



Accuracy Starts Here



Agilent Captiva Filtration Selection Guide

The Measure of Confidence



Agilent Technologies



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Tips & Tools

Learn the core concepts surrounding Solid Phase Extraction and best practices for Sample Prep. View the video at www.agilent.com/chem/spevideo

Learn about the new generation of polymeric SPE products, Agilent Bond Elut Plexa. Request the brochure using publication number 5990-8589EN.





CAPTIVA FILTRATION

Captiva's unique dual-depth filtration media provides complete removal of precipitated proteins and outstanding resistance to sample clogging, with no loss of analytes. All Captiva components are ultra clean, and rigorously tested to ensure against non-specific binding. With Captiva, your plasma samples are processed quickly and reliably. Captiva is easily automated for enhanced productivity and excellent for sample storage.

Time-consuming sample transfer steps required with conventional precipitation are now a thing of the past. With Captiva, clean, clear filtrates are ready for injection in minutes – this user-friendly filtration device is simple and streamlined with an easy-to-follow 3-step process. And because Captiva samples are pellet-free, you can sample directly from the collection plate.

The Captiva range includes:

- Captiva ND non-drip filtration plates for organic-based protein precipitation
- Captiva ND^{Lipids} non-drip filtration plates for lipid and protein depletion
- Captiva 96-well filter plates for general sample filtration
- Captiva filter cartridges, all the usual Captiva benefits in a standard SPE cartridge format





Captiva ND Filtration Plates

Agilent now offers the Captiva ND family of non-drip filtration plates:

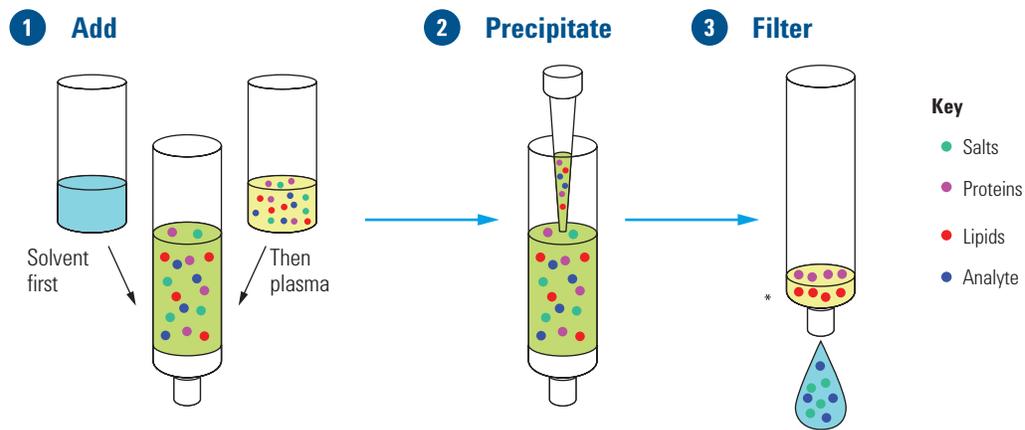
Captiva ND

A simple-to-use filtration device designed for high-throughput, automated, in-well protein precipitation. Built with a unique non-drip (ND) membrane, Captiva ND plates allow for solvent-first protein precipitation using methanol or acetonitrile. Captiva's unique dual filter design offers fast uniform flow while avoiding sample loss and filter plugging.

Captiva ND^{Lipids}

Specifically designed for LC/MS bioanalysis of plasma, Captiva ND^{Lipids} combine the ease of use and superior flow properties of Captiva ND with a unique chemical filter. The plate efficiently removes ion-suppressing phospholipids, proteins, and surfactant interferences from precipitated plasma samples.

Operating Instructions and Tips for Captiva ND and Captiva ND^{Lipids} 96-well Plates



*Note: The diagram shows lipids being extracted on the Captiva ND^{Lipids} product. Captiva ND does not remove lipids.

Captiva ND

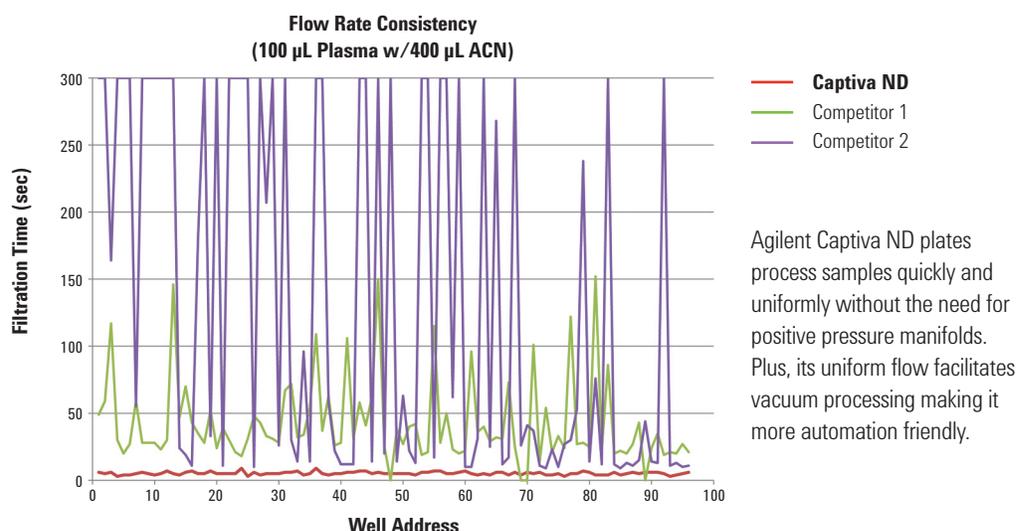
- Easy automation – non-drip design resists organic solvent flow until vacuum is applied
- Exceptional flow – dual depth filter avoids plugged membranes and lost samples
- Efficient protein removal – MS-suitable samples in as little as 1/5th the time

Captiva ND's unique non-drip design simplifies your workflow, ends the need to use messy tip or well seals, and reduces the number of liquid transfer steps needed to process samples. Best of all, Captiva ND's dual-depth filter construction delivers a fast reproducible flow, so you get uniform sample treatment and reliable filtrate recovery in a fraction of the time of other protein precipitation plates.

Captiva ND

Description	Unit	Part No.
Captiva ND plate, 0.2 μm , polypropylene Recommended for both methanol and acetonitrile	5/pk	A5969002
Captiva ND plate, 0.45 μm , polypropylene Suitable for acetonitrile only	5/pk	A5969045

Get fast, reproducible flow with Agilent Captiva ND



Captiva ND^{Lipids}

- More precise and reproducible quantitation with removal of phospholipids and proteins
- Increased productivity due to extended column lifetimes and cleaner MS ion sources
- Simple 3-step procedure

Captiva ND^{Lipids} is as simple and easy-to-use as a standard protein precipitation plate. The non-drip 96-well filtration plate is specially designed to effectively remove phospholipids from biofluids. Captiva ND^{Lipids} removes lipids, proteins, surfactants and other matrix interferences from plasma extracts. Ion suppression is significantly reduced for enhanced sensitivity and precision during trace analysis. The depletion of lipid compounds also gives you better peak shapes and reproducible retention times so that standard operating procedures are easily validated. In addition, the fast, in-well precipitation technology of Captiva ND^{Lipids} ensures high sample throughput and helps reduce instrument downtime, with virtually no need for method development on a wide range of analytes.

Captiva ND^{Lipids}

Description	Part No.
Captiva ND ^{Lipids} 96-well filtration starter kit Includes 1 CaptiVac vacuum collar, 2 Captiva ND ^{Lipids} filter plates, 2 Captiva 96 deep-well 1 mL collection plates and 2 Captiva collection plate pierceable covers	A59640002SK
Captiva ND ^{Lipids} 96-well filtration replacement kit Includes 2 Captiva ND ^{Lipids} filter plates, 2 Captiva 96 deep-well 1 mL collection plates and 2 Captiva collection plate pierceable covers	A59640002RK
Captiva ND ^{Lipids} 96-well filter plate, 1 mL well	A59640002I
Captiva ND ^{Lipids} 96-well filter plates, 1 mL well, 5/pk	A59640002V
DuoSeal 96 96-well plate seals, 10/pk	A8961008

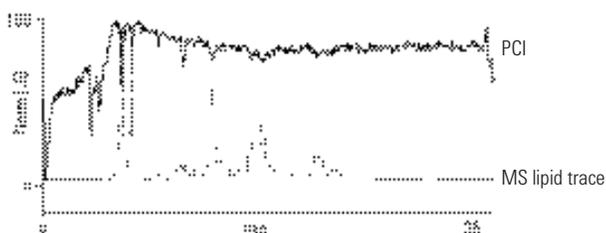
Tips & Tools



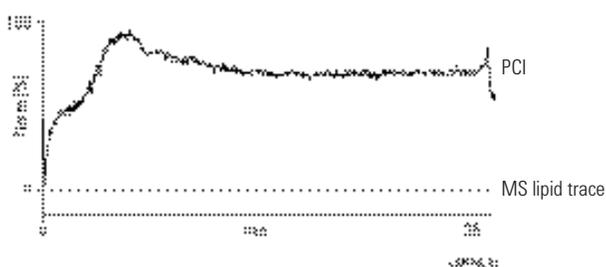
Using Captiva ND^{Lipids} with methanol is an excellent replacement for acetonitrile as the precipitation solvent. Methods with methanol show better removal of lipids than with acetonitrile. Converting to methanol is advantageous when the supply or cost of acetonitrile is restrictive. Methanol can now be your solvent of choice for lipid removal.

Post-column infusion (PCI) of albuterol before treatment with Captiva ND^{Lipids}

Note that the ion-suppression features (top trace) correlate with the elution of phospholipids (bottom trace).

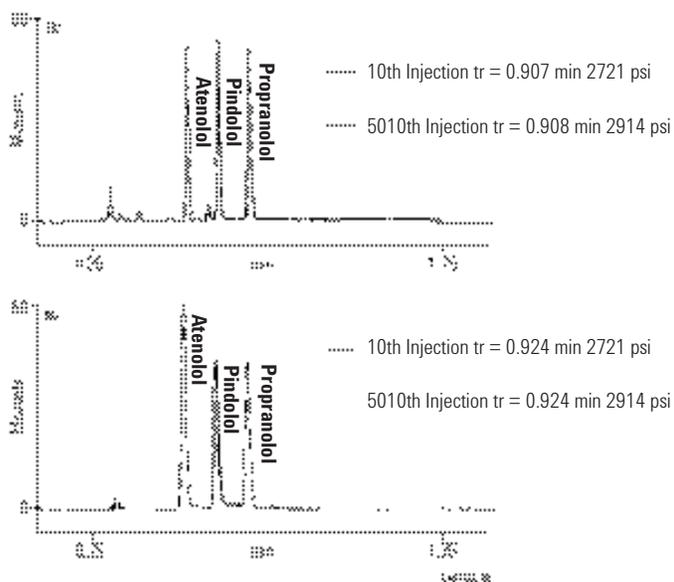


Same experiment after protein and lipid depletion with Captiva ND^{Lipids}



Ion suppression is dramatically reduced and the lipids are almost non-detectable.

Longevity Study Illustrating Prolonged Column Lifetime When Using Captiva ND^{Lipids}



No significant changes in back pressure, retention time, and peak shape with Captiva ND^{Lipids} after 10 and 5010 injections for LC/MS or LC/MS/MS bioanalysis (top = UV detection; bottom = MS detection).

Captiva 96-well Filter Kits

- The industry standard for centrifugation-free sample filtration
- Fast and reliable processing improves productivity
- Starter kits contain everything you need

Faster than centrifugation and easily automated, Captiva's unique dual-depth filtration media provides outstanding resistance to sample clogging. With Captiva, your samples are processed quickly and reliably, and you can avoid fibrinogen clogging forever. The plates are also excellent for sample storage. All Captiva components are ultra clean, and rigorously tested to ensure against non-specific binding. Starter kits contain everything you need to get up and running with minimum fuss. Replacement kits include everything you need to replenish your Captiva system.



Captiva 96-well filter kit

Captiva 96-well Filter Kits

Pore Size (µm)	Filter Material	Part No.
Starter Kits		
0.2	Polypropylene	A5960002SK
0.45	Polypropylene	A5960045SK
Includes 1 CaptiVac vacuum collar, 5 Captiva filter plates, 10 DuoSeal 96 96-well plate seals, 5 Captiva 96 deep-well 1 mL collection plates, 5 Captiva collection plate pierceable covers		
Replacement Kits		
0.2	Polypropylene	A5960002K
0.45	Polyvinylidene fluoride and polypropylene	A5967045K
	Polypropylene	A5960045K
Includes 5 Captiva filter plates, 10 DuoSeal 96 96-well plate seals, 5 Captiva 96 deep-well 1 mL collection plates, 5 Captiva collection plate pierceable covers		

Captiva 96-well Filter Plates

- Protect HPLC columns from clogging to reduce instrument downtime
- Clean and clear filtrates offer improved sensitivity
- High analyte recovery with simple robust methods allows faster method development

Filtration is simple, versatile, and necessary to prevent clogging of valuable HPLC columns. Captiva 0.2 μm and 0.45 μm depth filter plates are ideal for filtering samples prior to LC/MS injection. Captiva 10 μm and 20 μm glass fiber filter plates are designed for clarifying highly particle-laden samples, such as freshly thawed plasma and hepatocyte filtration, preventing sample transfer problems from pipette tip clogging. They are perfect for automated systems and for use with DuoSeal 96 96-well seals.

Captiva 96-well Filter Plates, 5 x 96 well

Pore Size (μm)	Filter Material	Part No.
0.2	Polypropylene	A5960002
0.45	Polyvinylidene fluoride and polypropylene	A5967045
	Polypropylene	A5960045
10	Glass fiber	A596401000
20	Polypropylene	A596002000
	Polypropylene Bulk Pack, 100 x 96 well	A596002000B



Captiva 96-well Collection Plates and Cover

- Designed for Captiva filtration, SPEC and Bond Elut 96 applications
- Standard 1 mL format offers compatibility with further automation or liquid handling
- Silicone cover preserves sample integrity

Captiva 96-well collection plates are specially designed for use with Captiva filtration plates, SPEC SPE 96-well plates and Bond Elut 96-well plates. The 1 mL capacity provides the volume needed to collect all of your filtrate or eluate. Captiva pierceable 96-well silicone covers are easily applied to completely seal the plates, ensuring no sample loss due to spillage or evaporation and no sample contamination. The silicone is specially designed for 96-well auto injectors, providing easy piercing and removal.



Captiva 96-well collection plate, A696001000

Captiva 96-well Collection Plates and Cover

Description	Unit	Part No.
Captiva 96-deep well collection plate, 1 mL	10/pk	A696001000
Captiva pierceable 96-well collection plate cover	10/pk	A8961007
DuoSeal 96	10/pk	A8961008



Captiva Filter Cartridges

- Standard SPE format
- Ideal for LC/MS samples
- Avoid sample transfer problems

Captiva filter cartridges bring all of the benefits of Captiva filtration to the standard SPE cartridge format. The 0.2 μm and 0.45 μm filter cartridges are ideal for preparing precipitated protein samples for LC/MS analysis. The Captiva 10 μm glass fiber filter cartridge is designed for clarifying highly particle-laden samples, such as freshly thawed plasma, preventing sample transfer problems due to pipette tip clogging.



Captiva filter cartridges, glass fiber, A500401000

Captiva Filter Cartridges

Pore Size (μm)	Filter Material	Volume (mL)	Unit	Part No.
0.2	Polyvinylidene fluoride and polypropylene	3	100/pk	A5300002
0.45	Polyvinylidene fluoride and polypropylene	3	100/pk	A5307045
10	Glass fiber	10	100/pk	A500401000

CaptiVac Vacuum Collars

- Pre-aligned for trouble-free operation
- Vacuum sealed for maximum efficiency
- Simple, cost effective solution

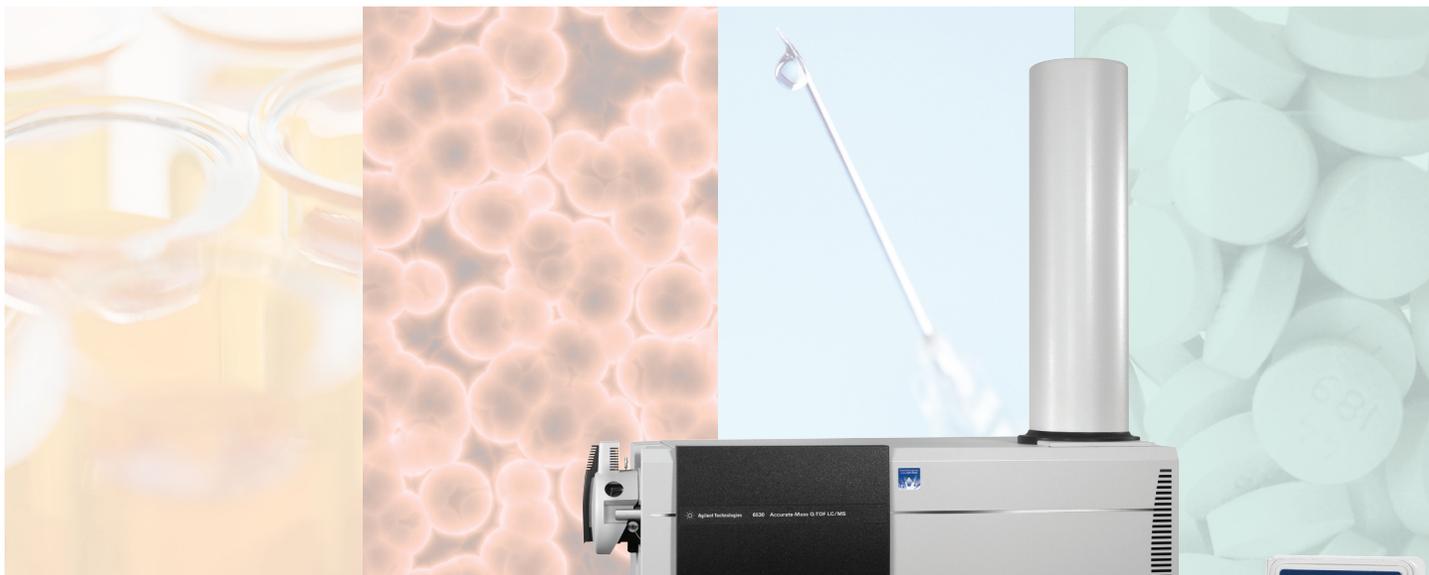
For use with Captiva Filtration and SPEC 96-well Plates, this patented vacuum collar is a completely transparent device that joins Captiva or SPEC plates directly onto our collection plate. The unique design of the Captiva collar forms a pre-set, pre-aligned vacuum seal between the filtration and collection plate, which positions the outlet tips at a specified distance inside each well, so as to prevent cross contamination of samples.



CaptiVac vacuum collar, A796

CaptiVac Vacuum Collars

Description	Part No.
CaptiVac vacuum collar	A796
CaptiVac gasket kit, 5/pk	A796G



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