

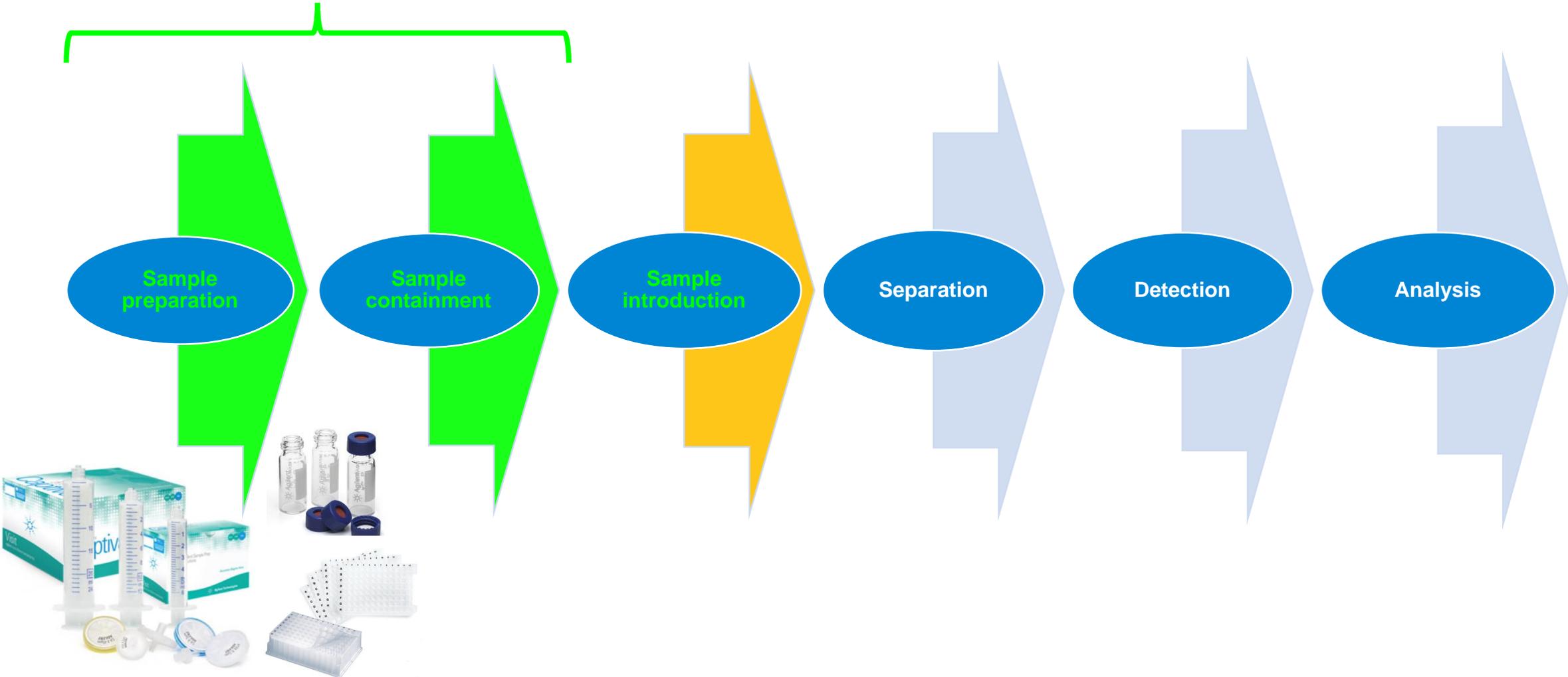
It's Not All About the Column; Sample Preparation and Containment

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Applications Engineer
LC Columns and Consumables Technical Support
July 28, 2021



A Sample's "Secure" Journey Starts Here

Where do sample preparation and sample containment fall within the workflow?



Sample preparation

- Filtration
 - Filtration for particulate removal
 - Filtration for lipid, protein, and particulate removal

Sample containment

- Vials and caps/septa
- Well plates and sealing mats

Filtration

Captiva premium syringe filters

- Certified to be free of UV-detectable extractables on HPLC. PES and glass fiber are also certified for LC/MS.
- Color-coded boxes for easy identification
- Comprehensive portfolio to meet all customers needs

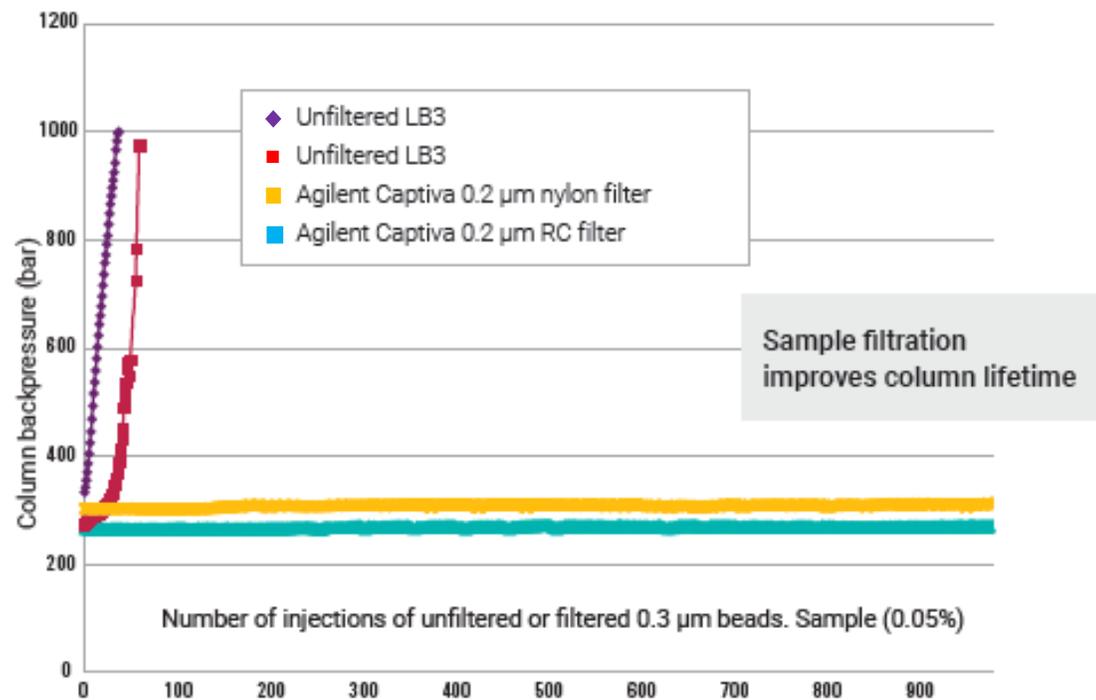
Premium Syringe Filters						
Membrane	Diameter/Pore Size					
	4 mm		15 mm		25 mm (28 mm)	
	0.2 μ m	0.45 μ m	0.2 μ m	0.45 μ m	0.2 μ m	0.45 μ m
PTFE	◆	◆	◆	◆	◆	◆
Nylon			◆	◆	◆	◆
PES	◆	◆	◆	◆	◆	◆
Regenerated cellulose	◆	◆	◆	◆	◆	◆
Cellulose acetate					◆	◆
Glass microfiber			◆		◆	
Depth filters: glass/PTFE			◆	◆	◆	◆
Depth filters: glass/nylon			◆	◆	◆	◆



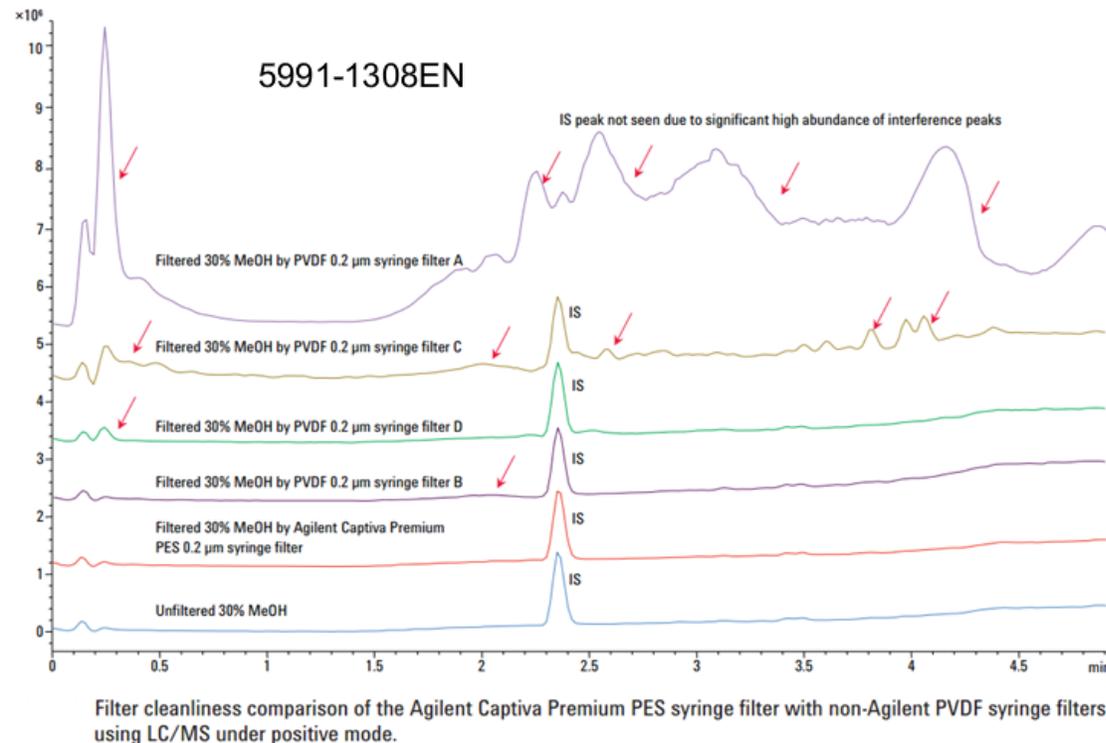
Filtration

Captiva premium syringe filters

Column lifetime test



Impact of filtering a 0.3 μm latex-bead suspension on lifetime of a sub-2 μm column.



Captiva syringe filters guide [5991-1230EN](#)

Filtration

Captiva filter vials



Description	Part No.
0.45 μm PTFE filter vial, 100/pack	5191-5933
0.20 μm PTFE filter vial, 100/pack	5191-5934
0.45 μm Nylon filter vial, 100/pack	5191-5935
0.20 μm Nylon filter vial, 100/pack	5191-5936
0.45 μm RC filter vial, 100/pack	5191-5939
0.20 μm RC filter vial, 100/pack	5191-5940
0.45 μm PES filter vial, 100/pack	5191-5941
0.20 μm PES filter vial, 100/pack	5191-5942
Vial closure tool	5191-5943

www.agilent.com/chem/filtervials

Filter vials user guide: [5994-0814EN](#)

Filtration

Captiva filter vials

Easy as 1-2-3



1. Fill:



2. Cover:



3. Plunge:



Filter vial closure tool: 5191-5943

Filtration

Captiva filter vials

Color-coded for your convenience

Pore size identified by septum color

0.2 μm : Red PTFE/white silicone (red in/white out)

0.45 μm : White PTFE/red silicone (white in/red out)

Membrane type identified by cap color

-  PTFE
-  Regenerated cellulose
-  Nylon
-  PES



Captiva filter vials user guide: [5994-0814EN](#)

Filtration

Captiva filter plates and cartridges

3 mL Captiva filtration cartridges

- 0.2, 0.45, and 10 μm porosity
- PP, PVDF and PP, and GF

1 mL Captiva 96-well filter plates

- 0.2, 0.45, 10, and 20 μm porosity
- PP, PVDF and PP, GF, and dual layer 20 μm PP/0.45 μm CA (designed for cell culture samples)
- Starter kit and replacement kit



Filtration

Captiva EMR-Lipid

- Sample cleanup for removing particulates, proteins, and lipids in one shot
- It reduces ion suppression, increases analyte sensitivity, improves peak shape, and extends the lifetime of your analytical column.
- Simple pass-through format, 96-well plate, 1 mL, 3 mL, and 6 mL cartridges
- Solvent-retention frit in 1 mL cartridge/96-well plate for in-well protein precipitation
- Unique chemistry and filtration ensures protein and lipid removal
- Depth filtration design allows for smooth elution
- Received the Analytical Scientist Innovation Award (TASIA) in 2017

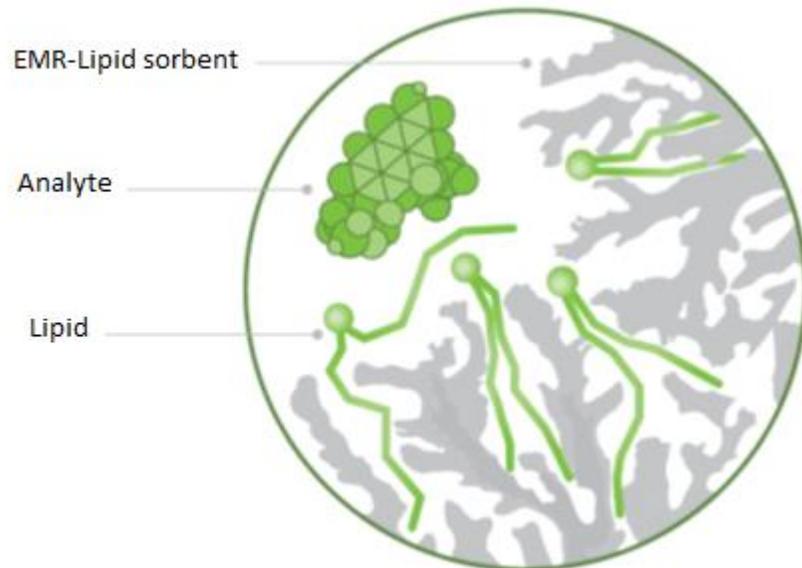


Filtration – Targeted Filtration

Captiva EMR–Lipid

EMR–Lipid sorbent technology effectively traps lipids through two mechanisms:

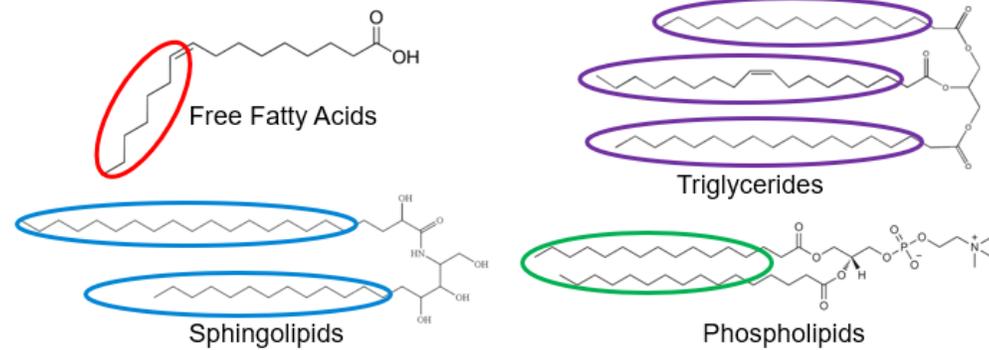
- **Size exclusion** – Unbranched hydrocarbon chains (lipids) enter the sorbent; bulky analytes do not
- **Sorbent chemistry** – Lipid chains that enter the sorbent are trapped by hydrophobic interactions



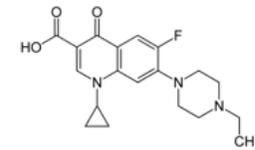
Captiva EMR–Lipid

Selective removal of lipids

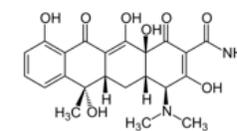
Removes lipids



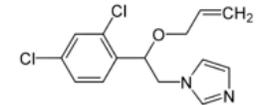
Does not remove target analytes



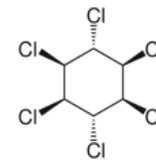
Fluoroquinolones



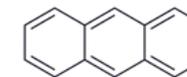
Tetracyclines



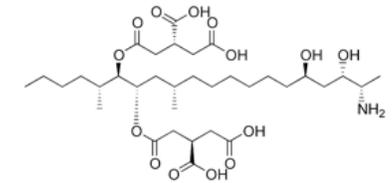
Imidazole pesticides



Organochlorine Pesticides



PAHs



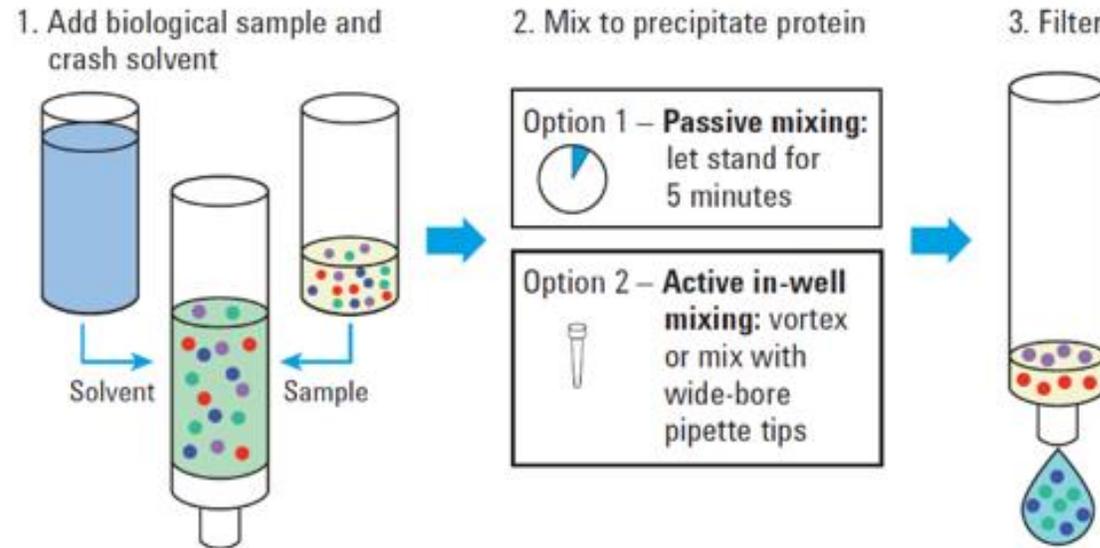
Fumonisin B2

Captiva EMR–Lipid

General protocol for biological samples using 1 mL cartridge and 96-well plate

Operating instructions

Sample and crash solvent should contain 20% water.



It is highly recommended to add sample first and then crash solvent, to achieve better sample homogeneity during sample and solvent addition.

● Salts ● Proteins ● Lipids ● Analyte

Vacuum, positive pressure, or centrifuge can be used.

One drop every 3-5 seconds.

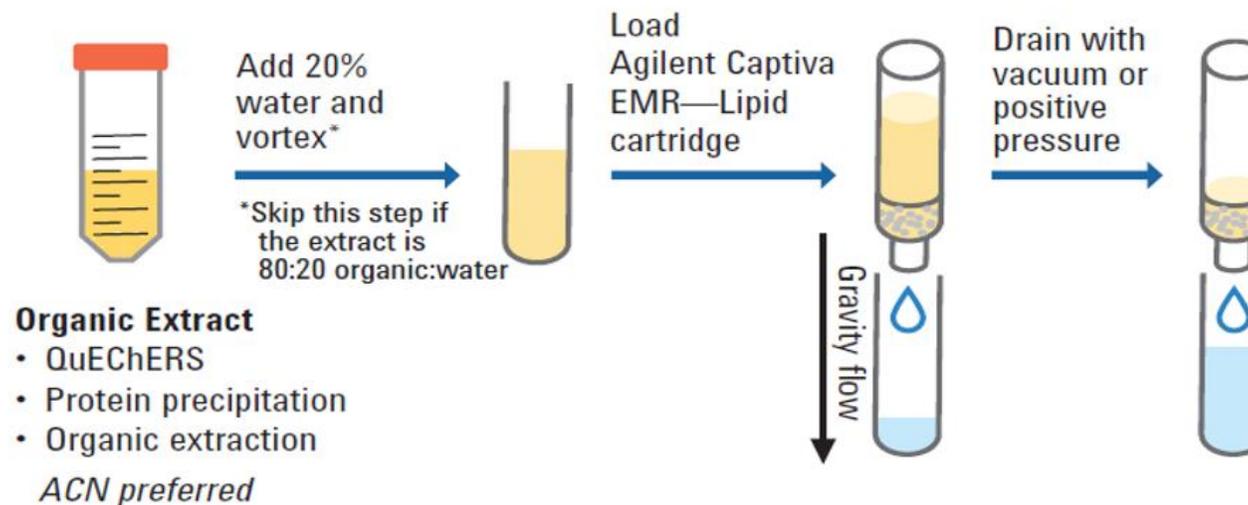
Extra elution step with 80:20 acetonitrile: water can improve recovery.

[Captiva EMR–Lipid method guide for 96 well-plate and 1 mL cartridge](#)

Captiva EMR–Lipid

General protocol for food and food products using 3 mL and 6 mL cartridges

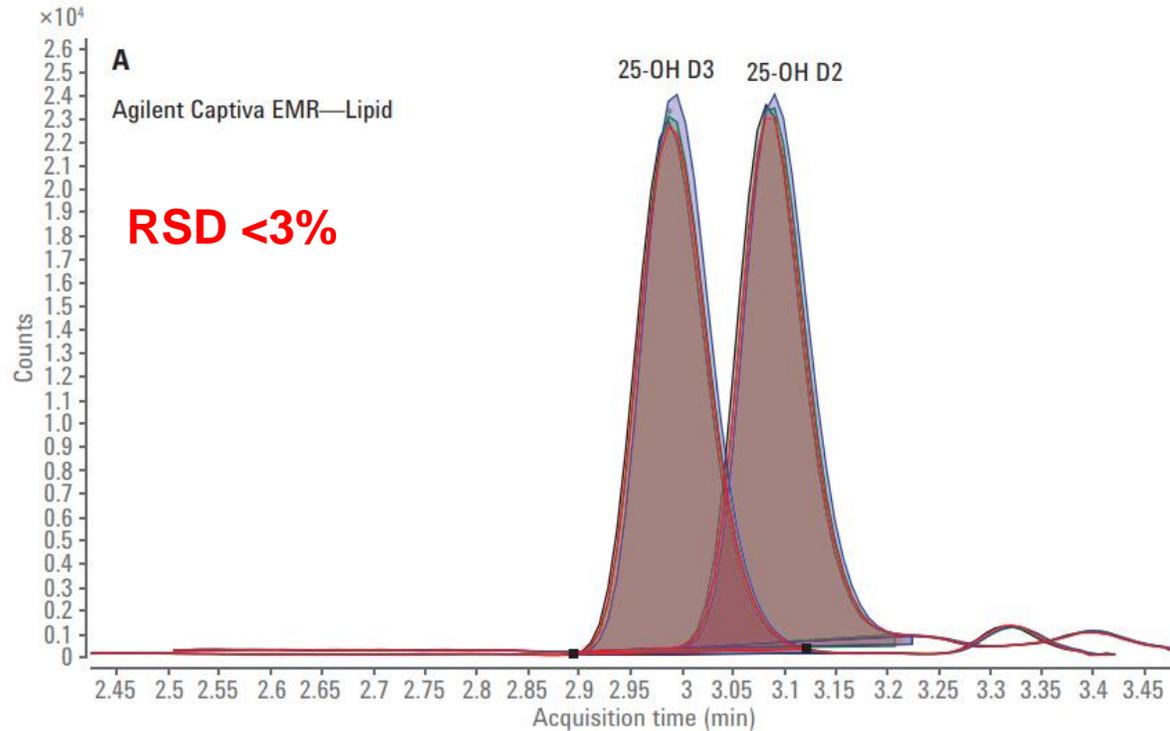
Operating instructions



[Captiva EMR–Lipid method guide for 3 mL and 6 mL cartridges](#)

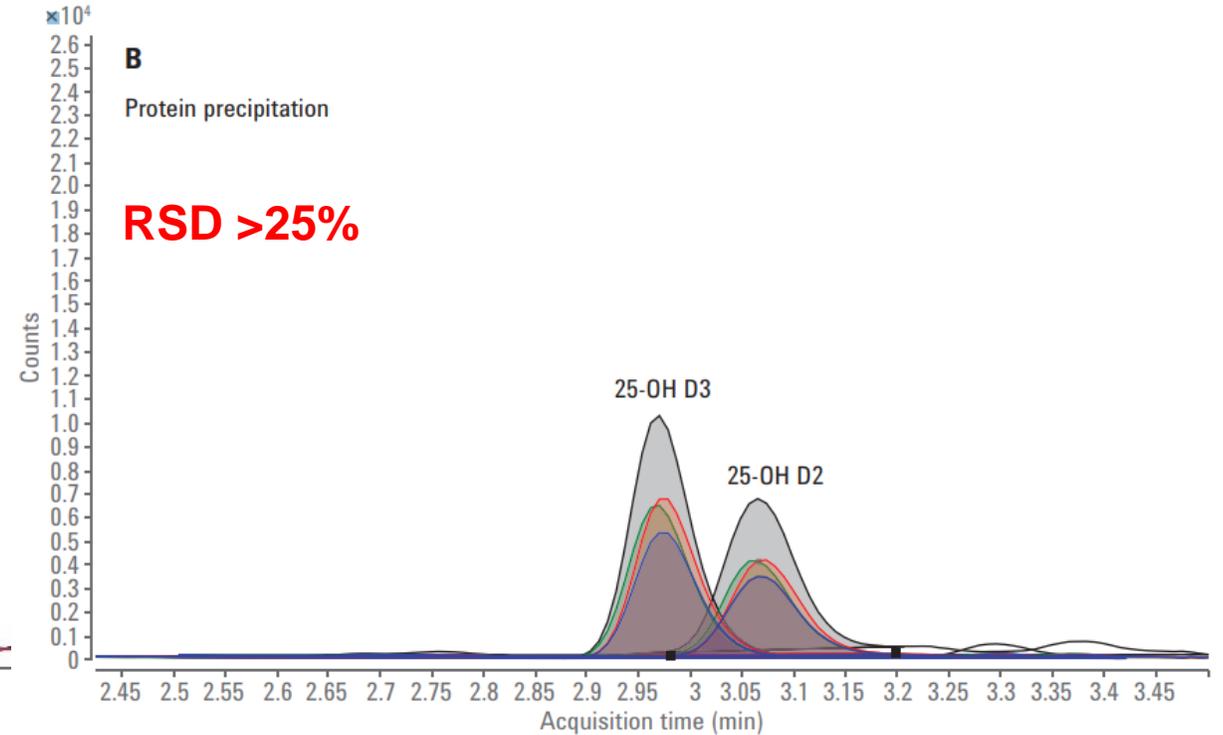
Importance of the Correct Sample Preparation/Cleanup

Captiva EMR–Lipid



Sample with the correct sample preparation

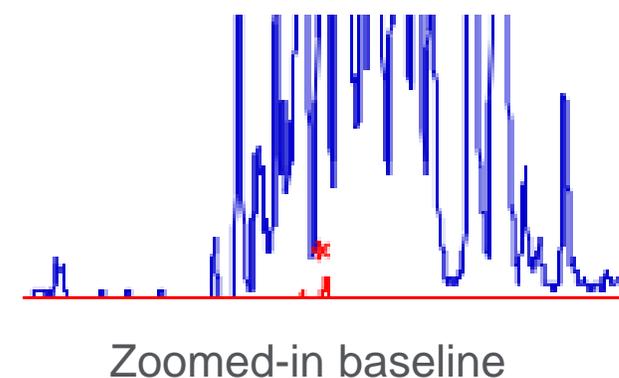
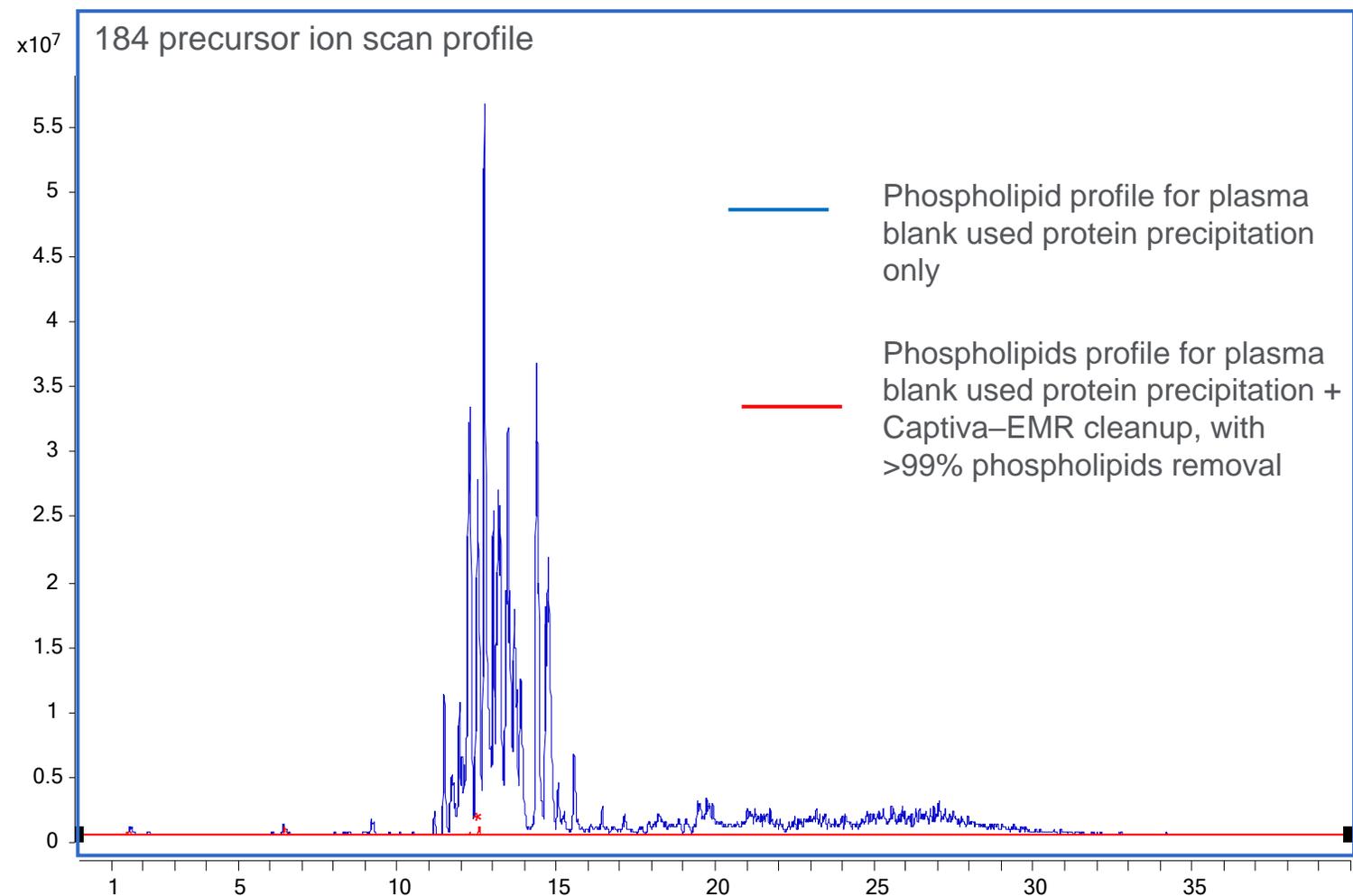
Protein precipitation



Sample without the correct sample preparation

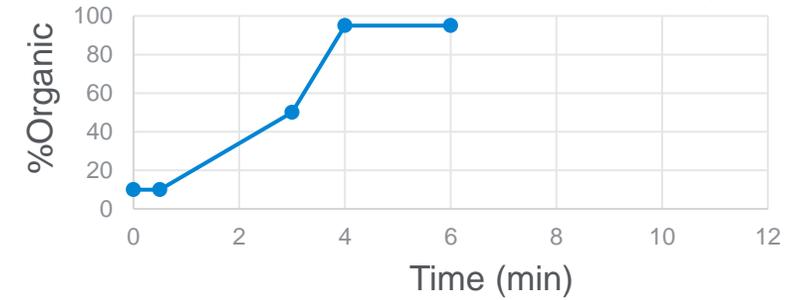
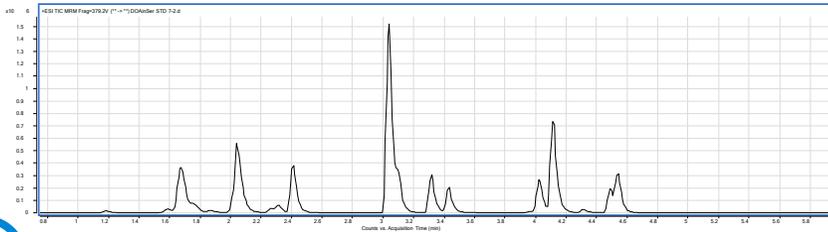
Captiva EMR–Lipid Cleanup

Efficient phospholipid removal from biological fluid matrices



Removal of Lipids Allows for Shorter LC Gradient Time

Target analytes TIC chromatogram

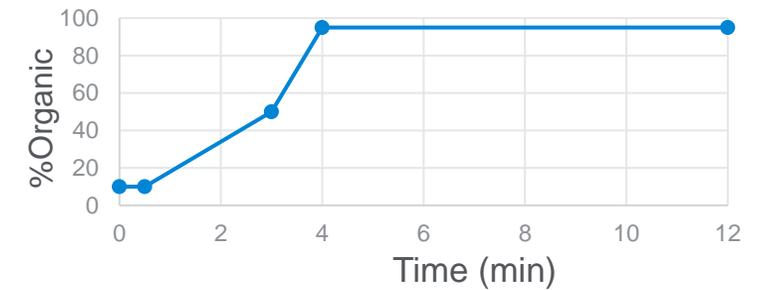
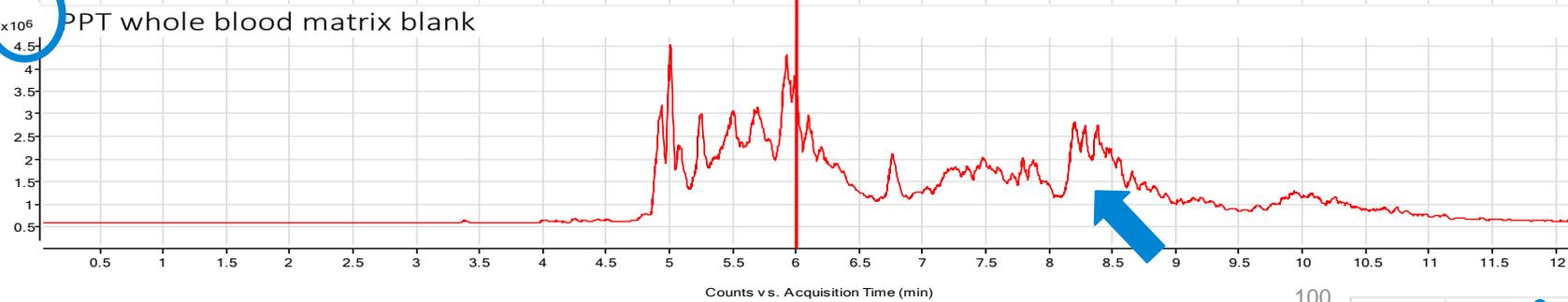


10^5 $\times 10^5$ PPT + EMR-Lipid cleanup whole blood matrix blank



Lipid trace

10^6 $\times 10^6$ PPT whole blood matrix blank



Manifolds for Processing Cartridges and 96-Well Plates

Captiva vacuum collar



Vac Elut 20 vacuum manifold



Vac Elut 12 vacuum manifold



SPS 24 vacuum manifold



96 well plate vacuum manifold



Positive Pressure Manifolds



Sample Containment

Important considerations

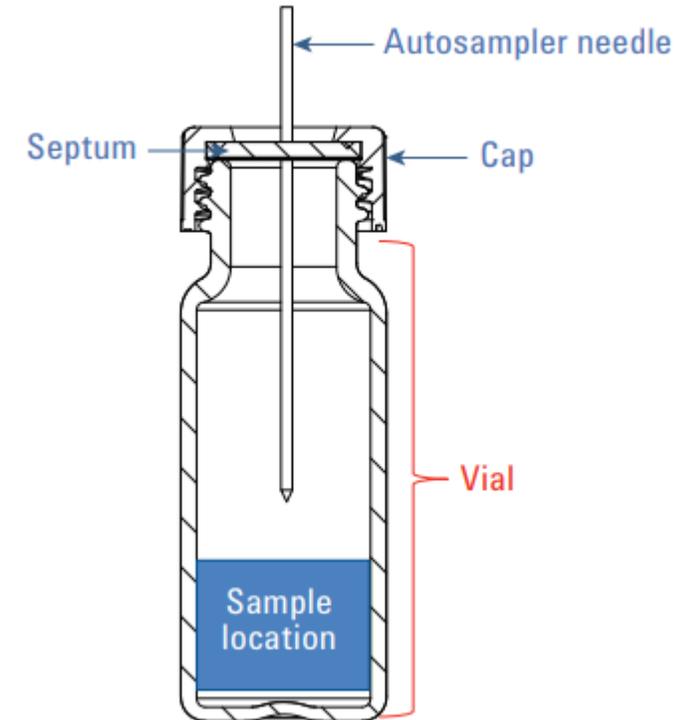
- Some analytes can be adsorbed on the inner wall of the vial or well plate resulting in low recovery
- Material used for vials and plates can potentially introduce contaminants to the sample
- If the vial or well plate is not dimensionally compatible with the autosampler, problems can arise
- The quality of septa material and plate sealing mat matters. Some septa and sealing mats can contaminate the sample.
- If the cap and septa or the sealing mat are not properly sealing against the vial or plate, sample evaporation can happen, resulting in erroneous higher concentrations
- The needle can stick to the septum or sealing mat and lift the vial or plate
- The needle can push the septum out of the cap and into the vial
- Coring of the septa or plate sealing mat material by the autosampler needle can cause sample contamination, as well as clogging of the needle and needle seat

Sample Containment

Vials and closures

Factors affecting the performance of vials and closures

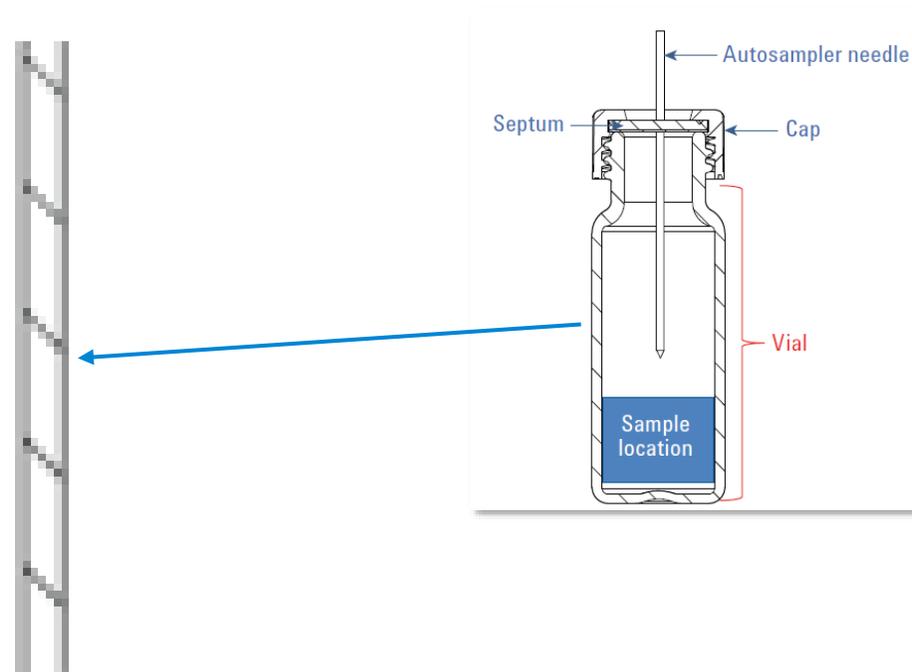
- Body of the vial, its metal content, inertness, and cleanliness
 - Borosilicate glass type 1
 - Polypropylene
- Septum material, inertness, and solvent compatibility
- Dimensional fit of the septum and cap
- Dimensional fit of the cap and vial
- Dimensional fit of the vial with the autosampler



Sample Containment

Vials: Deactivation

- For pesticides, semivolatiles, and other highly sensitive samples, deactivated vials are best. We also recommend deactivated vials for exacting applications, such as mass spectrometry.
- Deactivation is proprietary, it involves removing active sites on surface of vial glass and making it more inert.



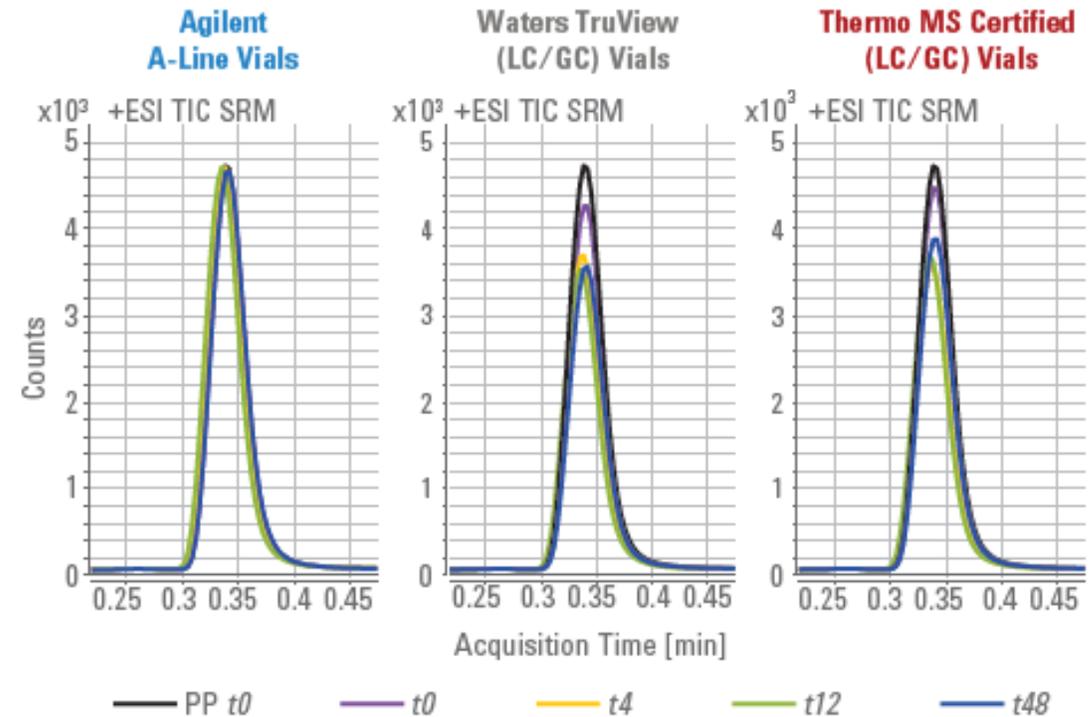
Please note, inertness is not just defined by the container, it also depends on the sample matrix and the analyte being measured.

Sample Containment

Agilent A-line certified vials



- Inert surface reduces peak response variability for more accurate results and less rework.
- Precise and consistent measurement of low-level analytes from vial-to-vial, lot-to-lot, and over time.
- Certified to fit Agilent autosamplers, tested with Agilent needles and syringes, inspected with automated vision systems, and compatible with autosampler gripping and injection mechanisms.
- Significantly reduce unplanned costs (such as troubleshooting, reruns, and downtime).
- Agilent vials perform seamlessly with various analytical instruments. A later slide shows which Agilent vials are compatible with your instrument manufacturer and model.



Agilent A-Line certified vial shows superior analyte recovery in this separation of doxepin.
Note: Tests were carried out by Agilent.

Sample Containment Vials



Sample Containment

Micro vials, high recovery vials, and inserts



Sample Containment

Vial closures: caps and septa



Sample Containment

Vials and closures

How to decide which vial and closure to use?

- Compatibility with the autosampler
- Screw top versus crimp top, determined by how volatile the sample is
- Vial volume, determined by available sample volume
- Vial material, determined by the sample solvent and analytes
- Clear vial versus amber vial, determined by light sensitivity of the sample
- Septa material, determined by the sample solvent, type of injection (single or multiple), temperature, and the needle

Sample Containment

Compatibility of Agilent vials with other manufacturers' instruments

Use Agilent online selection tool at www.agilent.com/chem/selectvials

Agilent Vial Compatibility

Manufacturer	Autosampler	8 mm Screw Top	9 mm Screw Top	15 x 45 mm, 4 mL	11 mm Crimp Top	Headspace
Waters	717 Plus				♦	
	Acquity	♦	♦		♦	
	Alliance 2690	♦	♦			
	CapLC	♦	♦		♦	
	WISP			♦		
Shimadzu	AOC14/1400	♦	♦		♦	
	AOC-20		♦	♦	♦	
	AOC 88/9	♦	♦		♦	
	AOC-5000	♦	♦		♦	Magnetic
	HSS-2B/4B					♦
	LC 2010	♦	♦		♦	
	SIL-6A/6B/9A	With flange				
	SIL-10A, SIL-10Ai, SIL-10Axl	♦	♦			
	SIL-HT/10ADVP	♦	♦		♦	
Thermo Scientific/Dionex	A-200S/AS 150/800/8000	♦	♦		♦	
	AS 3000/TRACE GC		♦		♦	
	ASI-100	♦	♦		♦	
	SURVEYOR LC	♦	♦		♦	
	TriPlus		♦		♦	
	WPS-3000RS	♦	♦		♦	
	WPS-3000SL	♦	♦		♦	
Bruker, Varian*	8034/8035/8100/8200	♦	♦		♦	
	9095/9100	♦	♦		♦	
	CP-8410		♦	♦	♦	
	Genesis					♦
PerkinElmer	Autosystem GC/XL/AS-2000	♦	♦	♦	♦	
	Clarus 500/600		♦		♦	
	HS16/40					♦
	Integral 4000	♦	♦		♦	
	ISS-100/200	♦	♦		♦	
	LC 600 42 vial tray		♦			
	LC Plus	♦	♦	♦		
TurboMatrix 40/110					♦	
CTC Analytics	CombiPal		♦	♦	♦	Magnetic

*Formerly Varian systems, now Bruker products

What separation technique are you using?



Sample Containment

Vial closures: caps and septa

Septa chemical compatibility

Septa Chemical Compatibility

	PTFE	PTFE/Silicone	PTFE/Silicone/PTFE*	PTFE/Red Rubber	Fluoroelastomer	PTFE/Butyl
Acetonitrile	◆	◆	◆	◆		◆
Hydrocarbons (hexane, heptane, methane)	◆		◆	◆	◆	
Methanol	◆	◆	◆	◆		◆
Benzene	◆		◆		◆	
THF	◆		◆			
Toluene	◆		◆			
DMF	◆	◆	◆			◆
DMSO	◆	◆	◆			◆
Ether	◆	◆	◆			
Chlorinated Solvents (methylene chloride)	◆		◆		◆	
Alcohols (ethanol)	◆	◆	◆	◆	◆	◆
Acetic Acid	◆	◆	◆			◆
Acetone	◆	◆	◆			
Phenol	◆	◆	◆		◆	◆
Cyclohexane	◆		◆	◆	◆	

*PTFE/silicone/ PTFE has the same chemical compatibility of PTFE ONLY UNTIL PUNCTURED.

Sample Containment

Vial closures: caps and septa

Temperature and application compatibility of septa

	High Performance Septa	Thin PTFE	PTFE/Silicone*	PTFE/Silicone/PTFE*	PTFE/Red Rubber	Fluoroelastomer	Butyl
Temperature range	40 to 300 °C**	Up to 260 °C	-40 °C to 200 °C	-40 °C to 200 °C	-40 °C to 90 °C	-40 °C to 260 °C	-50 °C to 150 °C
Use for multiple injections	No	No	Yes	Yes	No	No	No
Price	Most expensive	Very economical	Economical	Most expensive	Very economical	Economical	Economical
Resistance to coring	Excellent	None	Excellent	Excellent	None	None	None
Recommended for storage	No	No	Yes	Yes	No	No	No
Best for	High temperature headspace applications	Superior chemical inertness, short cycle times, and single injections	Most common HPLC and GC analyses, not as resistant to coring as P/S/P	Superior performance for ultra analysis, repeat injections, internal standards	Chlorosilanes more economical option for single injections	Chlorinated solvents, higher temperatures	Organic solvents, acetic acids; impermeable to gasses

*Agilent silicone is peroxide cured, making it more inert and less likely to interact with samples

** For up to one hour



Sample Containment

PFC-free vials and caps

- New Agilent PFC-free polypropylene vial and cap assure uncontaminated PFAS analyses
- Vial, screw style, 2 mL, polypropylene, certified for use in PFAS-related applications, part number [5191-8150](#), 100/pk
- Made of premium grade semitransparent polypropylene materials with an approximate fill volume of 1.5-1.7 mL
- Cap, 'uniquely' designed 9 mm screw style clear polypropylene cap with a bi-layer of thin membrane polypropylene/silicone septa, part number [5191-8151](#), 100/pk
- Agilent exclusive resealing capability protects sample integrity, enables multiple injections, and minimizes reruns
- 'PFC-free' - Meets EPA 537.1, EPA 533, EPA 8327 and ISO 21675 requirements for PFC-trouble free usage when testing for PFAS-related compounds
- The Agilent PFC-free vial and PFC-free cap complements our extensive PFAS workflow solutions and associated supplies

See application note [5994-2291EN](#)



Vial Selection Tool

Need help finding the right vials? Try our Vial Selection Tool [GET STARTED](#)

 <p>A-Line Certified Screw Vials, A-line Certified Crimp Vials, A-line...</p>	 <p>2 mL Crimp Top Vials & Crimp Caps</p>	 <p>2 mL Crimp/Snap Top Vials & Crimp/Snap Caps</p>	 <p>2 mL Screw Top Vials & Screw Caps</p>
 <p>Headspace Glass Vials & Headspace Caps</p>	 <p>High Recovery Vials & Inserts</p>	 <p>Polypropylene Vials</p>	 <p>Storage Vials & Storage Caps</p>

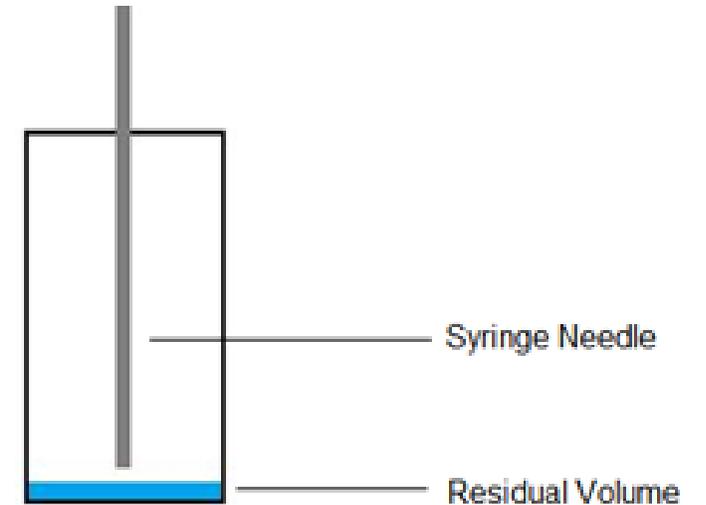
[Vial Selector | Agilent](https://www.agilent.com/search/gn/vial-selector): <https://www.agilent.com/search/gn/vial-selector>

Sample Containment

Minimum residual volume

Variables to consider

- Sample matrix
- Analyte being measured
- Internal geometry of the vial
- Autosampler needle and needle point style
- Sample draw
- Number of times septa has been punctured



Minimum residual volume is a nominal value. Unless the above variables are provided it can not be substantiated.

Sample Containment

Agilent vials poster

Agilent Vials and Sample Containment Solutions

CONSISTENT QUALITY, MAXIMUM PRODUCTIVITY

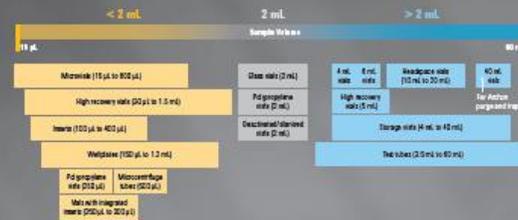
Why gamble with your results? Agilent vials are the *only* vials that deliver time-saving, and cost-saving, advantages like these:

- 30+** Inspection points. So you get the tightest dimensional specifications, every time.
- 10+** Instrument brands with which Agilent Vials/Caps are compatibility tested.
- 127 (and growing)** Countries we deliver to across the world, from Albania to Vietnam.
- 100s of millions** Agilent Vials shipped worldwide every year.
- 50%** Faster crimp speed. Our electric crimper lets you crimp your vial, not your style.
- 33/51** Best in class. All vials are made of type 33-51 coefficient of expansion for top performance.
- 30%** Time savings using our full range of short thread screw top vials and caps.
- 120 microns** Vials are small... but are manufactured in a facility as big as an aircraft hangar!

For an in-depth look at the Agilent Vials portfolio, including product brochure, crimping video, and white papers, visit www.agilent.com/chem/vialsresources

The industry's largest selection of sample containment products

The optimal sample size can be a function of many things, including analysis type, analytical platform, and sample availability. Agilent vials offer the same consistent performance across the entire size range, from 15 µL to 60 mL. What's more, they are manufactured to perform seamlessly with a variety of analytical instruments—regardless of make or model.



Choose the right closure for your sample

Always make sure the septa you select are chemically compatible with your sample and solvent. Use this chart as a guide, but remember that chemical compatibility can vary based on solvent concentration, molecular weight, and temperature.

Septa Chemical Compatibility	PT15	PT15/15mm	PT15/15mm/PT15	PT15/15mm/PT15	PT15/15mm/PT15
Acetonitrile	✓	✓	✓	✓	✓
Alcohols (Methanol, Ethanol, Propanol)	✓	✓	✓	✓	✓
Hexanes	✓	✓	✓	✓	✓
Toluene	✓	✓	✓	✓	✓
Dioxane	✓	✓	✓	✓	✓
DMF	✓	✓	✓	✓	✓
DMSO	✓	✓	✓	✓	✓
Other	✓	✓	✓	✓	✓
Chlorinated solvents (Dichloromethane, Chloroform)	✓	✓	✓	✓	✓
Acids (Nitric, Sulfuric)	✓	✓	✓	✓	✓
Alkalies (Ammonia, Potassium Hydroxide)	✓	✓	✓	✓	✓
Organic acids	✓	✓	✓	✓	✓
Organic bases	✓	✓	✓	✓	✓
Other	✓	✓	✓	✓	✓

Use this chart to determine the right cap and septa combination, based on your application. Note: septa that are too thick can prevent the cap from fitting properly on the vial.

Cap and Septa Compatibility	High Performance Septa	Thin PT15	PT15/15mm	PT15/15mm/PT15	PT15/15mm/PT15	PT15/15mm/PT15
Part Number	9100-0880 (15 mm), 9100-0881 (20 mm)					
Temperature range	-40 °C to 120 °C					
Use for multiple injections	No	No	No	No	No	No
Septa	Thin septa	Thin septa	Thin septa	Thin septa	Thin septa	Thin septa
Resistance to coating	Low	Low	Low	Low	Low	Low
Recommendation	No	No	No	No	No	No

The right vial is only a few clicks away

Use our online selector tool to quickly find the right products for complete confidence in your sample containment.

- Arrange a few simple questions to identify your best options
- Search by technique, product number, vial type, or instrument manufacturer
- Make a perfect choice from more than 600 vials, caps, and septa

Go to www.agilent.com/chem/selectvials

Agilent CrossLab

From Insight to Outcome

Agilent CrossLab, the world leader in laboratory services, software, and consumables, delivers vial, and mobile insights to drive improved outcomes, operational, and smart life outcomes.

Visit www.agilent.com/chem/crosslab

Publication number:
5991-6960EN

Agilent A-Line Electronic Crimper and Decapper



- More vials crimped per battery charge
- Increased crimping speed compared to previous models
- Lighter weight means less hand strain and effort
- LED screen for easier viewing interface
- More efficient charging
- New motor life is significantly longer, leading to extended productivity

<https://www.agilent.com/en/products/lab-supplies/chromatography-spectroscopy/vials-closures/crimpers-decappers-accessories>

Sample Containment

Glass test tubes

Test Tubes

Description	Size	Certified	100 / pk	250 / pk
12 x 48 mm	3.5 mL		5022-6534	
16 x 48 mm	7 mL		5022-6533	
12 x 100 mm	8.5 mL			5022-6531
16 x 100 mm	20 mL			5022-6532
30 x 48 mm round bottom glass	20 mL	Y	5042-6470	
25 x 100 mm round bottom glass	40 mL		5042-6459	
30 x 100 mm round bottom glass	60 mL		5042-6458	



Sample Containment

InfinityLab well plates and closing mats



Sample Containment

InfinityLab well plates and closing mats

- Comply with worldwide ANSI and SLAS standards
- Tested with all Agilent InfinityLab autosamplers to assure best performance and zero risk during sample analysis
- Tested for optimum fit between well plates and sealing mats
- Offer different pack quantities to suit the lab size and its needs
- All plates made of resistant polypropylene and can be used with typical HPLC solvents
- All mats are made of silicone and are pierceable
- [Instructions for importing Agilent InfinityLab well plate files into Agilent OpenLab ChemStation and ChemStation](#)



Sample Containment

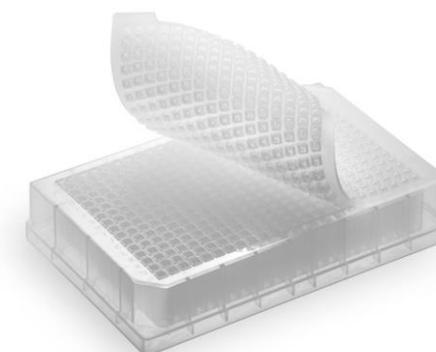
InfinityLab well plates and closing mats

Well plates made of polypropylene

No. of Wells	Well Volume (mL)	Well Shape	Bottom Shape	Height	Units Per Pack	Well Plate Part No.	Recommended Mat
96	2.0	Square	U	41 mm	30	5043-9300	5043-9319
96	1.7	Round	U	45 mm	30	5043-9302	5043-9317 / 5043-9318
96	0.9	Round	U	32 mm	50	5043-9305	5043-9317 / 5043-9318
96	1.0	Round	U	27 mm	25	5043-9308	5043-9317 / 5043-9318
96	1.0	Round	U	27 mm	50	5043-9309	5043-9317 / 5043-9318
96	0.45	Round	U	14 mm	30	5043-9310	5042-1389
96	0.45	Round	U	14 mm	120	5043-9311	5042-1389
96	0.3	Round	V	14 mm	25	5043-9312	5042-1389
96	0.3	Round	V	14 mm	50	5043-9313	5042-1389
96	0.3	Round	V	14 mm	100	5043-9314	5042-1389
384	0.17	Square	V	22 mm	25	5043-9315	5043-9320

Closing mats made of silicone, pierceable

No. of Wells	Well Shape	Units Per Pack	Part No.
96	Round	50	5043-9317
96	Round	100	5043-9318
96	Square	50	5043-9319
384	Square	50	5043-9320
96	Round	50	5042-1389



Flyer: [5994-0145EN](#)

InfinityLab Well Plates and Closing Mats

p/n	Description	# of wells	Max vol (mL)	Plate Length (mm)	Plate Width (mm)	Plate Height (mm)	Material	Units per pack	Well Shape	Bottom Shape	Recommended Mat
5043-9300	Well plate 96/2.2 mL, square wells, U shape, PP, 41 mm, 30/pk	96	2	127.76 +/-0.25	85.47 +/- 0.25	39.15 +/- 0.25	Polypropylene	30	Square	U	5043-9319
5043-9302	Well plate 96/2.0 mL, round wells, U shape, PP, 45 mm, 30/pk	96	1.7	127.76 +/-0.25	85.47 +/- 0.25	45.30 +/- 0.25	Polypropylene	30	Round	U	5043-9317/18
5043-9305	Well plate 96/1.0 mL, round wells, U shape, PP, 32 mm, 50/pk	96	0.9	127.76 +/-0.25	85.47 +/- 0.25	31.60 +/-0.25	Polypropylene	50	Round	U	5043-9317/18
5043-9308	Well plate 96/1.2 mL, round wells, U shape, PP, 27 mm, 25/pk	96	1.0	127.76 +/-0.25	85.47 +/- 0.25	27.25 +/- 0.25	Polypropylene	25	Round	U	5043-9317/18
5043-9309	Well plate 96/1.2 mL, round wells, U shape, PP, 27 mm, 50/pk	96	1.0	127.76 +/-0.25	85.47 +/- 0.25	27.25 +/- 0.25	Polypropylene	50	Round	U	5043-9317/18
5043-9310	Well plate 96/0.5 mL, round wells, U shape, PP, 14 mm, 30/pk	96	0.45	127.76 +/-0.25	85.47 +/- 0.25	14.50 +/- 0.25	Polypropylene	30	Round	U	5042-1389
5043-9311	Well plate 96/0.5 mL, round wells, U shape, PP, 14 mm, 120/pk	96	0.45	127.76 +/-0.25	85.47 +/- 0.25	14.50 +/- 0.25	Polypropylene	120	Round	U	5042-1389
5043-9312	Well plate 96/0.330 mL, round wells, V shape, PP, 14 mm, 25/pk	96	0.3	127.76 +/-0.25	85.47 +/- 0.25	14.40 +/- 0.25	Polypropylene	25	Round	V	5042-1389
5043-9313	Well plate 96/0.330 mL, round wells, V shape, PP, 14 mm, 50/pk	96	0.3	127.76 +/-0.25	85.47 +/- 0.25	14.40 +/- 0.25	Polypropylene	50	Round	V	5042-1389
5043-9314	Well plate 96/0.330 mL, round wells, V shape, PP, 14 mm, 100/pk	96	0.3	127.76 +/-0.25	85.47 +/- 0.25	14.40 +/- 0.25	Polypropylene	100	Round	V	5042-1389
5043-9315	Well plate 384/0.190 mL, square wells, V shape, PP, 22 mm, 25/pk	384	0.17	127.76 +/-0.25	85.47 +/- 0.25	22.60 +/- 0.25	Polypropylene	25	Square	V	5043-9320
5043-9317	Sealing mat 96 wells, round, pierceable, silicone 50/pk										
5043-9318	Sealing mat 96 wells, round, pierceable, silicone 100/pk										
5043-9319	Sealing mat 96 wells, square, pierceable, silicone 50/pk										
5043-9320	Sealing mat 384 wells, square, pierceable, silicone 50/pk										
5042-1389	Sealing mat 96 wells, round, pierceable, silicone 50/pk										

- Some chromatography problems are caused by inadequate sample cleanup or inappropriate sample containment
- By selecting the right type of sample preparation and sample containers ahead of time, you can increase reproducibility, the quality of your analysis results and overall throughput
- The Captiva line of filtration products provides several options for easy and quick sample cleanup
- A-line certified vials and caps provide maximum inertness and reduced analyte peak variability
- InfinityLab well plates match the sealing mats and all Agilent InfinityLab autosamplers to assure best performance and zero risk during sample analysis

Available Resources

- Brochure: “Agilent vials and sample containment solutions”: [5990-9022EN](#)
- White paper: “An Agilent vial is not just a vial”: [5991-6769EN](#)
- White paper: “An Agilent septum is not just a septum”: [5991-6770EN](#)
- “Lower costs with Agilent A-Line vials – a case study”: [5991-7845EN](#)
- Poster: “Influence of glass vial type upon trace level recovery rates of basic analytes by LC/MS/MS”: [5991-7712EN](#)
- Poster: “Agilent Vials”: [5991-6960EN](#)

Resources for Support

- LC troubleshooting poster ([5994-0709EN](#))
- Tech support www.agilent.com/chem/techsupport
- Resource page www.agilent.com/chem/agilentresources
 - Quick reference guides
 - Catalogs, column user guides
 - Online selection tools, how-to videos
 - [Application workflows](#) (such as cannabis, PFAS, and more)
- InfinityLab LC Supplies catalog ([5991-8031EN](#))
- LC handbook ([5990-7595EN](#))
- Best practices for using an Agilent LC system ([01200-90090](#))
- Your local FSE and specialists
- Agilent University www.agilent.com/crosslab/university
- YouTube – [Agilent Channel](#) (maintenance videos)
- Agilent service contracts



Contact Agilent Chemistries and Supplies Technical Support



1-800-227-9770 option 3, option 3:

Option 1 for GC and GC/MS columns and supplies

Option 2 for LC and LC/MS columns and supplies

Option 3 for sample preparation, filtration, and QuEChERS

Option 4 for spectroscopy supplies

Option 5 for chemical standards

Option 6 for former Prozyme products

Available in the U.S. and Canada 8–5 all time zones

gc-column-support@agilent.com

lc-column-support@agilent.com

spp-support@agilent.com

spectro-supplies-support@agilent.com

chem-standards-support@agilent.com

advancebio.glycan@agilent.com

Web chat: Product pages of agilent.com

Thank you