B1, 1mL | 25 Pcs/Box |
| COAFMB103 | Aflatoxin B1, 3mL | 20 Pcs/Box |
| COAFMM101 | Aflatoxin M1, 1mL | 25 Pcs/Box |
| COAFMM103 | 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFZEA101 | Zearalenone, 1mL | 25 Pcs/Box |
| COAFZEA103 | Zearalenone, 3mL | 20 Pcs/Box |

# Three-in-one (ADZ) Immunoaffinity Columns

Copure® ADZ immunoaffinity columns specifically purify and concentrate aflatoxin B1, B2, G1, G2, DON and zearalenone in samples. Copure® ADZ immunoaffinity column is widely used in the extraction of grain, food, feed, nuts, peanuts, soy sauce, vinegar, pepper, pepper, medicinal materials and wine. The method is high essicency, easy operation and high accuracy.

## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| COAFADZ303 | 3mL | 10 Pcs/Box |

# Four-in-one (ADOZ) Immunoaffinity Columns

Copure® 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFADOZ403 | 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFDON101 | Deoxynivalenol, 1mL | 25 Pcs/Box |
| COAFDON103 | 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFOCH101 | Ochratoxin A, 1mL | 25 Pcs/Box |
| COAFOCH103 | Ochratoxin A, 3mL | 20 Pcs/Box |

# 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 a 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFT2101 | T-2 toxin, 1mL | 25 Pcs/Box |
| COAFT2103 | T-2 toxin, 3mL | 20 Pcs/Box |

# Tetrodotoxin Immunoaffinity Column

Tetrodotoxin is an aminoperhydroquinazoline 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFTTX10 | Tetrodotoxin, 1mL | 25 Pcs/Box |
| COAFTTX103 | Tetrodotoxin, 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

| Cat.# | Description | Qty. |
|---|---|---|
| COAFFB101 | Fumonisin FB, 1mL | 25 Pcs/Box |
| COAFFB103 | Fumonisin FB, 3mL | 20 Pcs/Box |

# ELISA Kit

ELISA (ELISA Kit) is the most widely used technology in enzyme immunoassay. In an ELISA assay, the antigen is immobilized to a solid surface. This is done either directly or via the use of a capture antibody itself immobilized on the surface. The antigen is then complexed to a detection antibody conjugated with a molecule amenable for detection such as an enzyme or a fluorophore.

### Features

- This product is a quantitative detection kit based on the principle of immunocompetitive detection.
- It is simple and rapid to use, with accurate results and high sensitivity, and the accuracy rate is more than 95%.
- It is suitable for the detection of mycotoxins in grains, feed ingredients and other samples.

### Application

Feed raw materials and finished feed, corn, rice, wheat, flour, nuts, peanuts and peanut products, vegetable oil, soy sauce, vinegar, spices, dairy products, milk, milk powder, cakes, wine, fish offal, fermentation broth, etc.

## Ordering Information

| Cat.# | Description | Format |
|---|---|---|
| BC-201 | Aflatoxin B1 ELISA Kit | 96 wells |
| BC-201-48 | Aflatoxin B1 ELISA Kit | 48 wells |
| BC-202 | Aflatoxin M1 ELISA Kit | 96 wells |
| BC-202-48 | Aflatoxin M1 ELISA Kit | 48 wells |
| BC-203 | Total Aflatoxin ELISA Kit | 96 wells |
| BC-203-48 | Total Aflatoxin ELISA Kit | 48 wells |
| BC-204 | Ochratoxin A ELISA Kit | 96 wells |
| BC-204-48 | Ochratoxin A ELISA Kit | 48 wells |
| BC-205 | Zearalenone ELISA Kit | 96 wells |
| BC-205-48 | Zearalenone ELISA Kit | 48 wells |
| BC-206 | Deoxynivalenol ELISA Kit | 96 wells |
| BC-206-48 | Deoxynivalenol ELISA Kit | 48 wells |

# Copure® Multi-Functional Purification Column

Copure® 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 ≥ 90%, RSD ≤ 5%

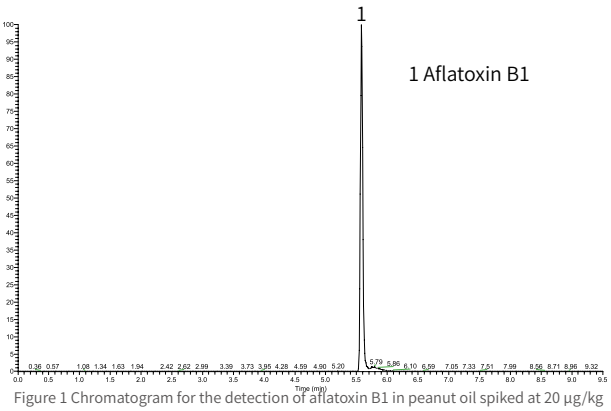



Figure 1 Chromatogram for the detection of aflatoxin B1 in peanut oil spiked at 20 μg/kg

### 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.

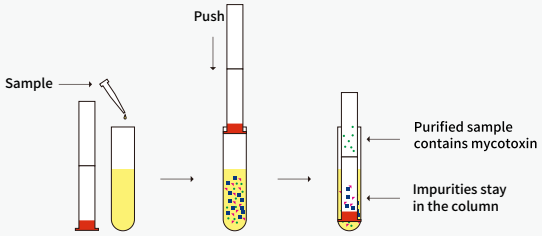



Table 1 Recovery of aflatoxin B1 in 20 μg/kg peanut oil

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

## Ordering Information

| Cat. # | Description | Application | Qty. |
|---|---|---|---|
| COAF228 | Copure® 228 Multi-Functional Purification Column | Patulin, Aflatoxin B1 B2 G1 G2 | 25 Pcs/Box |
| COAF226 | Copure® 226 Multi-Functional Purification Column | Zearalenone, Aflatoxin B1 B2 G1 G2 | 25 Pcs/Box |
| COAF224 | Copure® 224 Multi-Functional Purification Column | Zearalenone | 25 Pcs/Box |
| COAF223 | Copure® 223 Multi-Functional Purification Column | Aflatoxin M1 M2 | 25 Pcs/Box |
| COAF230 | Copure® 230 Multi-Functional Purification Column | Deoxynivalenol | 25 Pcs/Box |
| COAF229 | Copure® 229 Multi-Functional Purification Column | Ochratoxin A | 25 Pcs/Box |
| COAF302 | Copure® 302 Multi-Functional Purification Column | Multiple functions | 25 Pcs/Box |

# Special SPE Cartridges

# SLE Cartridges for AZO Dye Testing

## Determination of banned azo dyes in textile products

Most currently-used dyes and pigments in textile and leather industries are azo dye compounds which under reductive conditions, are decomposed to form fatty or aromatic amines. Those amines derived from azo compounds, some aromatic amines are believed to be carcinogenic or potentially carcinogenic and banned in EU, the U.S. and China.

Biocomma provides SLE cartridges dedicatedly optimized for determining banned azo dyes in textile products, helping you manage product quality quickly and reliably and protect health of your customers.

### Features

- Packed with dedicatedly optimized diatomaceous earth
- Frits with excellent flowrate control technology
- Complying with China and EU official methods
- Superb performance proven by China's most authoritative textile testing institute

### Typical Recoveries

| Analyte | Recovery Rate |
|---|---|
| 2,4-diaminoanisole | >20 |
| o-toluidine | >50 |
| 2,4-diaminotoluene | >50 |
| other aromatic amines | >70 |

### Related Methods

- EN 14362-1:2017 Textiles: methods for determination of certain aromatic amines derived from azo colorants

### Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COAZO060 | SLE Cartridges for Azo Dye Testing | 4 Pcs/PK |

# SPE Cartridges for Pesticide Residue Testing in Tea

Copure® SPE Cartridges have good performance for pigment, tea polyphenol, organic acid etc in tea.

## Features

- Packed with dedicatedly optimized diatomaceous earth
- Frits with excellent flowrate control technology
- Complying with China and EU official methods
- Superb performance proven by China's most authoritative textile testing institute

## Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COTPT6 | 6 mL | 30 Pcs/Box |
| COTPT12 | 12 mL | 20 Pcs/Box |

# 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

| Cat. # | Description | Format | Qty. |
|---|---|---|---|
| COICC1801 | C18 catridge | 300mg | 50 Pcs/Box |
| COICRP01 | RP catridge | 1mL | 50 Pcs/Box |
| COICH01 | H catridge | 1mL | 50 Pcs/Box |
| COICAG01 | Ag catridge | 1mL | 50 Pcs/Box |
| COICNA01 | Na catridge | 1mL | 50 Pcs/Box |
| COICAGH01 | Ag/H catridge | 1mL | 50 Pcs/Box |
| COICAGNA01 | Ag/Na catridge | 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.

## Related Methods

- ISO 17075:2007 Leather -- Chemical tests -- Determination of chromium(VI) content

## Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COCR3500 | 500mg/3mL | 50 Pcs/Box |
| COCR6500 | 500mg/6mL | 30 Pcs/Box |
| COCR121000 | 1000mg/12mL | 20 Pcs/Box |

# Cartridges for Plasticizer Testing

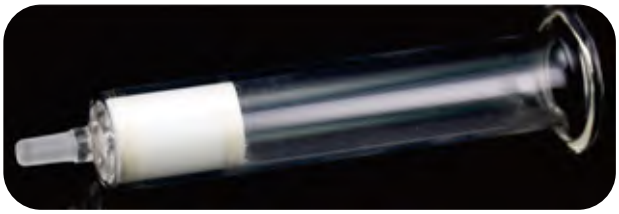
## Determination of phthalate esters

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.

Biocomma's 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

### Related Methods

- SN/T 3147-2012 Determination of phthalate esters in foods for export

### Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COPAE655 | 500mg/500mg/6mL | 30 Pcs/Box |
| COPAE61000 | 1000mg/6mL | 30 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 interferents 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

### Related Methods

- EN ISO17075-2007 Leather-Chemical tests– Determination of chromium(VI) content

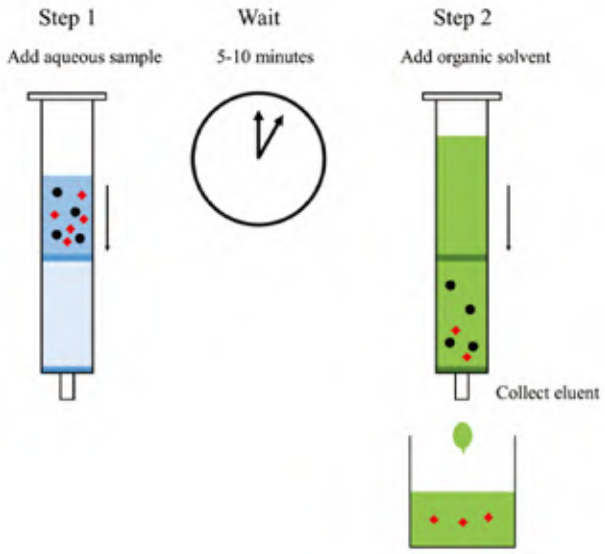
### Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COPACR36 | 500mg/3mL | 50 Pcs/Box |
| COPACR66 | 500mg/6mL | 30 Pcs/Box |
| COPACR61 | 1000mg/6mL | 30 Pcs/Box |
| COPACR122 | 2000mg/12mL | 20 Pcs/Box |

# Supported Liquid Extraction (SLE) Cartridges

## Revolutionary Liquid-Liquid Extraction Solution

SLE (Solid Supported Liquid/Liquid Extraction) is a highly efficient and economical new extraction method. Only two steps of sample application and elution need to extract target compounds from the aqueous phase. SLE is widely applied to the fields of food safety, environmental monitoring, clinical diagnosis, forensic science and industrial product testing.




### Features

- High recovery rate and good repeatability
- Simplified operation steps and shorter pre-processing time
- No shaking required, no microemulsion
- Less consumption of organic solvent and cost saving
- Easy to automate and parallelize

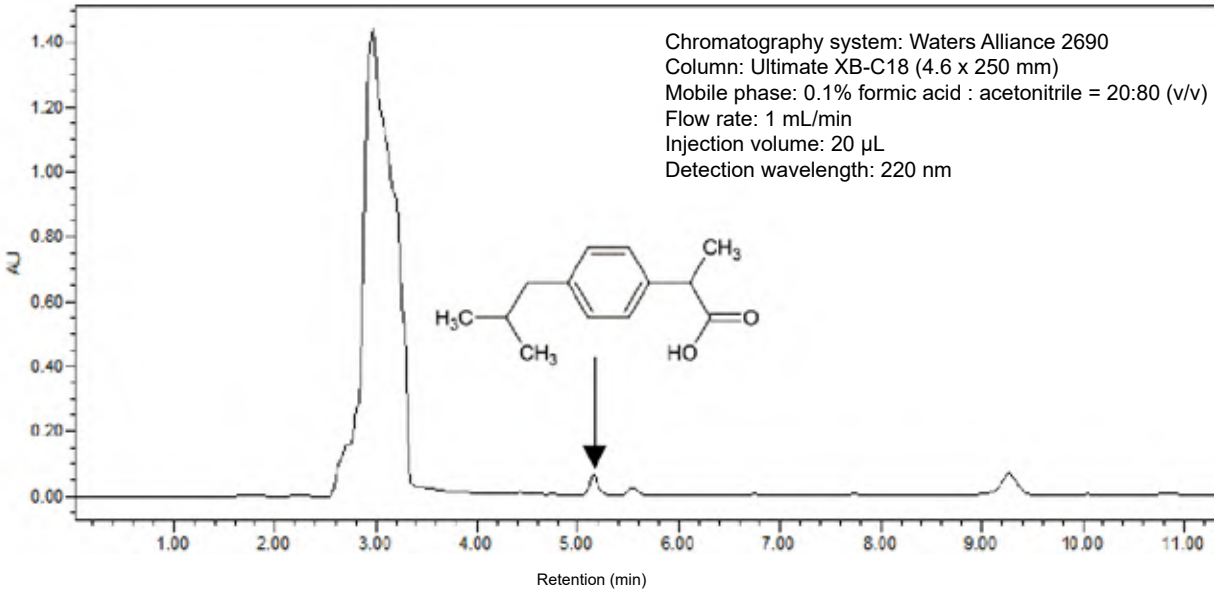
### Applications

- Detection of drugs in biological fluids, for example, antidepressant Sertraline and the anti-inflammatory drug Ibuprofen
- Detection of parabens in cosmetics, pharmaceuticals and foods

### Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| COSLE1CC | SLE Cartridges, 1 mL | 100 Pcs/Box |
| COSLE3CC | SLE Cartridges, 3 mL | 50 Pcs/Box |
| COSLE6CC | SLE Cartridges, 6 mL | 30 Pcs/Box |
| COSLE12CC | SLE Cartridges, 12 mL | 20 Pcs/Box |

### Example: Extraction of ibuprofen from human serum with SLE



# QuEChERS

In 2003, Michelangelo Anastassiades and Steven J. Lehotay developed a dispersive SPE (dSPE) method called QuEChERS (Quick, Easy, Cheap, Effective, Rugged, and Safe) to simplify the preparation of food samples pesticide analysis. The groundbreaking preparation method is widely applied to pollution tests in food safety, environmental water samples and soil pollutants.

Biocomma offers standard EN and AOAC QuEChERS kits including centrifuge tubes, extraction tubes, purification tubes and reagents in different specifications to help you establish standard detection quickly.

## General Procedures of QuEChERS

### Features

- Good recovery rate for most pesticides, veterinary drugs and additives
- Fewer steps to limit manual error
- More friendly to the operators and environment
- Simple, quick and inexpensive

### Standards

- EN 15662 Foods of Plant Origin - Determination of pesticide residues using GC-MS and/or LC-MS/MS following acetonitrile extraction/partitioning and clean-up by dispersive SPE - QuEChERS-method

- AOAC Official Method 2007.01 Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate

# Copure® QuEChERS Extraction Kits

Copure® QuEChERS Extraction Kits include extraction pouches and 50 mL centrifuge tubes, ceramic homogenizers are optional as well.
The pouches contain anhydrous extraction salts. Among the mixture, MgSO4 is responsible for removing water from samples, while other components are responsible for maintaining appropriate pH to ensure the recoveries of alkaline-sensitive pesticides.

Directly adding water-abundant samples into tubes containing extraction salts may cause local overheating which compromise the resulting recoveries. To avoid such situations, Biocomma provides separate extraction salt pouches that the operator can add extraction salts after the addition of organic solvents.

## Features

- The salts are sealed in aluminum foil bags to avoid leakage.
- The compositions are printed on the bag for handy choice. The easy-tear package is very convenient for use.
- Automated powder dispensing & packaging assembly line promise the accuracy and repeatability.

## Ordering Information

### AOAC 2007.01 Kits

| Cat.# | Description | Sorbents | Qty. |
|---|---|---|---|
| COQ050020H | Extraction Salts+50 mL Tube | 6 g $MgSO_4$<br>1.5 g NaOAc | 50 Pcs/Box |
| COQ050020CH | Extraction Salts+50 mL Tube+Ceramic Homogenizers | | 50 Pcs/Box |

### EN 15662 Kits

| Cat.# | Description | Sorbents | Qty. |
|---|---|---|---|
| COQ050010H | Extraction Salts+50 mL Tube | 4 g $MgSO_4$<br>1 g NaCl<br>1 g Trisodium Citrate<br>0.5 g Disodium Citrate | 50 Pcs/Box |
| COQ050010CH | Extraction Salts+50 mL Tube+Ceramic Homogenizers | | 50 Pcs/Box |

### Original Method Kits

| Cat.# | Description | Sorbents | Qty. |
|---|---|---|---|
| COQ050040H | Extraction Salts+50 mL Tube | 4 g $MgSO_4$<br>1 g NaCl | 50 Pcs/Box |
| COQ050040CH | Extraction Salts+50 mL Tube+Ceramic Homogenizers | | 50 Pcs/Box |

### Ceramic Homogenizers

| Cat.# | Description | Qty. |
|---|---|---|
| 009903A | Ceramic Homogenizers, 50 mL | 100 Pcs/Box |

# Copure® QuEChERS Premixed Extraction Salts

Copure® QuEChERS Premixed Extraction Salts are suitable for various QuEChERS Standards and used in analysis of multi-pesticide residue.

## Features

- Optimized premixed formula, more flexible operation
- Two optional packages: easy-tear pouches and bottle Package (equivalent to 150 extractions)
- Suitable for AOAC 2007, EN 15662 standards, etc.

## Ordering Information

### AOAC 2007.01 Kits

| Cat.# | Description | Sorbents | Qty. |
|---|---|---|---|
| COQP6150 | Extraction Pouches | 6 g MgSO4<br>1.5 g NaOAcc | 50 Pcs/Box |
| COQS6150 | Bottled Premixed Extraction Salts | | 1 Kg/Bottle |

### EN 15662 Kits

| Cat.# | Description | Sorbents | Qty. |
|---|---|---|---|
| COQP4115 | Extraction Pouches | 4g MgSO4<br>1g NaCl | 50 Pcs/Box |
| COQS4115 | Bottled Premixed Extraction Salts | 1g Trisodium Citrate<br>0.5g Disodium Citrate | 1 Kg/Bottle |

### Original Method Kits

| Cat.# | Description | Sorbents | Qty. |
|---|---|---|---|
| COQP4100 | Extraction Pouches | 4g MgSO4<br>1g NaCl | 50 Pcs/Box |
| COQS4100 | Bottled Premixed Extraction Salts | | 1 Kg/Bottle |

**Upgrade**
**QuEChERS Salt**
**Pouches Easy-Tear**

# Copure® QuEChERS Clean-Up Kits

Copure® QuEChERS Clean-Up Kits include sorbents and anhydrous MgSO4, 2 mL and 15 mL centrifuge tubes, ceramic homogenizers are optional as well.
The sorbents include PSA/C18-EC/GCB, etc. PSA is to remove the fatty acids and organic acids from samples. C18-EC is to remove the fats from samples, GCB is to remove the pigments from samples. Choose appropriate sorbent according to different samples.

## Features

- Supply 2 mL or 15 mL clean-up tubes
- Suitable for AOAC 2007, EN 15662 standards, etc

## Ordering Information

### BS EN 15662: 2018 Kits

| Cat.# | Format | Application | Sorbents | Qty. |
|---|---|---|---|---|
| COQ002030H | 2 mL | General fruits and vegetables | 25 mg PSA, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015022H | 15 mL | | 150 mg PSA, 900 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002032H | 2 mL | General fruits and vegetables with fats and waxes | 25 mg PSA, 25 mg C18, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015032H | 15 mL | | 150 mg PSA, 150 mg C18, 900 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002020H | 2 mL | General fruits and vegetables with pigments | 25 mg PSA, 2.5 mg GCB, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015020H | 15 mL | | 150 mg PSA, 15 mg GCB, 900 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002024H | 2 mL | General fruits and vegetables with highly pigments | 25 mg PSA, 7.5 mg GCB, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015024H | 15 mL | | 150 mg PSA, 45 mg GCB, 900 mg $MgSO_4$ | 50 Pcs/Box |

### Ceramic Homogenizers

| Cat.# | Description | Qty. |
|---|---|---|
| 009902B | Ceramic Homogenizers, 15 mL | 100/Bottle |
| 009901B | Ceramic Homogenizers, 2 mL | 200/Bottle |

### AOAC 2007.01 Kits

| Cat.# | Format | Application | Sorbents | Qty. |
|---|---|---|---|---|
| COQ002031H | 2 mL | General fruits and vegetables | 50 mg PSA, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015031H | 15 mL | | 400 mg PSA, 1200 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002033H | 2 mL | General fruits and vegetables with fats and waxes | 50 mg PSA, 50 mg C18, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015033H | 15 mL | | 400 mg PSA, 400 mg C18, 1200 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002036H | 2 mL | General fruits and vegetables with pigments | 50 mg PSA, 50 mg GCB, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015036H | 15 mL | | 400 mg PSA, 400 mg GCB, 1200 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002040H | 2 mL | General fruits and vegetables with pigments and fats | 50 mg PSA, 50 mg C18, 50 mg GCB, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015040H | 15 mL | | 400 mg PSA, 400 mg C18, 400 mg GCB, 1200 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002025H | 2 mL | Other food methods | 25 mg C18, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015025H | 15 mL | | 150 mg C18, 900 mg $MgSO_4$ | 50 Pcs/Box |
| COQ002035H | 2 mL | All food types | 50 mg PSA, 50 mg C18, 7.5 mg GCB, 150 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015035H | 15 mL | | 400 mg PSA, 400 mg C18, 45 mg GCB, 1200 mg $MgSO_4$ | 50 Pcs/Box |

# Copure® QuEChERS Clean-Up Pouches

Copure® QuEChERS Clean-Up Pouches are used for the analysis of multi-pesticide residual. Biocomma uses its automatic powder distribution technology to transfer the sorbent into pouches instead of tube, which is very convenient to match with customer's own 15 mL centrifuge tubes.

## Features

- Save 50% of volume, convenient for transportation, saving laboratory space
- Easy-tear package to open easily without any tools required
- Lower cost, suitable for mass quantity testing

## Ordering Information

| Cat.# | Type | Sorbents | Qty. |
|---|---|---|---|
| COQ015031P | AOAC 2007 | 400 mg PSA, 1200 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015033P | AOAC 2007 | 400 mg PSA , 400 mg C18, 1200 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015036P | AOAC 2007 | 400 mg PSA, 400 mg GCB, 1200 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015040P | AOAC 2007 | 400 mg PSA, 400 mg C18, 400 mg GCB, 1200 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015025P | AOAC 2007 | 150 mg C18, 900 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015035P | AOAC 2007 | 400 mg PSA, 400 mg C18, 45 mg GCB, 1200 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015022P | EN 15662 | 150 mg PSA, 900 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015032P | EN 15662 | 150 mg PSA, 150 mg C18, 900 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015020P | EN 15662 | 150 mg PSA, 15 mg GCB, 900 mg $MgSO_4$ | 100 Pcs/Box |
| COQ015024P | EN 15662 | 150 mg PSA, 45 mg GCB, 900 mg $MgSO_4$ | 100 Pcs/Box |

# QuEChERS Bulk Sorbents

biocomma® provides superior quality QuEChERS bulk sorbents which have been verified by our lab. You can choose the ratio according to the needs of the experiment.

## Features

- Supply 2 mL or 15 mL clean-up tubes
- Suitable for AOAC 2007, EN 15662 standards, etc.

## Ordering Information

| Cat.# | Sorbent | Specification | Qty. |
|---|---|---|---|
| PSA-2-100 | PSA | Carbon Content: 8%, Suface area: 480 $m^2$ /g, Particle size: 50-75 μm, Pore size: 70 Å | 100 g |
| C18-1-100 | C18 | Carbon Content: 17.6%, Suface area: 300 $m^2$ /g, Particle size: 40-75 μm, Pore size: 70 Å | 100 g |
| GCB-1-50 | Carb-GCB | Suface area: 100 $m^2$ /g, Particle size: 100-300 mesh | 50 g |
| MGSO4-1 | Anhydrous $MgSO_4$ | AR Grade | 1 kg |
| NAOAC-1 | NaOAc | AR Grade | 1 kg |
| NACL-1 | NaCl | AR Grade | 1 kg |
| CIT-1 | Trisodium Citrate | AR Grade | 1 kg |
| CIT2-1 | Disodium Citrate | AR Grade | 1 kg |

# QuEChERS Ceramic Homogenizers

biocomma® Ceramic Homogenizers can be used in Copure® QuEChERS extraction kit and clean-up kit to improve extraction recovery and reproducibility.

## Features

- Inert ceramic material, no impurities dissolution
- Shorten sample extraction time and reduce labor cost
- Improve recovery rate and reproducibility of sample extraction

## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| 009903A | Ceramic Homogenizers, 50 mL | 100 Pcs/Box |
| 009902A | Ceramic Homogenizers, 15 mL | 100 Pcs/Box |
| 009901A | Ceramic Homogenizers, 2 mL | 200 Pcs/Box |

# Veterinary Drug Residue Specialty QuEChERS

In order to solve the problem of rapid detection of veterinary drug residues in animal-derived foods, biocomma has launched Veterinary Drug Residue Specialty QuEChERS for different types of veterinary drug residues. The specific extraction and clean-up kits are as follows:

## Ordering Information

| Application | Extraction Kit | Qty. | Clean-Up Kit | Qty. |
|---|---|---|---|---|
| Sulfonamides | COQ050050H | 50 Pcs/Box | COQ015601H | 50 Pcs/Box |
| Hormones | COQ050050H | 50 Pcs/Box | COQ015601H | 50 Pcs/Box |
| Chloramphenicol | COQ050050H | 50 Pcs/Box | COQ015601H | 50 Pcs/Box |
| Beta-agonist | COQ050050H | 50 Pcs/Box | COQ015601H | 50 Pcs/Box |
| Quinolone | COQ050051H | 50 Pcs/Box | COQ015601H | 50 Pcs/Box |
| Tetracycline | COQ050051H | 50 Pcs/Box | COQ015601H | 50 Pcs/Box |
| Fipronil | COQ050051H | 50 Pcs/Box | COQ015602H | 50 Pcs/Box |
| Dimetridazole | COQ050051H | 50 Pcs/Box | COQ015603H | 50 Pcs/Box |
| Diethylstilbestrol | COQ050050H | 50 Pcs/Box | COQ002603H | 100 Pcs/Box |

# CommaSil® Liquid Chromatography (LC) Columns

CommaSil® Liquid Chromatography Columns' sorbents are all made of ultra-pure porous spherical silica gel, which has good mechanical strength, uniform pore and particle size distribution range, and excellent variation and stability. The columns are mainly used in food testing and pharmaceutical industry, and can be applied to different instruments of HPLC and UPLC.

## Features

- Superior selectivity and separation capability
- Excellent repeatability among batches
- Excellent chromatographic peak shape
- Perfect spherical silica with narrow particle size distribution
- Extremely strong mechanical strength, long shelf life.
- Good acid and alkali resistance

CommaSil® C18-H (2.1 mm×100 mm, 3 μm)
Mobile phase: A: water (0.1% formic acid) B: Methanol-Acetonitrile solution containing 0.1% formic acid (methanol: acetonitrile=2:8)

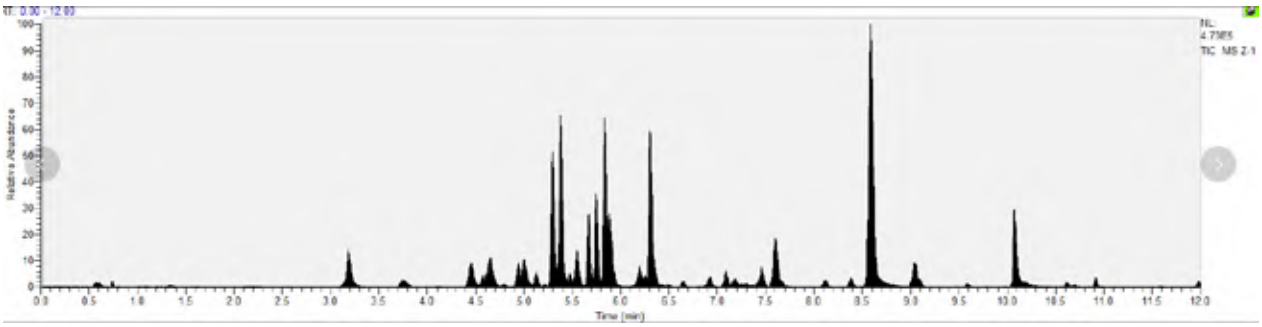
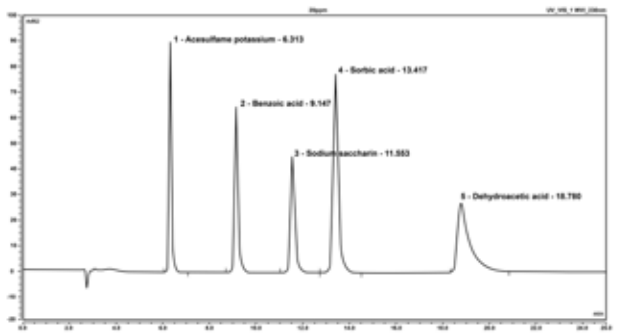


Fig.1 Total ion chromatogram of 36 kinds of veterinary residues in pork samples when additive level is 10 μg/kg

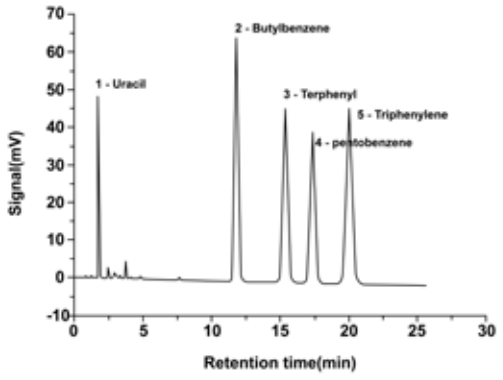
Chromatography columns: CommaSil® AQ-C18
(4.6 mm×250 mm, 5μm )

Mobile phase: 0.002% acetic acid-0.02mol/L ammonium acetate solution: methanol=90:10
Flow rate: 1.0 mL/min
Column temperature: 30 ℃
Detector: UV detector
Detection wavelength: 230 nm




Chromatography column: CommaSil® ODS 5μm 4.6 x150mm

Mobile phase: methanol: water = 80:20
Flow rate: 1.0mL/min
Column temperature: 30 ℃
Detector: UV detector
Detection wavelength: 254 nm



# C18-H

- C18 functional group
- After special treatment, tolerated a wider pH range
- 1.8um and 3um are available, more suitable for UPLC

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| CS215018C18 | C18-bonded 130Å PH: 1.0~12.5 | 1.8μm, ID2.1mm*50mm |
| CS215003C18 | C18-bonded 130Å PH: 1.0~12.5 | 3μm, ID2.1mm*50mm |
| CS2110003C18 | C18-bonded 130Å PH: 1.0~12.5 | 3μm, ID2.1mm*100mm |
| CS2115003C18 | C18-bonded 130Å PH: 1.0~12.5 | 3μm, ID2.1mm*150mm |
| CS465003C18 | C18-bonded 130Å PH: 1.0~12.5 | 3μm, ID4.6mm*50mm |
| CS4610003C18 | C18-bonded 130Å PH: 1.0~12.5 | 3μm, ID4.6mm*100mm |
| CS4615003C18 | C18-bonded 130Å PH: 1.0~12.5 | 3μm, ID4.6mm*150mm |

# C18

- C18 functional group
- PH: 1.5-9
- Excellent hydrophobic selectivity and low hydrogen bonding capacity

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| CM4615005C18 | C18-bonded 100Å PH: 1.5-9 | 5μm, 4.6mmI.D. x 150mm |
| CM4625005C18 | C18-bonded 100Å PH: 1.5-9 | 5μm, 4.6mmI.D. x 250mm |

# C8

- C8 functional group
- Stronger retention than C18 group, shorter retention time for non-polar substances

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| CM4615005C8 | C8-bonded 120Å PH: 2-8 | 5μm, 4.6mmI.D. x 150mm |
| CM4625005C8 | C8-bonded 120Å PH: 2-8 | 5μm, 4.6mmI.D. x 250mm |

# NH2

- NH2 functional group
- Suitable for the analysis of monosaccharide compounds

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| CM4615005NH2 | NH2-bonded 120Å PH: 2-8 | 5μm, 4.6mmI.D. x 150mm |
| CM4625005NH2 | NH2-bonded 120Å PH: 2-8 | 5μm, 4.6mmI.D. x 250mm |

# SCX

- Sulfonic acid type strong cation exchange silica SCX
- Suitable for the analysis of basic substances, especially amines

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| SPZ4615005SCX | SCX-bonded 120Å PH: 2.0~6.5 | 5μm, 4.6×150mm |
| SPZ4625005SCX | SCX-bonded 120Å PH: 2.0~6.5 | 5μm, 4.6×250mm |

# CN

- CN functional group
- Fast elution of hydrophobic molecules with unique selectivity for polar compounds

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| CS4615005CN | CN-bonded 120Å PH: 1.5-10 | 5μm, ID4.6mm*150mm |
| CS4625005CN | CN-bonded 120Å PH: 1.5-10 | 5μm, ID4.6mm*250mm |

# PEP

- PEP functional group
- High selectivity for fluorine-containing and halogen-containing compounds

## Ordering Information

| Cat. # | Description | Specification |
|---|---|---|
| CS4615005PFP | PEP-bonded 120Å PH1.5-10 | 5μm, ID4.6mm*150mm |
| CS4625005PFP | PEP-bonded 120Å PH1.5-10 | 5μm, ID4.6mm*250mm |

# CommaSil® Gas Chromatography (GC) columns

CommaSil® Gas Chromatography Columns, performing test strictly for each GC column, have the advantages of high column efficiency, stable product performance, and high sensitivity. CommaSil® GC Columns are widely used in petrochemical, environmental protection, medicine, food, health and other fields.

## Features

- High column efficiency, good separation effect
- High quality and competitive price, highly competitive choice
- Stable performance and long shelf life

## Ordering Information

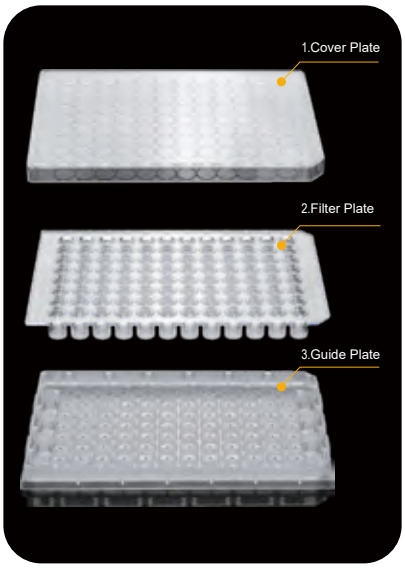
| Cat. # | Fixative Composition | Stationary Phase | Equivalent | Specification |
|---|---|---|---|---|
| CS30025025CB1 | 100% Dimethicone | 100% Dimethylpolysiloxane | DB-1, HP-1, | 30m*0.25mm*0.25μm |
| CS30025025CB5 | 5% Phenyl 95% Dimethicone | (5%-Phenyl)-methylpolysiloxane | DB-5, HP-5 | 30m*0.25mm*0.25μm |
| CS30025025PEG | Polyethylene glycol | Polyethylene glycol (PEG) | HP-INNOWax, DB-WAX | 30m*0.25mm*0.25μm |
| CS30025025PFAP | Modified polyethylene glycol | Nitroterephthalic acid modified polyethylene glycol | HP-FFAP, DB-FFAP, CB-WAX | 30m*0.25mm*0.25μm |
| CS30025025CB225 | 50% Cyanopropylphenyl 50% Dimethicone | (50%-Cyanopropylphenyl)-dimethylpolysiloxane | DB-225 | 30m*0.25mm*0.25μm |
| CS30025025CB35 | 35% Phenyl 65% Dimethicone | (35%-Phenyl)-methylpolysiloxane | HP-35MS, DB-35, | 30m*0.25mm*0.25μm |
| CS30025025CB624 | 6% Cyanopropylphenyl 94% Dimethicone | (6%-Cyanopropyl-phenyl)-methylpolysiloxane | HP-1301, DB-1301 | 30m*0.25mm*0.25μm |
| CS30025025CB1701 | 14% Cyanopropylphenyl 86% Dimethicone | (14%-Cyanopropyl-phenyl)-methylpolysiloxane | DB 1701 | 30m*0.25mm*0.25μm |
| CS30025025CB17 | 50% Phenyl 50% Dimethicone | (50%-Phenyl)-methylpolysiloxane | DB-17, DB-17ms | 30m*0.25mm*0.25μm |
| CS30025025CBPONA | 100% Dimethicone | 100% Dimethylpolysiloxane | HP PONA, Petrocol DH | 30m*0.25mm*0.25μm |

Note: For more specifications, please contact us.

# Sample Preparation for Clinical Mass Spectrometry

biocomma® is specialized in providing innovative solutions in the field of clinical mass spectrometry. Through continuous independent innovation in materials, biocomma provides optimized solutions in technical services to help customers obtain more efficient, higher quality and more stable products. Sample preparation products for clinical mass spectrometry include 96-well PPT protein precipitation plate, 96-well SLE solid support liquid-liquid extraction plate, 96-well PPRP protein phospholipid removal plate and 96-well PPRP phospholipid removal plate, etc.

# 96-Well Micro-Filter Plates




biocomma® 96-Well Micro-Filter Plates are precision injection molded of polystyrene and equipped with many different types and materials of filter membranes, such as polyvinylidene fluoride (PVDF), mixed cellulose (MCE), polytetrafluoroethylene (PTFE) and other microporous filter membranes. Seamless integration is achieved by individually sealed well and removable guide plate and collection plate.

## Ordering Information

Microporous filter plates equipped with MCE microporous filter membranes are applied for DNA hybridization, ELISPOT and protein binding assays.

| Cat. # | Description | Qty. |
|---|---|---|
| M0096-MCE-45 | 96-Well Micro-Filter Plates 50-250 µL, hydrophilic MCE, 0.45 µm | 10 Pcs/PK |
| M0096-MCE-22 | 96-Well Micro-Filter Plates 50-250 µL, hydrophilic MCE, 0.22 µm | 10 Pcs/PK |

Microporous filter plates equipped with PVDF microporous filter membranes are applied for protein kinase/phosphatase analysis, sample preparation, fluorescent dyes removal, etc.

| Cat. # | Description | Qty. |
|---|---|---|
| M0096-PVDF-45 | 96-Well Micro-Filter Plates 50-250 µL, hydrophobic PVDF, 0.45 µm | 10 Pcs/PK |
| M0096-PVDF-22 | 96-Well Micro-Filter Plates 50-250 µL, hydrophobic PVDF, 0.22 µm | 10 Pcs/PK |
| M0096-PVDF-H-45 | 96-Well Micro-Filter Plates 50-250 µL, hydrophilic PVDF, 0.45 µm | 10 Pcs/PK |
| M0096-PVDF-H-22 | 96-Well Micro-Filter Plates 50-250 µL, hydrophilic PVDF, 0.22 µm | 10 Pcs/PK |

Microporous filter plates equipped with PTFE microporous filter membranes are applied for dissolution testing, total drug analysis, protein precipitation analysis, etc.

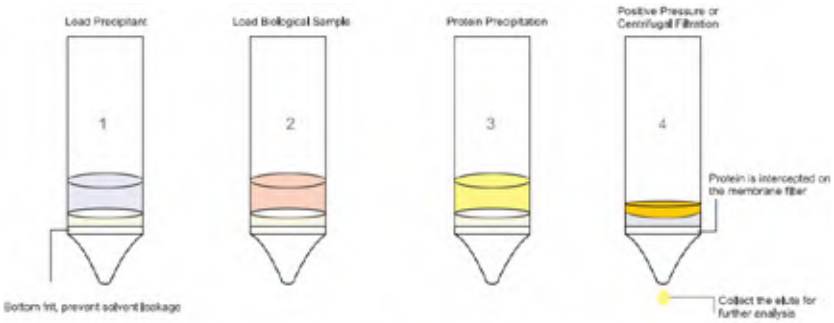
| Cat. # | Description | Qty. |
|---|---|---|
| M0096-PTFE-45 | 96-Well Micro-Filter Plates 50-250 µL, hydrophobic PTFE, 0.45 µm | 10 Pcs/PK |
| M0096-PTFE-22 | 96-Well Micro-Filter Plates 50-250 µL, hydrophobic PTFE, 0.22 µm | 10 Pcs/PK |
| M0096-PTFE-H-45 | 96-Well Micro-Filter Plates 50-250 µL, hydrophilic PTFE, 0.45 µm | 10 Pcs/PK |
| M0096-PTFE-H-22 | 96-Well Micro-Filter Plates 50-250 µL, hydrophilic PTFE, 0.22 µm | 10 Pcs/PK |

# Copure® 96 Well Protein Precipitation (PPT) Plate

Copure® 96-Well Protein Precipitation (PPT) Plate is designed to remove proteins from biological fluid samples (plasma, serum or blood), suitable for LC-MS/MS clinical detection studies.

## Features

- Low adsorption membrane filter is applied, which resistant to pH 0-14
- Membrane filter is made by a special process and does not break at high-speed centrifugation
- Super long retention time, effective interception of precipitator, no liquid leakage
- Suitable for clinical diagnosis, pharmacokinetic study, new drug development and scientific research




General processing method for pretreatment of liquid biological samples by CommaSep™ PPT 96 well protein precipitation plate

## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| MPPT9601 | Copure® 96 Well PPT Plate, 1.0 mL/well | 1 Pc/Box |
| MPPT9602 | Copure® 96 Well PPT Plate, 2.0 mL/well | 1 Pc/Box |
| M0096-PTFE-H-45 | Copure® 96 Well Micro-Filter PPT Plate, 50-250 µL, Hydrophilic PTFE, 0.45 µm | 10 Pcs/Box |
| M0096-PTFE-45 | Copure® 96 Well Micro-Filter PPT Plate, 50-250 µL, Organic PTFE, 0.45 µm | 10 Pcs/Box |
| M0096-PTFE-22 | Copure® 96 Well Micro-Filter PPT Plate, 50-250 µL, Organic PTFE, 0.22 µm | 10 Pcs/Box |

# Copure® 96 Well Phospholipid Removal (PRP) Plate

Copure® 96 Well Phospholipid Removal (PRP) Plate with specially developed new adsorbents Lipoclean® in the pores captures phospholipid interferents that cause ion suppression to provide excellent cleanup effect for lipid-containing samples, also, improve data quality for target analyte detection and minimize LC-MS/MS system maintenance.

## Features

- Remove phospholipids to limit ion suppression effect
- Simple and convenient to use
- 96-well plate and 1 mL cartridge are available

## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| MPRP9601 | Copure® 96 Well PRP Plate, 40 mg/1 mL/well | 1 Pc/Box |

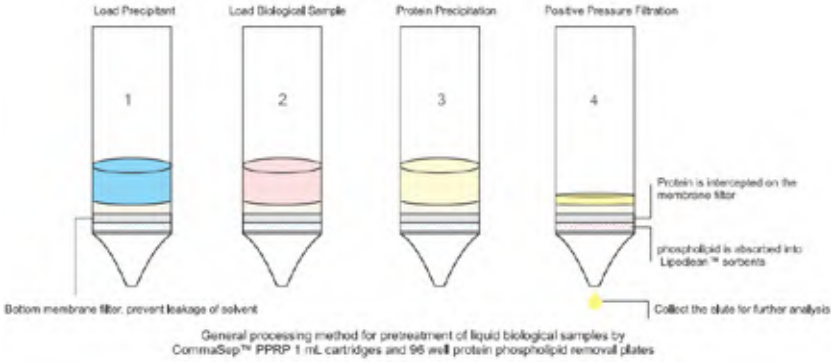
# Copure® 96 Well Protein Phospholipid Removal (PPRP) Plate

Copure® 96 Well Protein Phospholipid Removal (PPRP) Plate uses a new drip-free technology filter membrane to achieve protein precipitation in the wells and combines with the specially developed new adsorbent lipoclean® in the wells to simultaneously remove proteins and phospholipids in the sample.
Therefore, the purification effect for lipidic samples and data of target have been improved greatly. Also, the maintenance of instrument system could be minimized.

## Features

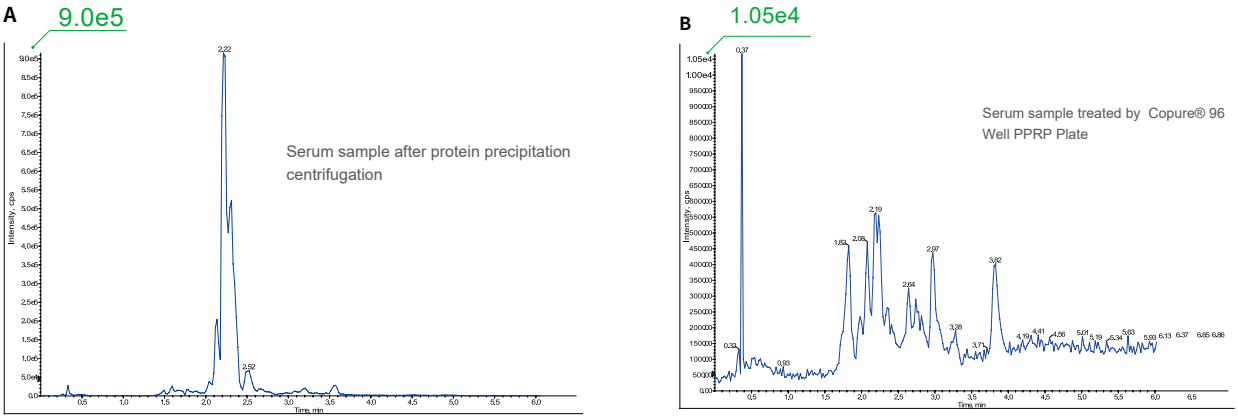
- Protein precipitation and phospholipid removal in the wells to limit ion suppression
- 2-4 steps general procedures
- 96-well plate and 1 mL cartridge are available
- Applied to TDM, forensic toxicology, endocrine study

## Flow Chart




General processing method for pretreatment of liquid biological samples by CommaSep™ PPRP 1 mL cartridges and 96 well protein phospholipid removal plates

## Mass Spectrum




Comparing the intensity of phospholipids of Figure A and B, the biological samples were treated by Copure® 96 Well PPRP Plate was reduced by nearly 2 orders of magnitude. The effect of removing phospholipids was very significant.

## Ordering Information

| Cat.# | Description | Qty. |
|---|---|---|
| MPPRP9601 | Copure® 96 Well PPRP Plate, 40 mg/1 mL/well | 1 Pc/Box |
| MPPRP9602 | Copure® 96 Well PPRP Plate, 40 mg/2 mL/well | 1 Pc/Box |
| MPPRP0140 | Copure® PPRP Cartridge, 40 mg/1 mL/cartridge | 30 Pcs/Box |

# Copure® MS Series 96-Well Solid Phase Extraction (SPE) Plates

Copure® MS Series 96-well SPE Plates are designed for high-throughput clinical mass spectrometry based on biocomma® special SPE sorbents and core accessories.

The special SPE sorbents have more uniform particle size, larger specific surface area, higher loading capacity, higher purity, and no background impurities. Copure® MS Series overcame the difficulties of complex matrix of biological samples and extremely low amount of target to achieve excellent purity, excellent stability and low background interference result to ensure the quality of analysis.

Beside the products, we also provide applications as reference to address customer concerns. Our products have excellent recovery rate of steroid hormones, catecholamines, vitamins, etc.

## Features

- MS Series HLB is a versatile, hydrophilic-lipophilic-balanced reversed-phase sorbent suitable for acidic, basic, and neutral compounds.
- MS Series MCX is a strong cation exchange reversed-phase sorbent with high selectivity for weakly basic compounds.
- MS Series MAX is a strong anion exchange reversed-phase sorbent with high selectivity for weakly acidic compounds.
- MS Series WCX is a weak cation exchange reversed-phase sorbent with high selectivity for strongly basic compounds.
- MS Series WAX is a weak anion exchange reversed-phase sorbent with high selectivity for strongly acidic compounds.

## DVfree 96-Well Plates

- No dead volume structure design, no solvent residue, reduce analyte loss.
- 3-5 mg sorbent per well, suitable for extraction of trace substances.
- Trace sorbent evenly packed with better results consistency and reproducibility.
- No evaporation and reconstitution necessary due to elution volumes as low as 25 µL.
- Compatible with biocomma® positive pressure devices and most liquid-handling robotic systems for automated, reliable high-throughput solid phase extraction.

## Regular 96-Well Plates

- Classic 96-well plate design for greater versatility.
- Available in 10 mg, 30 mg, etc. with high sample loading to meet most customer needs.
- Compatible with biocomma® positive pressure devices and most liquid-handling robotic systems for automated, reliable high-throughput solid phase extraction.

## Results

1. MS Series HLB 96-Well Plate recovery and stability results

| 4 Steroid Hormones in Spiked Plasma | | | | |
|---|---|---|---|---|
| Concentration (ppb) | Recovery (%,n=24) | | | |
| | Cortisone | Corticosterone | Androstenedione | Testosterone |
| 2 | 82.2 | 101.0 | 102.6 | 128.4 |
| 20 | 102.4 | 101.0 | 125.4 | 125.0 |

As result, under different spiked concentrations, the four compounds have good recovery.

| MS Series HLB Stability | |
|---|---|
| Compound | CV (%,n=24) |
| Cortisone | 6.00 |
| Corticosterone | 5.44 |
| Androstenedione | 5.35 |
| Testosterone | 6.89 |

In this experiment, the results of target compound compared from different wells from different plates and batches. The result shows good stability.

2. MS Series WCX 96-well plate stability test

| Catecholamine Stability | | |
|---|---|---|
| Compound | CV (%) | n |
| NMN | 11.63 | 44 |
| MN | 4.75 | 44 |

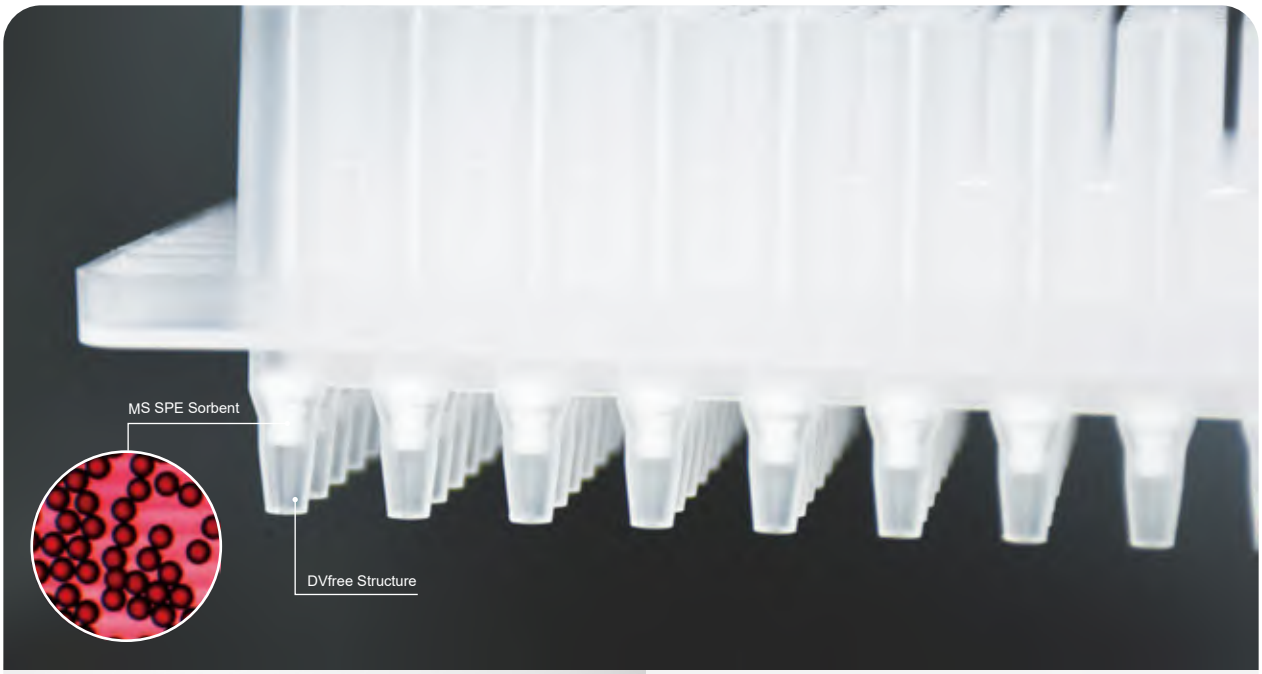
3. MS Series MCX 96-Well Plate recovery and stability results

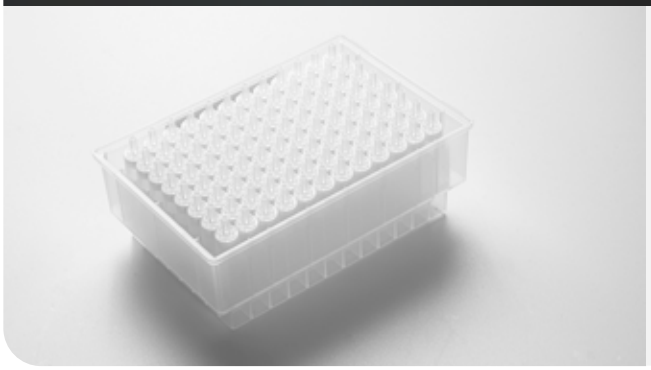
| Thyroid Hormones T3 and T4 in Serum Recovery Rate | | | |
|---|---|---|---|
| Compound | Recovery (%,n=24) | | |
| | 4.5 ppb | 18 ppb | 45 ppb |
| T3 | 86.36 | 96.15 | 93.73 |
| T4 | 103.5 | 116.2 | 109.22 |

As result, under different spiked concentrations, both T3 and T4 have good recovery.

| Thyroid Hormones T3 and T4 in Serum Stability | | |
|---|---|---|
| Compound | CV (%) | n |
| T3 | 4.5 ppb | 4.88 |
| | 18 ppb | 2.98 |
| | 45 ppb | 1.05 |
| T4 | 4.5 ppb | 7.92 |
| | 18 ppb | 1.41 |
| | 45 ppb | 0.75 |

In this experiment, the results of target compound compared from different wells from different plates and batches. The result shows good stability.



## Ordering Information

| | Cat. # | Description | Specification | Qty. |
|---|---|---|---|---|
| Dvfree 96-Well Plate | MHLB9603 | Copure® MS HLB 96-well plate | 3 mg/600 µL | 1 PC/PK |
| | MHLB9605 | Copure® MS HLB 96-well plate | 5 mg/600 µL | 1 PC/PK |
| | MWAX9603 | Copure® MS WAX 96-well plate | 3 mg/600 µL | 1 PC/PK |
| | MWAX9605 | Copure® MS WAX 96 -well plate | 5 mg/600 µL | 1 PC/PK |
| | MWCX9603 | Copure® MS WCX 96 -well plate | 3 mg/600 µL | 1 PC/PK |
| | MWCX9605 | Copure® MS WCX 96-well plate | 5 mg/600 µL | 1 PC/PK |
| | MMAX9603 | Copure® MS MAX 96-well plate | 3 mg/600 µL | 1 PC/PK |
| | MMAX9605 | Copure® MS MAX 96-well plate | 5 mg/600 µL | 1 PC/PK |
| | MMCX9603 | Copure® MS MCX 96-well plate | 3 mg/600 µL | 1 PC/PK |
| | MMCX9605 | Copure® MS MCX 96-well plate | 5 mg/600 µL | 1 PC/PK |
| Regular 96-Well Plates | MHLB9610 | Copure® MS HLB 96-well plate | 10 mg/1 mL, 10 mg/2 mL | 1 PC/PK |
| | MHLB9630 | Copure® MS HLB 96-well plate | 30 mg/1 mL, 30 mg/2 mL | 1 PC/PK |
| | MWAX9610 | Copure® MS WAX 96-well plate | 10 mg/1 mL, 10 mg/2 mL | 1 PC/PK |
| | MWAX9630 | Copure® MS WAX 96-well plate | 30 mg/1 mL, 30 mg/2 mL | 1 PC/PK |
| | MWCX9610 | Copure® MS WCX 96-well plate | 10 mg/1 mL, 10 mg/2 mL | 1 PC/PK |
| | MWCX9630 | Copure® MS WCX 96-well plate | 30 mg/1 mL, 30 mg/2 mL | 1 PC/PK |
| | MMAX9610 | Copure® MS MAX 96-well plate | 10 mg/1 mL, 10 mg/2 mL | 1 PC/PK |
| | MMAX9630 | Copure® MS MAX 96-well plate | 30 mg/1 mL, 30 mg/2 mL | 1 PC/PK |
| | MMCX9610 | Copure® MS MCX 96-well plate | 10 mg/1 mL, 10 mg/2 mL | 1 PC/PK |
| | MMCX9630 | Copure® MS MCX 96-well plate | 30 mg/1 mL, 30 mg/2 mL | 1 PC/PK |

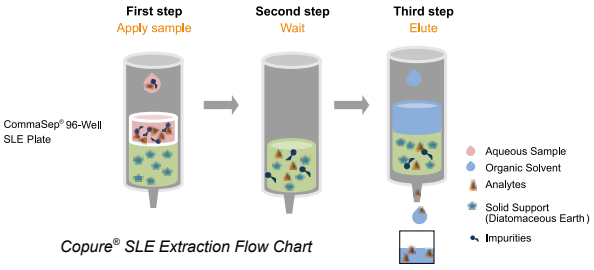
# Copure® 96 Well Supported Liquid Extraction (SLE) Plate

Copure® 96-well SLE plate adopts special technology to process the materials. The material adopts porous diatomite filler with high specific surface area and strong chemical inertia as liquid-liquid distribution carrier. It can replace the most of traditional liquid-liquid extraction methods, and it has higher extraction efficiency and stability. This method is widely used in food safety, environmental monitoring, clinical diagnosis and industrial product detection.

## Features

- Replace the traditional liquid-liquid extraction, provide an ideal surface of liquid-liquid extraction for target analytes
- Avoid the emulsions phenomenon
- The operation of SLE is very simple: load-elute, saving solvent and time, easy to automate
- Better reproducibility and higher recovery
- Lower detection limit and higher sensitivity

**Fig.1 Operation process of Copure® 96-well SLE plate**




*Copure® SLE Extraction Flow Chart*

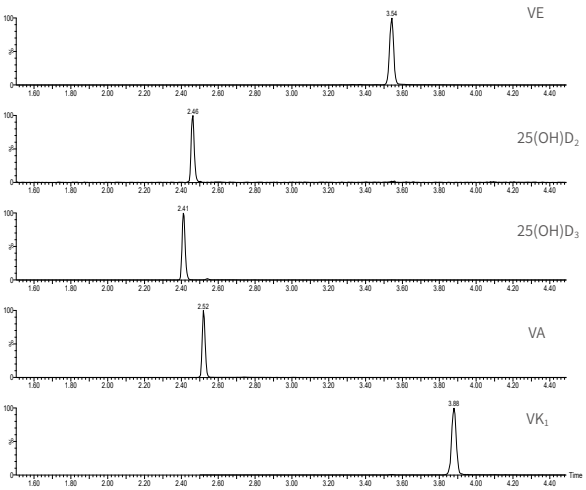
| Compounds | Recovery of compounds (%) | | | | |
|---|---|---|---|---|---|
| Brand | $25(OH)D_2$ | $25(OH)D_3$ | VA | VE | $VK_1$ |
| Copure® SLE plate | 70.2 | 69.8 | 75.2 | 67.5 | 76.5 |
| Brand A | 60.3 | 61.6 | 67.9 | 63.4 | 69.7 |
| Brand B | 67.8 | 68.9 | 76.2 | 68.9 | 75.4 |

Table 1. Comparison of vitamins recovery

Table 2. Stability of vitamins

| Compounds | RSD (%, n=8) |
|---|---|
| $25(OH)D_2$ | 5.78 |
| $25(OH)D_3$ | 9.89 |
| VA | 7.21 |
| VE | 4.6 |
| VK1 | 6.55 |

**Fig.2 Liquid chromatography of standards**




***The above data show that:*** *Copure® 96-well SLE plate has good recovery and high stability.*

## Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| MSLE96200 | Copure® 96-well SLE plate, 200 µL/1 mL | 1 Pcs/Box |
| MSLE96400 | Copure® 96-well SLE plate, 400 µL/2 mL | 1 Pcs/Box |

# Laboprtory Device & Consumables

# Filtration Guide

| Filtration Media | Main Features | Applications |
|---|---|---|
| Nylon | • Hydrophilic<br>• Robust<br>• pH range: 3-12<br>• Broad Chemical compatibility | • Chemicals filtration<br>• Beverage filtration<br>• HPLC sample preparation |
| PES | • Hydrophilic<br>• High flow rate<br>• Low extractables<br>• Low protein binding<br>• pH range: 1-14 | • Protein filtration<br>• Tissue culture media filtration<br>• Buffer prep<br>• HPLC sample preparation |
| PTFE | • Broad chemical compatibility<br>• Hydrophobic and hydrophilic available<br>• pH range: 1-14<br>• Available supported or unsupported | • Organic solvents<br>• Strong acid and alkaline resistance<br>• Gas filtration<br>• Air sampling |
| PVDF | • High thermal resistance<br>• Broad chemical compatibility<br>• Hydrophobic and hydrophilic available<br>• Low protein binding | • Gas filtration<br>• Food industry<br>• Pharmaceutical filtration |
| MCE | • Hydrophilic<br>• High flow rate<br>• Low protein binding<br>• pH range: 4-8 | • Cell culture media<br>• Microorganism enumeration and identification<br>• Acid digestion<br>• Heavy metals testing |
| CA | • Hydrophilic<br>• Low protein binding<br>• pH range: 4-8 | • Protein, enzyme and biological solutions<br>• Tissue culture media |
| Glass Fiber | • Broad chemical compatibility<br>• High dirt holding capacity<br>• pH range: 4-14<br>• High thermal resistance (up to 500°C )<br>• With or without binders | • Clarification and prefiltration<br>• Tissue Culture media<br>• DNA/RNA adsorption and purification<br>• Qualification and quantification |
| PP microfiber | • Broad chemical compatibility<br>• pH range: 1-14 | • Pre-filtration<br>• Clarification |

# Syringe Filters

## Specification

| Diameter (mm) | 13 mm | 25 mm |
|---|---|---|
| Filtration Area (cm²): | 0.92 | 2.98 |
| Housing Material: | PP | |
| Holdup-Volume (µl): | <10 | <100 |
| Volume Throughput (ml): | <10 | <50 |
| Connections (Inlet/Outlet): | Female Luer Lock inlet and Male Luer slip outlet | |
| Max Operating Pressure (psi): | 87 | |
| Max Operating Temperature (℃ ) | 100 | |

| Filter Media | Diameter (mm) | Pore Size (um) | Pre-Fliter Layer |
|---|---|---|---|
| Nylon<br>CA<br>PES<br>MCE<br>PVDF<br>PTFE<br>RC | 13<br>25<br>33 | 0.22<br>0.45<br>0.8<br>1.0 | PP<br>GF |

# Syringe Filters

biocomma® Syringe Filters are suitable for solution preparation, sterilization filtration and biological sample preparation.

## Ordering Information

Mixed Cellulose Ester (MCE) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-MCE | MCE / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF130-45-MCE | MCE / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |
| SF250-22-MCE | MCE / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF250-45-MCE | MCE / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |

Cellulose Acetate (CA) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-CA | CA / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF130-45-CA | CA / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |
| SF250-22-CA | CA / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF250-45-CA | CA / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |

Hydrophilic Polytetrafluoroethylene (PTFE) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-PTFE-HL | PTFE / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF130-45-PTFE-HL | PTFE / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |
| SF250-22-PTFE-HL | PTFE / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF250-45-PTFE-HL | PTFE / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |

Hydrophilic Polyvinylidene Fluoride (PVDF) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-PVDF-HL | PVDF / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF130-45-PVDF-HL | PVDF / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |
| SF250-22-PVDF-HL | PVDF / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF250-45-PVDF-HL | PVDF / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |

Polyethersulfone (PES) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-PES | PES / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF130-45-PES | PES / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |
| SF250-22-PES | PES / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF250-45-PES | PES / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |

Polytetrafluoroethylene (PTFE) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-PTFE | PTFE / Φ13 mm / 0.22 μm / Hydrophobic | 100 Pcs/Box |
| SF130-45-PTFE | PTFE / Φ13 mm / 0.45 μm / Hydrophobic | 100 Pcs/Box |
| SF250-22-PTFE | PTFE / Φ25 mm / 0.22 μm / Hydrophobic | 100 Pcs/Box |
| SF250-45-PTFE | PTFE / Φ25 mm / 0.45 μm / Hydrophobic | 100 Pcs/Box |

Nylon Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-NL | Nylon / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF130-45-NL | Nylon / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |
| SF250-22-NL | Nylon / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/Box |
| SF250-45-NL | Nylon / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/Box |

Polyvinylidene Fluoride (PVDF) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SF130-22-PVDF | PVDF / Φ13 mm / 0.22 μm / Hydrophobic | 100 Pcs/Box |
| SF130-45-PVDF | PVDF / Φ13 mm / 0.45 μm / Hydrophobic | 100 Pcs/Box |
| SF250-22-PVDF | PVDF / Φ25 mm / 0.22 μm / Hydrophobic | 100 Pcs/Box |
| SF250-45-PVDF | PVDF / Φ25 mm / 0.45 μm / Hydrophobic | 100 Pcs/Box |

# Sterile Syringe Filters

biocomma® Sterile Syringe Filters remove bacteria fast and reduce the impact on active ingredients in liquid during sterilization process. Generally, 0.1 μm syringe filter filters mycoplasma, 0.22 μm filters bacteria, and 0.45um filters solid particles. Sterile syringe filters are widely applied to various fields of life science to sterilize small-volume biological liquids, such as proteins, culture media, additives, buffers, reagents, pharmaceuticals and etc.

## Features

- The easy tear packaging is made of medical polypropylene to ensure good sealing
- Sterilized by gamma radiation
- DNase and RNase free, pyrogen free and No Endotoxin
- Low protein adsorption rate

## Ordering Information

Sterile Mixed Cellulose Ester (MCE) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SSF130-22-MCE | MCE / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF130-45-MCE | MCE / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-22-MCE | MCE / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-45-MCE | MCE / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |

Sterile Polyvinylidene Fluoride (PVDF) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SSF130-22-PVDF | PVDF / Φ13 mm / 0.22 μm / Hydrophobic | 100 Pcs/PK |
| SSF130-45-PVDF | PVDF / Φ13 mm / 0.45 μm / Hydrophobic | 100 Pcs/PK |
| SSF250-22-PVDF | PVDF / Φ25 mm / 0.22 μm / Hydrophobic | 100 Pcs/PK |
| SSF250-45-PVDF | PVDF / Φ25 mm / 0.45 μm / Hydrophobic | 100 Pcs/PK |

Sterile Cellulose Acetate (CA) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SSF130-22-CA | CA / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF130-45-CA | CA / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-22-CA | CA / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-45-CA | CA / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |

Sterile Polytetrafluoroethylene (PTFE) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SSF130-22-PTFE | PTFE / Φ13 mm / 0.22 μm / Hydrophobic | 100 Pcs/PK |
| SSF130-45-PTFE | PTFE / Φ13 mm / 0.45 μm / Hydrophobic | 100 Pcs/PK |
| SSF250-22-PTFE | PTFE / Φ25 mm / 0.22 μm / Hydrophobic | 100 Pcs/PK |
| SSF250-45-PTFE | PTFE / Φ25 mm / 0.45 μm / Hydrophobic | 100 Pcs/PK |

Sterile Polyethersulfone (PES) Syringe Filters

| Cat. # | Description | Qty. |
|---|---|---|
| SSF130-22-PES | PES / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF130-45-PES | PES / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-22-PES | PES / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-45-PES | PES / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |

Sterile Nylon Syringe Filter

| Cat. # | Description | Qty. |
|---|---|---|
| SSF130-22-NL | Nylon / Φ13 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF130-45-NL | Nylon / Φ13 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-22-NL | Nylon / Φ25 mm / 0.22 μm / Hydrophilic | 100 Pcs/PK |
| SSF250-45-NL | Nylon / Φ25 mm / 0.45 μm / Hydrophilic | 100 Pcs/PK |

# Microfiltration Membranes

biocomma® Microfiltration Membranes are used in sample filtration during analysis process in laboratories.

## Ordering Information

Mixed Cellulous Ester (MCE) Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-MCE | MCE / Φ47 mm / 0.22 μm | 200 Pcs/Box |
| MF047-45-MCE | MCE / Φ47 mm / 0.45 μm | 200 Pcs/Box |

Cellulose Acetate (CA) Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-CA | CA / Φ47 mm/0.22 μm | 200 Pcs/Box |
| MF047-45-CA | CA / Φ47 mm/0.45 μm | 200 Pcs/Box |

Polyethersulfone (PES) Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-PES | PES / Φ47 mm/0.22 μm | 200 Pcs/Box |
| MF047-45-PES | PES / Φ47 mm/0.45 μm | 200 Pcs/Box |

Hydrophilic Polytetrafluoroethylene (PTFE) Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-PTFE-HL | PTFE / Φ47 mm/0.22 μm | 200 Pcs/Box |
| MF047-45-PTFE-HL | PTFE / Φ47 mm/0.45 μm | 200 Pcs/Box |

Nylon Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-NL | Nylon / Φ47 mm / 0.22 μm | 200 Pcs/Box |
| MF047-45-NL | Nylon / Φ47 mm / 0.45 μm | 200 Pcs/Box |

Polyvinylidene Fluoride (PVDF) Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-PVDF | PVDF / Φ47 mm / 0.22 μm | 200 Pcs/Box |
| MF047-45-PVDF | PVDF / Φ47 mm / 0.45 μm | 200 Pcs/Box |

Polytetrafluoroethylene (PTFE) Microfiltration Membrane

| Cat. # | Description | Qty. |
|---|---|---|
| MF047-22-PTFE | PTFE / Φ47 mm / 0.22 μm | 200 Pcs/Box |
| MF047-45-PTFE | PTFE / Φ47 mm / 0.45 μm | 200 Pcs/Box |

*Customized diameter of mentioned membranes are available.

# Gridded Membrane Filters

biocomma® Sterile Mixed Cellulose Ester (MCE) Gridded Membrane Filter are composed of Cellulose Acetate and Cellulose Nitrate. Many microbiological techniques include colony counting after incubation as the standard method of quantification. Gridded filters have clearly defined grid lines spaced at 3.1 mm intervals. The special ink used is nontoxic and completely free from bacterial growth inhibitors. White gridded disks are designed for the recovery and retention of E. Coli bacteria in water/waste-water analysis as well as other microbiological tests. Black mixed cellulose esters (MCE) are available plain for automatic colony counting applications, as well as gridded to assist in manual counting procedures. Black MCE membranes provide contrast between residue or cell colors and the filter without having to counter-stain the membrane.

## Features

- Excellent retention and colony growth, high recovery rates of microorganisms
- Individually wrapped in easy-peel pack
- Pre-sterilized by gamma irradiation
- Calibrated Mixed Cellulose filters is designed to maximize the flow rate

## Ordering Information

| Cat.# | Description | Diameter | Pore Size | Qty. |
|---|---|---|---|---|
| MF047-022-MCE-GWS | Individually packed Sterile MCE Gridded Membrane Filter White membrane black grid / Φ47mm / 0.22μm / Aqueous | 47mm | 0.22μm | 100 Pcs/Box |
| MF047-045-MCE-GWS | Individually packed Sterile MCE Gridded Membrane Filter White membrane black grid / Φ47mm / 0.22μm / Aqueous | 47mm | 0.45μm | 100 Pcs/Box |
| MF047-080-MCE-GWS | Individually packed Sterile MCE Gridded Membrane Filter White membrane black grid / Φ47mm / 0.80μm / Aqueous | 47mm | 0.80μm | 100 Pcs/Box |
| MF050-022-MCE-GWS | Individually packed Sterile MCE Gridded Membrane Filter White membrane black grid / Φ50mm / 0.22μm / Aqueous | 50mm | 0.22μm | 100 Pcs/Box |
| MF050-045-MCE-GWS | Individually packed Sterile MCE Gridded Membrane Filter White membrane black grid / Φ50mm / 0.45μm / Aqueous | 50mm | 0.45μm | 100 Pcs/Box |
| MF050-080-MCE-GWS | Individually packed Sterile MCE Gridded Membrane Filter White membrane black grid / Φ50mm / 0.80μm / Aqueous | 50mm | 0.80μm | 100 Pcs/Box |
| MF047-022-MCE-GBS | Individually packed Sterile MCE Gridded Membrane Filter Black membrane white grid / Φ47mm / 0.22μm / Aqueous | 47mm | 0.22μm | 100 Pcs/Box |
| MF047-045-MCE-GBS | Individually packed Sterile MCE Gridded Membrane Filter Black membrane white grid / Φ47mm / 0.45μm / Aqueous | 47mm | 0.45μm | 100 Pcs/Box |
| MF047-080-MCE-GBS | Individually packed Sterile MCE Gridded Membrane Filter Black membrane white grid / Φ47mm / 0.80μm / Aqueous | 47mm | 0.45μm | 100 Pcs/Box |
| MF050-022-MCE-GBS | Individually packed Sterile MCE Gridded Membrane Filter Black membrane white grid / Φ50mm / 0.22μm / Aqueous | 50mm | 0.22μm | 100 Pcs/Box |
| MF050-045-MCE-GBS | Individually packed Sterile MCE Gridded Membrane Filter Black membrane white grid / Φ50mm / 0.45μm / Aqueous | 50mm | 0.45μm | 100 Pcs/Box |
| MF050-080-MCE-GBS | Individually packed Sterile MCE Gridded Membrane Filter Black membrane white grid / Φ50mm / 0.80μm / Aqueous | 50mm | 0.80μm | 100 Pcs/Box |

# Sterile Filter Device

biocomma® Disposable Vacuum Filtration units are a standalone filtration unit that combines a graduated funnel-top, filter assembly and graduated reservoir. They are ideal for when a self-contained, pre-sterilized, disposable filtration unit is required. Can be used for the sterile filtration of biological and aqueous fluids, tissue culture media and buffers. Available with PES, cellulose acetate and PVDF membranes in various pore sizes, comes in two funnel sizes (250 and 500 ml) and three receiver flask (250, 500 and 1000 mL).

## Features

- Disposable and pre-sterilized by gamma irradiation for rapid and convenient use.
- Non-pyrogenic, low extractables and surfactant-free ensures purity of filtrate.
- Reservoir has textured areas for improved grip when handling and opening and sealing the bottle.
- Glass fiber pre-filter is available.

| Material | Features | Application |
|---|---|---|
| PES Vacuum Filtration Units | PES asymmetrical membrane, hydrophilic membrane, high porosity, fast flow rate, low fouling, and low protein adsorption | Suitable for filtering biological fluids such as serum, cell culture media, buffers, protein solutions, and for use in culturing |
| MCE Vacuum Filtration Units | MCE has limited chemical compatibility, low protein adsorption | Suitable for filtering biological fluids and buffer solutions. |
| PVDF Vacuum Filtration Units | PVDF has strong chemical compatibility, low protein adsorption, and high mechanical strength | Suitable for filtering certain organic solvents and biological fluids. |
| PTFE Vacuum Filtration Units | PTFE has strong chemical compatibility | Suitable for filtering strong acid and strong base, low extractable level |
| Nylon Vacuum Filtration Units | Nylon is hydrophilic, has high mechanical strength, is resistant to alkali but not acid, and has strong protein binding | Suitable for filtering buffer solutions and chemical reagents, but not for critical protein solution filtration |
| CA Vacuum Filtration Units | CA has limited chemical compatibility, low protein adsorption | Suitable for buffer solutions and protein recovery experiments |
| GF Vacuum Filtration Units | GF has strong chemical compatibility, high dirt holding capacity, and strong acid and alkali resistance | Suitable for pre-filtration, for solution filtration that is difficult to filter and has a lot of impurities |

0.1 μm vacuum filtration units for the removal of mycoplasma
0.2 μm vacuum filtration units for liquid sterile filtration
0.45 μm vacuum filtration units for liquid clarification and filtration

## Ordering Information

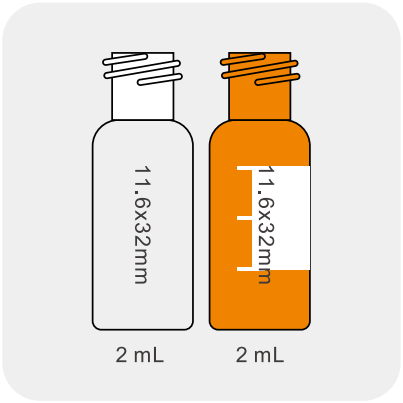
| Cat.# | Description | Qty. |
|---|---|---|
| VFP050-010-PES-250 | PES, Φ50 mm, 0.1 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP050-022-PES-250 | PES, Φ50 mm, 0.22 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP050-045-PES-250 | PES, Φ50 mm, 0.45 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP050-022-CA-250 | CA, Φ50 mm, 0.22 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP050-045-CA-250 | CA, Φ50 mm, 0.45 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP050-022-PVDF-250 | Hydrophilic PVDF, Φ50 mm, 0.22 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP050-045-PVDF-250 | Hydrophilic PVDF, Φ50 mm, 0.45 μm, 250 ml Funnel, 250 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-010-PES-500 | PES, Φ90 mm, 0.1 μm, 500 ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-022-PES-500 | PES, Φ90 mm,  0.22 μm, 500 ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-045-PES-500 | PES, Φ90 mm, 0.45 μm, 500 ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-022-CA-500 | CA, Φ90 mm, 0.22 μm, 500ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-045-CA-500 | CA, Φ90 mm, 0.45 μm, 500 ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-022-PVDF-500 | Hydrophilic PVDF, Φ90 mm, 0.22 μm, 500 ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-045-PVDF-500 | Hydrophilic PVDF, Φ90 mm, 0.45 μm, 500 ml Funnel, 500 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-010-PES-1000 | PES, Φ90 mm, 0.1 μm, 1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-022-PES-1000 | PES, Φ90 mm, 0.22 μm, 1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-045-PES-1000 | PES, Φ90 mm, 0.45 μm, 1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-022-CA-1000 | CA, Φ90 mm, 0.22 μm, 1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-045-CA-1000 | CA, Φ90 mm, 0.45 μm,1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-022-PVDF-1000 | Hydrophilic PVDF, Φ90 mm, 0.22 μm, 1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |
| VFP090-045-PVDF-1000 | Hydrophilic PVDF, Φ90 mm, 0.45 μm, 1000 ml Funnel, 1000 ml Receiver Flask, Sterile | 12 Sets/Box |

Note: please contact for more specifications.

# Instrument Chart

| Brand | Instrument/Model # | 8-425 Screw-Top | 9-425 Screw-Top | 10-425 Screw-Top | 11mm Crimp-Top | 13-425 Screw-Top | Headspace |
|---|---|---|---|---|---|---|---|
| Agilent | Headspace (HS: 6, 10, 20 mL, Flat) | | | | | | • |
| Agilent | 1042, 1050, 1080,1082, 1084, 1090, 1100, 5890, 6850,6890, 7670A, 671A, 7672, 7673A/B, 7683, 7890, 8042 | | • | | • | | |
| Beckman | 501, 502, 507 | • | | • | | | |
| Bruker | LC51 | | | | | • | |
| Bruker /Varian | 8100/8200 | • | • | • | • | | |
| | Genesis (HS: 10, 20 mL Rounded) | | | | | | • |
| | Marathon | | • | | • | | |
| | 8035, 8000 Series, 8055, 8085, 3800 GC | • | | | | | |
| | 9100/9090/9095 | • | | | • | | |
| Bruker/ Varian /Rainin | Dynamax AI-IA, AI-200, Dynamax AI-3 | | | | • | | |
| | Dynamax AI-3AI-IA, AI-2W | • | | | | | |
| Shimadzu | AOC14/1400 | • | • | | | • | |
| | AOC20i | | | • | • | | |
| | AOC-14/1400, AOC-17 | • | | | | | |
| | AOC-20 | | • | | • | • | |
| | AOC 88/9 | • | • | | | | |
| | AOC-5000 | • | • | | | | |
| | HSS-2B/4B | | | | | | • |
| | LC 2010 | • | • | | | | |
| PerkinElmer | Autosystem GC/XL/AS-2000 | • | • | | • | • | |
| | AI-1 | | • | | • | | |
| | Clarus 500/600 | | • | | • | | |
| | HS16/40 | | | | | | • |
| | Integral 4000 | • | • | | • | | |
| | ISS-100/200 | • | • | | • | | |
| | LC 600 42 vial tray | | • | | | | |
| | LC Plus | • | • | | | • | |
| | Autosystem GC (HS: 10, 20 mL, Rounded) | • | | | • | | • |
| | F40, F45, HS 6, HS 40 (HS: 10, 20 mL, Rounded) | | | | • | | • |
| | Integral 4000 (HS: 10, 20 mL, Rounded) | | | | • | | • |
| | TurboMatrix 40/110 | | | | | | • |
| Waters | 717 Plus | | | | • | | |
| | Acquity | • | • | | • | | |
| | Alliance 2690 | • | • | • | • | | |
| | CapLC | • | • | | | | |
| | 48-pos. M700 | | | | | • | |
| | WISP | | | | • | | |

# 8-425 Screw-Thread Vials




8-425 Screw-Thread Vials are the original smaller-opening autosampler vials that are designed to work with a variety of autosamplers requiring narrow-neck vials.

## Specifications:

- Material: USP Type 1 borosilicate glass
- Total volume: 2.0 mL
- Recommended fill: 1.5 mL
- Dimensions: 11.6*32 mm
- Openings: 8-425 screw top
- Bottom style: flat bottom

## Ordering Information

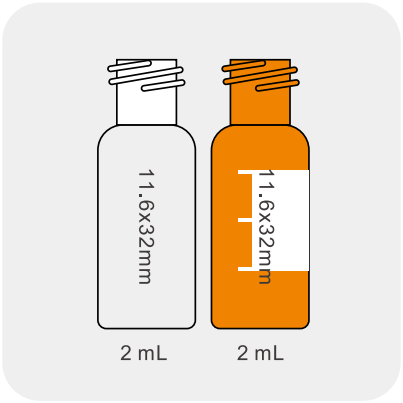
8-425 Screw-Thread Vials

| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V1-T | Screw-thread vials | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V1-TL | Screw-thread vials with write-on spot | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V1-A | Screw-thread vials | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |
| V1-AL | Screw-thread vials with write-on spot | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |

## Caps with septa for 8-425 screw-thread vials

| Cat. # | Description | Qty. |
|---|---|---|
| SC1-1 | Black polypropylene screw caps with white PTFE/red silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-2 | Black polypropylene screw caps with red PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-3 | Black polypropylene screw caps with red PTFE/white silicone/red PTFE septa, 5.5mm hole | 100 Pcs/Box |
| SC1-4 | Black polypropylene screw caps with blue PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-5 | Black polypropylene screw caps with pre-slit white PTFE/red silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-6 | Black polypropylene screw caps with pre-slit red PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-7 | Black polypropylene screw caps with pre-slit blue PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-8 | White polypropylene screw caps with white PTFE/red silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-9 | White polypropylene screw caps with red PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-10 | White polypropylene screw caps with blue PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-11 | White polypropylene screw caps with pre-slit white PTFE/red silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-12 | White polypropylene screw caps with pre-slit red PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC1-13 | White polypropylene screw caps with pre-slit blue PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |

# 9-425 Screw-Thread Vials




9-425 Screw-Thread Vials are dimensionally equivalent to 11mm crimp top vials. Therefore, they can be used in any autosampler that are designed for 11mm crimp top vials. 9-425 Screw-thread vials give excellent sealing as well as the ease of applying and removing by hand.

## Specifications:

- Material: USP Type 1 borosilicate glass
- Total volume: 2.0 mL
- Recommended fill: 1.5 mL
- Dimensions: 11.6*32 mm
- Openings: 9-425 screw top
- Bottom style: flat bottom

## Ordering Information

9-425 Screw-Thread Vials

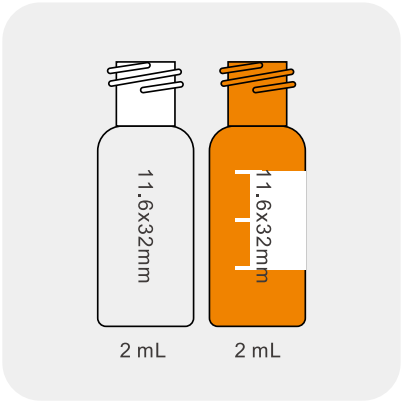
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V2-T | Screw-thread vials | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V2-TL | Screw-thread vials with write-on spot | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V2-A | Screw-thread vials | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |
| V2-AL | Screw-thread vials with write-on spot | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |

## Caps with septa for 9-425 screw-thread vials

| Cat. # | Description | Qty. |
|---|---|---|
| C2-1 | Blue polypropylene screw caps, 6mm hole | 100 Pcs/Box |
| C2-2 | Blue polypropylene screw caps, closed top | 100 Pcs/Box |
| SC2-1 | Blue polypropylene screw caps with white PTFE/red silicone septa, 6mm hole | 100 Pcs/Box |
| SC2-2 | Blue polypropylene screw caps with red PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |
| SC2-3 | Blue polypropylene screw caps with red PTFE/white silicone/red PTFE septa, 6mm hole | 100 Pcs/Box |
| SC2-4 | Blue polypropylene screw caps with blue PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |
| SC2-5 | Blue polypropylene screw caps with pre-slit white PTFE/red silicone septa, 6mm hole | 100 Pcs/Box |
| SC2-6 | Blue polypropylene screw caps with pre-slit blue PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |

# 10-425 Screw-Thread Vials

10-425 Screw-Thread Vials feature a wider opening than other screw-thread vials. The increased target area makes sample injection easier and reduces the chances of bending or breaking needles during sampling.




## Specifications:

- Material: USP Type 1 borosilicate glass
- Total volume: 2.0 mL
- Recommended fill: 1.5 mL
- Dimensions: 11.6*32 mm
- Openings: 10-425 screw top
- Bottom style: flat bottom

## Ordering Information

10-425 Screw-Thread Vials

| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V3-T | Screw-thread vials | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V3-TL | Screw-thread vials with write-on spot | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V3-A | Screw-thread vials | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |
| V3-AL | Screw-thread vials with write-on spot | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |

## Caps with septa for 10-425 screw-thread vials

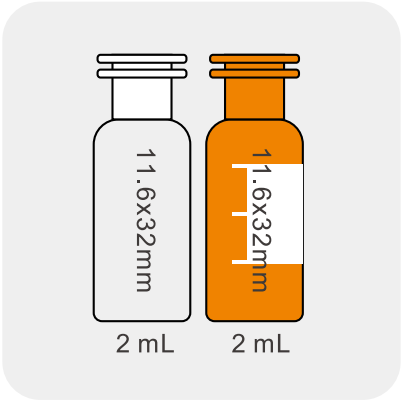
| Cat. # | Description | Qty. |
|---|---|---|
| SC3-1 | Black polypropylene screw caps with white PTFE/red silicone septa, 7mm hole | 100 Pcs/Box |
| SC3-2 | Black polypropylene screw caps with red PTFE/white silicone septa, 7mm hole | 100 Pcs/Box |

# Snap-Top Vials

11mm Snap-Top Vials have good sealing to minimize evaporation, even with volatile samples. Compared to crimp-top vials, snap-top vials are more convenient because the caps can be easily applied and removed by hand. An audible click ensures that a secure seal has been formed and the cap has been correctly aligned. Snap-top vials can be capped with either snap caps or crimp caps.

## Specifications:

- Material: USP Type 1 borosilicate glass
- Capacity: 2.0 mL
- Recommended fill: 1.5 mL
- Dimensions: 11.6*32 mm
- Openings: 11mm snap-top
- Bottom style: flat bottom




## Ordering Information

11mm Snap-Top Vials

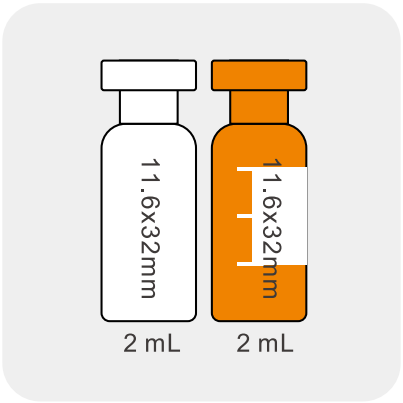
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V4-T | 11mm snap-top vials | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V4-TL | 11mm snap-top vials with write-on spot | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V4-A | 11mm snap-top vial | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |
| V4-AL | 11mm snap-top vials with write-on spot | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |

## Caps with septa for 11mm snap-top vials

| Cat. # | Description | Qty. |
|---|---|---|
| C4-1 | Natural snap-top caps, 6mm hole | 100 Pcs/Box |
| C4-2 | Blue snap-top caps, 6mm hole | 100 Pcs/Box |
| C4-3 | Red snap-top caps, 6mm hole | 100 Pcs/Box |
| SC4-1 | Natural snap-top caps with white PTFE/red silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-2 | Natural snap-top caps with red PTFE/white silicone/red PTFE septa, 6mm hole | 100 Pcs/Box |
| SC4-3 | Natural snap-top caps with blue PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-4 | Blue snap-top caps with white PTFE/red silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-5 | Blue snap-top caps with red PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-6 | Red snap-top caps with white PTFE/red silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-7 | Red snap-top caps with red PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-8 | Natural snap-top caps with red PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |
| SC4-9 | Red snap-top caps with red PTFE/white silicone/red PTFE septa, 6mm hole | 100 Pcs/Box |
| SC4-10 | Red snap-top caps with pre-slit blue PTFE/white silicone septa, 6mm hole | 100 Pcs/Box |

# Crimp-Top Vials

Crimp-Top Vials provide very excellent seal, reducing the chance of sample evaporation. These vials and 11mm aluminum crimp caps can be economically and easily used with crimping tools.




## Specifications:

- Material: USP Type 1 borosilicate glass
- Capacity: 2.0 mL
- Recommended fill: 1.5 mL
- Dimensions: 11.6*32 mm
- Openings: 11mm crimp-top
- Bottom style: flat bottom

## Ordering Information

11mm Crimp-Top Vials

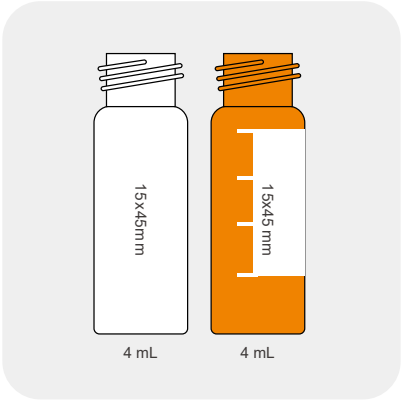
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V5-T | 11mm crimp-top vials | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V5-TL | 11mm crimp-top vials with write-on spot | 2 mL | 11.6x32 mm | Clear | 100 Pcs/Box |
| V5-A | 11mm crimp-top vial | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |
| V5-AL | 11mm crimp-top vials with write-on spot | 2 mL | 11.6x32 mm | Amber | 100 Pcs/Box |

## Aluminum caps with septa for crimp-top vials

| Cat. # | Description | Qty. |
|---|---|---|
| C5-1 | Crimp-top aluminum caps, 5.5mm hole | 100 Pcs/Box |
| SC5-1 | Crimp-top aluminum caps with white PTFE/red silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC5-2 | Crimp-top aluminum caps with red PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC5-3 | Crimp-top aluminum caps with red PTFE/white silicone/red PTFE septa, 5.5mm hole | 100 Pcs/Box |
| SC5-4 | Crimp-top aluminum caps with pre-slit white PTFE/red silicone septa, 5.5mm hole | 100 Pcs/Box |
| SC5-5 | Crimp-top aluminum caps with pre-slit red PTFE/white silicone septa, 5.5mm hole | 100 Pcs/Box |

# 13-425 Screw-Thread Vials

13-425 Screw-Thread Vials have excellent sealing properties to store sample, then transfer directly.




## Specifications:

- Material: USP Type 1 borosilicate glass
- Total volume: 4.0 mL
- Dimensions: 15*45 mm
- Openings: 13-425 screw top
- Bottom style: flat bottom

## Ordering Information

13-425 Screw-Thread Vials

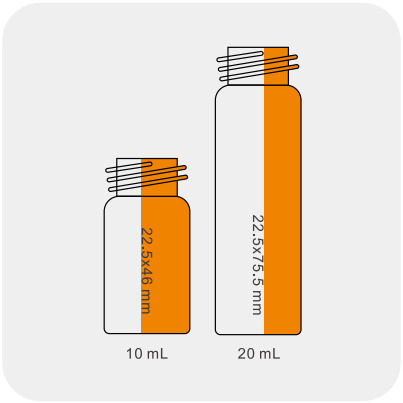
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V6-T | Screw-thread vials | 4 mL | 15x45 mm | Clear | 100 Pcs/Box |
| V6-TL | Screw-thread vials with write-on spot | 4 mL | 15x45 mm | Clear | 100 Pcs/Box |
| V6-A | Screw-thread vials | 4 mL | 15x45 mm | Amber | 100 Pcs/Box |
| V6-AL | Screw-thread vials with write-on spot | 4 mL | 15x45 mm | Amber | 100 Pcs/Box |

## Caps with septa for 13-425 screw-thread vials

| Cat. # | Description | Qty. |
|---|---|---|
| C6-1 | Black propylene screw caps, 8.5mm hole | 100 Pcs/Box |
| C6-2 | Black propylene screw caps, closed top | 100 Pcs/Box |
| SC5-1 | Black propylene screw caps with white PTFE/red silicone septa, 8.5mm hole | 100 Pcs/Box |
| SC5-2 | Black propylene screw caps with red PTFE/white silicone septa, 8.5mm hole | 100 Pcs/Box |
| SC5-3 | Black propylene screw caps with red PTFE/white silicone/red PTFE septa, 8.5mm hole | 100 Pcs/Box |
| SC5-4 | Black propylene screw caps with natural PTFE/ natural silicone septa, 8.5mm hole | 100 Pcs/Box |
| SC5-5 | Black propylene screw caps with natural PTFE/ natural silicone septa, closed top | 100 Pcs/Box |

# Screw-Thread Headspace Vials

18mm Precision Screw-Thread Headspace Vials have excellent sealing properties to store sample, then transfer directly.




## Specifications:

- Material: USP Type 1 borosilicate glass
- Openings: 18mm precision screw-thread
- Bottom style: round bottom

## Ordering Information

18mm Precision Screw-Thread Headspace Vials

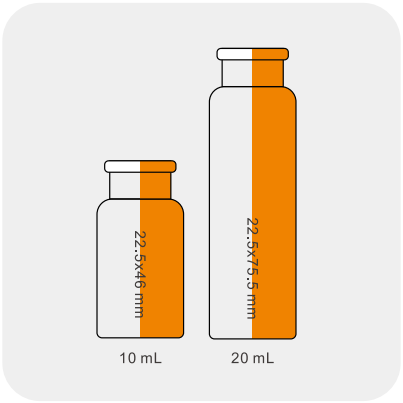
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V7-10T | Precision screw-thread headspace vials | 10 mL | 22.5x46 mm | Clear | 100 Pcs/Box |
| V7-10A | Precision screw-thread headspace vials | 10 mL | 22.5x46 mm | Amber | 100 Pcs/Box |
| V7-20T | Precision screw-thread headspace vials | 20 mL | 22.5x75.5 mm | Clear | 100 Pcs/Box |
| V7-20A | Precision screw-thread headspace vials | 20 mL | 22.5x75.5 mm | Amber | 100 Pcs/Box |

## Aluminum caps with septa for 18mm precision screw-thread headspace vials

| Cat. # | Description | Qty. |
|---|---|---|
| C7-1 | aluminum caps, 8mm hole | 100 Pcs/Box |
| SC7-1 | aluminum caps with blue PTFE/white silicone septa, 8mm hole | 100 Pcs/Box |

# Crimp-Top Headspace Vials

Crimp-top headspace vials, with aluminum caps, have excellent sealing properties which are suitable for using in headspace autosamplers.




## Specifications:

- Material: USP Type 1 borosilicate glass
- Openings: crimp-top
- Bottom style: flat bottom

## Ordering Information

### Crimp-Top Headspace Vials

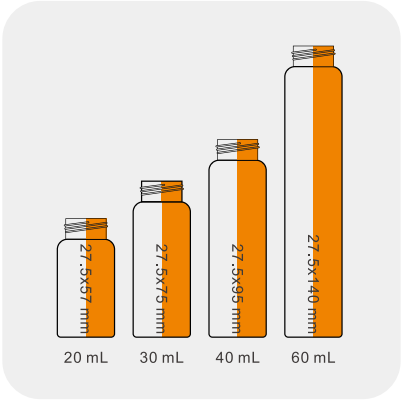
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V8-10T | 11mm Crimp-top vial | 10 mL | 22.5x46 mm | Clear | 100 Pcs/Box |
| V8-10A | 11mm Crimp-top vial | 10 mL | 22.5x46 mm | Amber | 100 Pcs/Box |
| V8-20T | 11mm Crimp-top vials with write-on spot | 20 mL | 22.5x75.5 mm | Clear | 100 Pcs/Box |
| V8-20A | 11mm Crimp-top vials with write-on spot | 20 mL | 22.5x75.5 mm | Amber | 100 Pcs/Box |

## Aluminum caps with septa for crimp-top headspace vials

| Cat. # | Description | Qty. |
|---|---|---|
| C8-1 | Crimp-top aluminum caps, 10mm hole | 100 Pcs/Box |
| SC8-1 | Crimp-top aluminum caps with white PTFE/white silicone septa, 10mm hole | 100 Pcs/Box |
| SC8-2 | Crimp-top aluminum caps with natural PTFE/natural silicone septa, 10mm hole | 100 Pcs/Box |
| SC8-3 | Crimp-top aluminum caps with white PTFE/blue silicone septa, 10mm hole | 100 Pcs/Box |
| SC8-4 | Crimp-top aluminum caps with natural PTFE/yellow silicone septa, 10mm hole | 100 Pcs/Box |
| SC8-5 | Crimp-top aluminum caps with natural PTFE/blue silicone septa, 10mm hole | 100 Pcs/Box |

# Storage Vials

These large volume vials are ideal for sample storage and general laboratory use.




## Specifications:

- Material: USP Type 1 borosilicate glass
- Openings: screw-thread
- Bottom style: flat bottom

## Ordering Information

Storage Vials

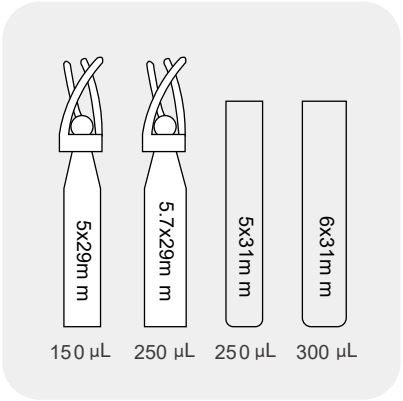
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| V9-10A | Storage vials | 10 mL | 18.4x66 mm | Amber | 100 Pcs/Box |
| V9-20A | Storage vials | 20 mL | 27.5x57 mm | Amber | 100 Pcs/Box |
| V9-30A | Storage vials | 30 mL | 27.5x75 mm | Amber | 100 Pcs/Box |
| V9-40A | Storage vials | 40 mL | 27.5x95 mm | Amber | 100 Pcs/Box |
| V9-60A | Storage vials | 60 mL | 27.5x140 mm | Amber | 100 Pcs/Box |
| V9-10T | Storage vials | 10 mL | 18.4x66 mm | Clear | 100 Pcs/Box |
| V9-20T | Storage vials | 20 mL | 27.5x57 mm | Clear | 100 Pcs/Box |
| V9-30T | Storage vials | 30 mL | 27.5x75 mm | Clear | 100 Pcs/Box |
| V9-40T | Storage vials | 40 mL | 27.5x95 mm | Clear | 100 Pcs/Box |
| V9-60T | Storage vials | 60 mL | 27.5x140 mm | Clear | 100 Pcs/Box |

## Caps with septa for storage vials

| Cat. # | Description | Qty. |
|---|---|---|
| SC9-1 | White screw-thread caps with natural PTFE/natural silicone septa, 15mm hole | 100 Pcs/Box |
| SC9-2 | White screw-thread caps with natural PTFE/natural silicone septa, closed top | 100 Pcs/Box |
| SC9-3 | Black screw-thread caps with natural PTFE/natural silicone septa, 15mm hole | 100 Pcs/Box |
| SC9-4 | Black screw-thread caps with natural PTFE/natural silicone septa, closed top | 100 Pcs/Box |

# Inserts

These micro-inserts can be used within 8-425 & 9-425 screw-thread vials and enable you to deal with micro-volume samples.



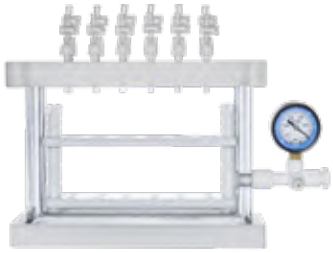

## Ordering Information

### Micro-Inserts

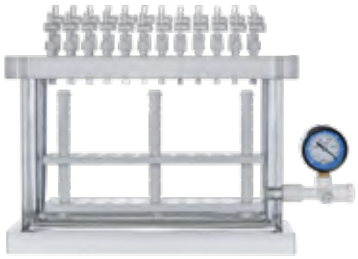
| Cat. # | Description | Capacity | O.D.xL | Color | Qty. |
|---|---|---|---|---|---|
| SI-1 | Glass inserts with mandrel interior and polypropylene feet, for 8-425 screw-thread vials | 150 µL | 5x29 mm | Clear | 100 Pcs/Box |
| SI-2 | Glass inserts with mandrel interior and polypropylene feet, for 9-425 screw-thread vials | 250 µL | 5.7x29 mm | Clear | 100 Pcs/Box |
| SI-3 | Flat-bottom glass inserts, for 8-425 screw-thread vials | 250 µL | 5x31 mm | Clear | 100 Pcs/Box |
| SI-4 | Flat-bottom glass inserts, for 9-425 screw-thread vials | 350 µL | 6x31 mm | Clear | 100 Pcs/Box |

# SPEMF Solid Phase Extraction Vacuum Manifold

Solid Phase Extraction Vacuum Manifold processes multiple samples at the same time to realize activating, loading, rinsing, eluting and other processes in SPE sample preparation by controlling the pressure.



12-Port SPE Vacuum Manifold



24-Port SPE Vacuum Manifold

### Features

- **Accuracy:** individual valves control the flow rate independently and accurately
- **Convenience:** the pressure gauge is installed on the upper side of sealing cover, which is easy to read
- **Compatibility:** the height of the test tube rack is adjustable to meet the needs of different capacities
- **Reliability:** the vacuum chamber is formed by a quartz glass mold with uniform wall thickness and other parts are made of PTFE material, thus the manifold is resistant to strong acid and alkali
- **Anti-pollution:** anti-cross-contamination and anti-atomization vacuum chamber design
- **Efficiency:** compatible with a large capacity collector to concentrate mass samples rapidly
- **Stability:** special designed flow channel enable the pressure more uniform and the flow rate more stable

### Parameters

| Model | SPEMF12G | SPEMF24G-S |
|---|---|---|
| Ports | 12 | 24 |
| Lid | Polyoxymethylene | Polyoxymethylene |
| Glass Vacuum Chamber | Quartz | Quartz |
| Pressure Resistance | -80 Kpa | -80 Kpa |
| Stable Pressure | 0~80 Kpa | 0~80 Kpa |
| Test Tubes | ≤ 105 mm, Φ10/Φ13/Φ15 | ≤ 105 mm, Φ10/Φ13/Φ15 |

### Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| SPEMF12G-E | 12-Port SPE Vacuum Manifold, square shape, individual flow valve, transparent glass | 1 Set/Carton |
| SPEMF24G-S-E | 24-Port SPE Vacuum Manifold, square shape, individual flow valve, transparent glass | 1 Set/Carton |

# Mini-Vortexer

biocomma® Mini-Vortexer focuses on touch-to-mix (short mix) for a variety of tubes / centrifugal tubes. The compact design is very attractive and easy to use. Mini-Vortexer becomes an essential experimental instrument because of its prominent mixing effect.

### Features

- Press to start, convenient and quick to use
- Speed up to 4000 rpm with a good vortex performance

### Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| BCM100-E | Mini-Vortexer | 1 Set/Box |

# Glass Filter Holders

biocomma® Glass Filter Holders are ideal for aqueous, acid, base and solvent applications. Standard 47mm/50mm filtration funnels mount on filtration flask by a ground glass joint.

### Features

- Made of 100% borosilicate glass, resistance to even the most aggressive solvents
- Support assembly's unique base design with integral vacuum connection prevents contamination of the vacuum line with filtrate

## Ordering Information

| Cat.NO. | Description | Package |
|---|---|---|
| SK-05 | 250ml Glass Funnel, 500ml Filter Flask | 1 Set/Box |
| SK-06 | 250ml Glass Funnel, 1000ml Filter Flask | 1 Set/Box |
| SK-07 | 250ml Glass Funnel, 2000ml Filter Flask | 1 Set/Box |
| SK-08 | 300ml Glass Funnel, 500ml Filter Flask | 1 Set/Box |
| SK-02 | 300ml Glass Funnel, 1000ml Filter Flask | 1 Set/Box |
| SK-09 | 300ml Glass Funnel, 2000ml Filter Flask | 1 Set/Box |
| SK-03 | 500ml Glass Funnel, 2000ml Filter Flask | 1 Set/Box |

# Vacuum Pump

Portable

Adjustable

biocomma® Vacuum Pumps are designed to work with vacuum manifolds. Utilizing diaphragm vacuum technology without oil to eliminate contamination of media that occurs in rotary vane pumps.

## Parameters

| Oil-Free Vacuum Pump | Portable | Adjustable |
|---|---|---|
| Model | SPEMFP01-E | SPEMFP02-E |
| Ultimate Pressure | 0.08 MPa | 0.02~0.08 |
| Max. Flow | 10 L/min | 5~30 L/min |
| Power | 55 W | 90 W |
| Power Supply | A.C. 220 V, 50/60 Hz | A.C. 220 V, 50/60 Hz |
| Weight | 3 Kg | 3.8 Kg |

## Ordering Information

| Cat. # | Description | Qty. |
|---|---|---|
| SPEMFP01-E | Portable Oil-Free Vacuum Pump, ultimate pressure 0.08 MPa | 1 Set/Carton |
| SPEMFP02-E | Adjustable Oil-Free Vacuum Pump, adjustable pressure: 0.02~0.08, waste collection bottle included | 1 Set/Carton |

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