Agilent CrossLab
From Insight to Outcome

Filtration Makes All the Difference

Agilent Captiva sample preparation filtration portfolio

Agilent

Did You Know… The First Part of Your Workflow Can Cause Unexpected Downtime and Sample Rerun?

Your time is precious… and so are your samples.

Filtering samples before analysis can help you achieve longer column life, maximize uptime, improve sample integrity, and maximize instrument performance.

Agilent Captiva filtration products are a time-saving, cost-effective way to stay in command of your analyses.

Captiva filtration products improve your chromatography without adding time to the process. So you can meet your unrelenting analytical demands and expectations for quality, speed, and accuracy.

Did You Know… Even Small Amounts of Particulates Can Ruin Your Column—and Your Results?

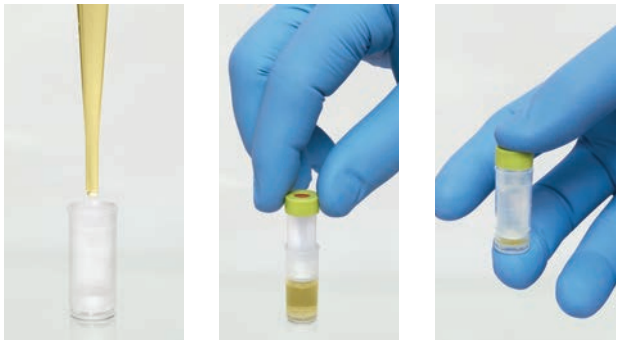
Particulates can cause high backpressure, retention-time shift, resolution loss, and shorter column life. Agilent Captiva syringe filters and filter vials remove particulates, and are ideal for simple mechanical filtration.

Syringe filters use a traditional technique to maximize the advantages of filtration.

Captiva syringe filters give you:

- **Greater productivity**
  The unique design produces the industry's fastest flow rates.
- **High loading capacity**
  They handle more particulates and greater volumes than other manufacturers' products.
- **The industry's lowest protein binding**
  Our premium polyethersulfone (PES) syringe filter is ideal for tricky biological applications where proteins must be analyzed.
- **The lowest extractable levels**
  They're virtually free of extractables under conditions specified by the certificate.
- **Budget-friendly options**
  Econofilters are available in money-saving packs of 1,000.

Filter vials give you a new, more convenient option. Just fill, cover, and plunge.

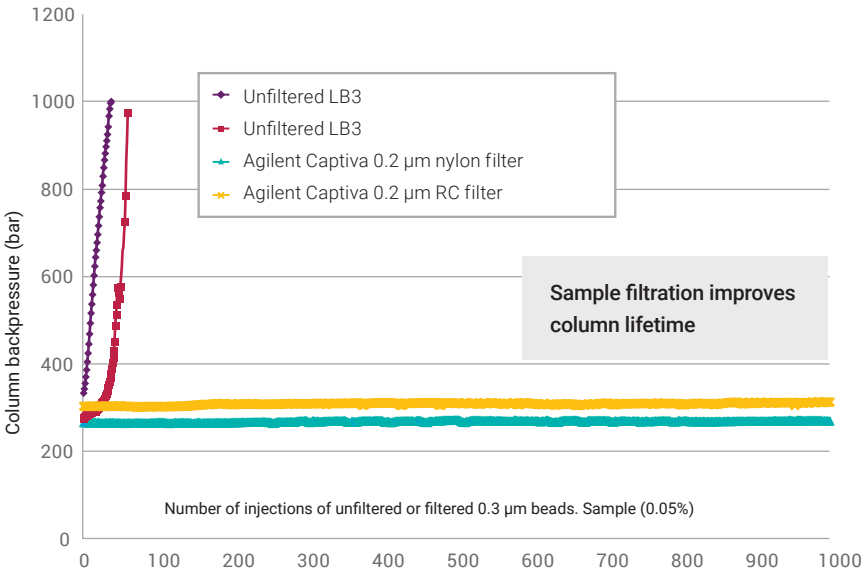


Captiva filter vials replace the combination of syringe filter, syringe, vial, cap, and septa with a single disposable unit. They deliver:

- **Convenience**
  Use your autosampler vial to filter your sample.
- **Less chance of contamination**
  Minimizing touchpoints in the sample journey leads to cleaner samples.

Request your solvent compatibility chart for tips on choosing both syringe vials and filter vials: **www.agilent.com/chem/filterposter.**

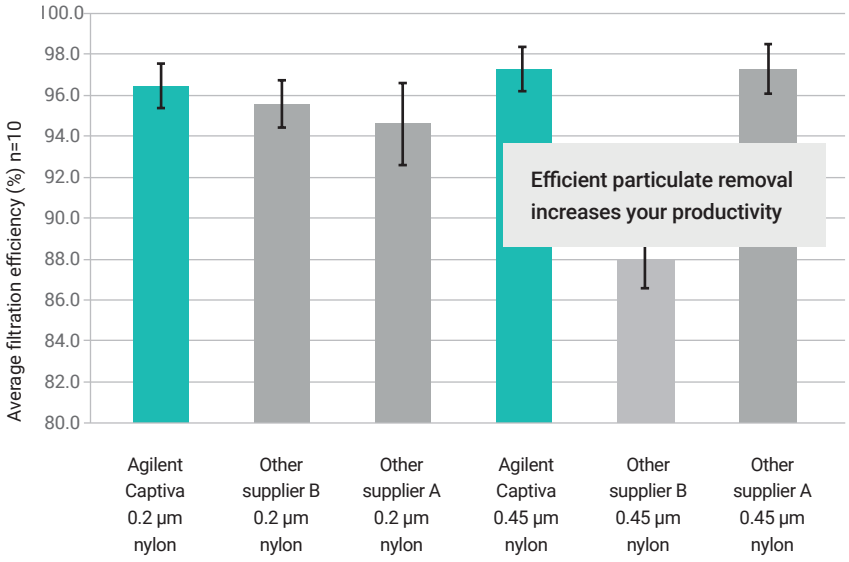
Still Not Filtering Your Samples? This Is Why You Should Be.



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

LC column lifetime test

We used a 0.002% Triton X-100 surfactant solution to prepare a 0.05% latex-bead suspension (0.3 µm). Then, we performed HPLC analysis on filtered and unfiltered samples of the 0.3 µm suspension. Without filtering, the small-sized beads were not excluded, and were caught in the column frit—increasing backpressure and reducing column life.



Average filtration efficiency of Agilent Captiva syringe filters compared to other suppliers.
Note: Different latex-bead solutions were used for different membrane qualification tests.

Filtration efficiency: Agilent compared to other suppliers

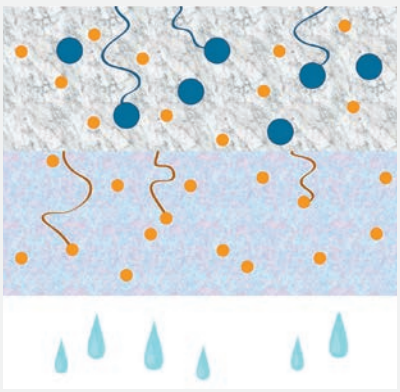
Here, we used a 0.1% Triton X-100 surfactant solution to prepare a 0.01% latex-bead suspension (0.3 µm). This challenging suspension was passed through each individual syringe filter, and a 1 mL filtrate was collected in a 2 mL vial for HPLC analysis.

Did You Know… You Can Save Time in Your Protein Precipitation Workflow?

Today's high-performing MS instruments help you increase productivity. But, there is one drawback: time-consuming sample preparation for protein precipitation.

Agilent Captiva Non-Drip (ND) filter plates reduce the steps in your sample preparation workflow, allowing you to complete particulate removal and protein precipitation within the well. Their unique nondrip design gives you these advantages:

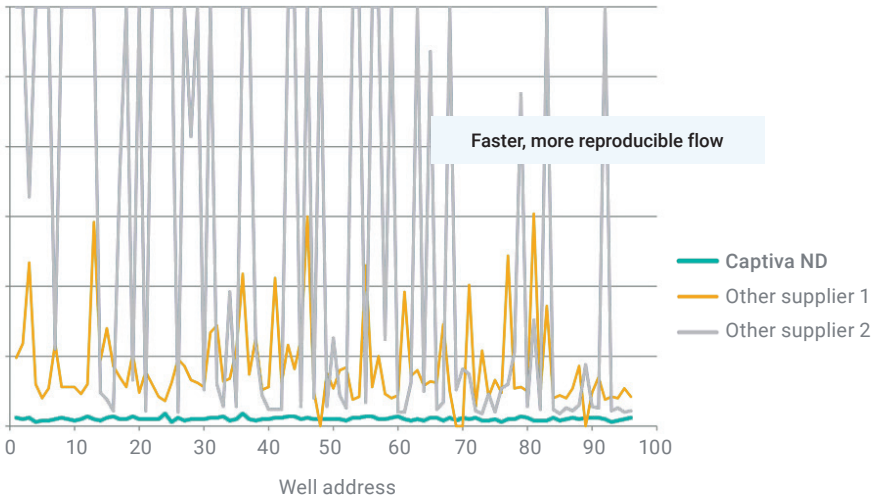
- It eliminates the need to use messy tip or well seals, and reduces the number of liquid transfer steps required to process samples.
- It allows you to mix organic solvent and sample within the well—without sample dripping through the membrane until vacuum or positive pressure is applied.
- It's more efficient than centrifugation at removing particulates formed from protein precipitation.



Innovative filter layer technology

Captiva's two filter layers each have different porosities, capturing large particulates first, followed by small particulates. Clogging is eliminated because the particulates must follow a nonlinear path.

Flow rate consistency (100 µL plasma with 400 µL ACN)

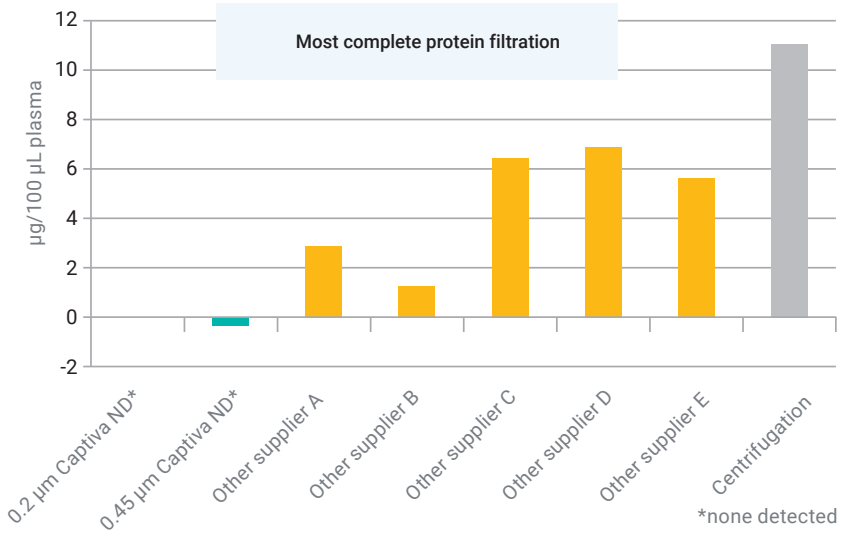


Agilent Captiva ND plates process samples quickly and uniformly across all wells of the 96-well plate.

Competitive analysis—flow rate consistency

The dual-depth filter construction of Captiva ND 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.

Determination of protein by Bradford Assay



Average post-precipitation protein content of a 100 µL human plasma sample (n=24, 4:1 ACN precipitation) among plate manufacturers and techniques.

Comparison of Captiva plates

Confidently remove proteins with Captiva ND plates as determined by the Bradford Assay post-precipitation.

Did You Know… Lipid Removal Is Possible, and Doesn't Have to Add Time?

Agilent Captiva sample preparation products for protein precipitation (PPT) reduce the steps required for traditional centrifugation protein precipitation—saving you time. You can now remove lipids and proteins in the same workflow in less time than standard PPT.

	Standard PPT on 96-Well Collection Plate	Duration (Minutes)	PPT on Agilent Captiva ND 96-Well Plate	Duration (Minutes)	PPT on Agilent Captiva EMR—Lipid 96-Well Plate	Duration (Minutes)
Protocol	Centrifugation based PPT protocol		Precipitate removal based PPT protocol		Functional filtration based PPT protocol	
Steps and duration	Biological sample addition	30	Crash solvent addition	5	Biological sample addition	30
	Crash solvent addition	5	Sample addition	30	Crash solvent addition	5
	Sample mixing	5	Sample mixing	5	Sample mixing	5
	Centrifugation	10	Elution and sample collection	15	Elution and sample collection	10
	Supernatant transfer	30				
	Total time before post-treatment	80		55		50
Post-treatment	Same with different protocols					
Matrix removal	Proteins		Proteins		Proteins and phospholipids	
			Streamline your workflow		*Streamline PLUS lipid removal*	

Comparison is based on processing 96 biological samples on 96-well plate.

Agilent Captiva EMR—Lipid. Winner of an Analytical Scientist Innovation Award (TASIA) for 2017.

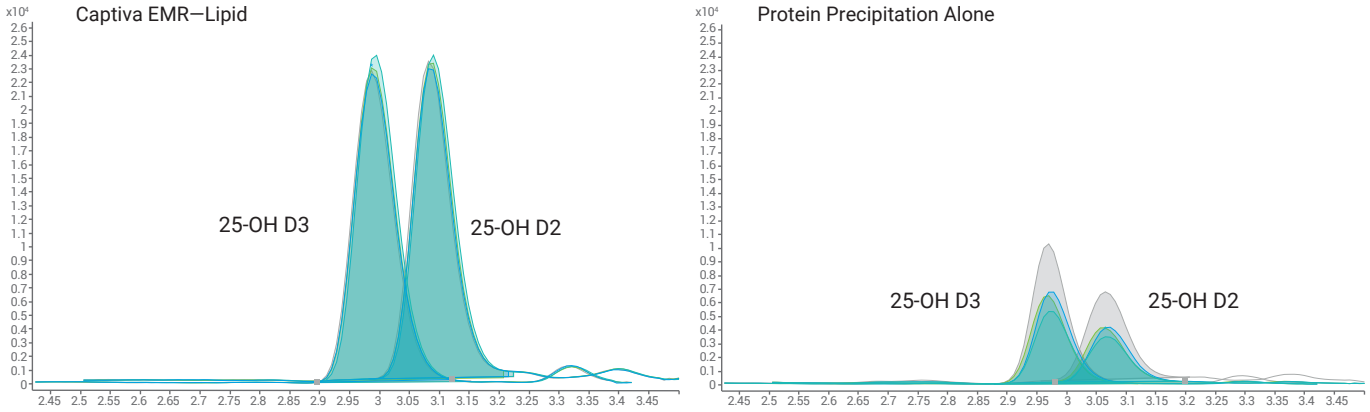
- Enhanced Matrix Removal—Lipid (EMR—Lipid), unlike other types of sample prep, is a unique sorbent that selectively removes lipids in complex matrices, so you can remove lipids without losing your analytes
- Captiva EMR—Lipid removes phospholipids without adding extra time to your workflow.
- Captiva ND Lipids is an alternate option for lipid removal. However, Captiva EMR—Lipid is your most efficient choice.

Enhanced matrix removal boosts your productivity by preventing rerun

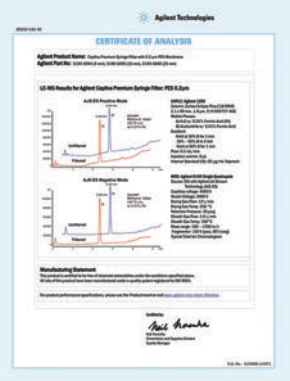
Reducing matrix interference is a must for maintaining analytical sensitivity standards. This is especially true for biological matrices, such as plasma, and high-fat food matrices of animal or plant origin.

The innovative sorbent in Captiva EMR—Lipid cartridges and plates captures ion-suppressing lipids, while allowing analytes of interest to pass through. Captiva EMR—Lipid provides excellent cleanup for fat-containing samples, improving data quality and decreasing RSD.

Improve precision and accuracy and reduce RSD



Captiva EMR—Lipid is an innovative material that efficiently removes major lipid classes from sample matrices without analyte loss. It works through a unique combination of size exclusion and hydrophobic interaction.



Certified performance

Agilent Captiva Premium filtration products are packaged with a Certificate of Analysis. That means you can be confident that extractables or other contaminants will not damage the integrity of your samples. Our unique guarantee assures you of optimal performance, every time.

Ordering Information

Premium filters 100/pack

Membrane	Diameter (mm)	Pore Size (µm)	Part No.
PTFE	4	0.2	5190-5082
	4	0.45	5190-5083
	15	0.2	5190-5084
	15	0.45	5190-5085
	25	0.2	5190-5086
	25	0.45	5190-5087
Nylon	15	0.2	5190-5088
	15	0.45	5190-5091
	25	0.2	5190-5092
	25	0.45	5190-5093
PES	4	0.45	5190-5095
	4	0.2	5190-5094
	15	0.2	5190-5096
	15	0.45	5190-5097
	25	0.2	5190-5098
	25	0.45	5190-5099
Regenerated cellulose	4	0.2	5190-5106
	4	0.45	5190-5107
	15	0.2	5190-5108
	15	0.45	5190-5109
	25	0.2	5190-5110
	25	0.45	5190-5111
Cellulose acetate	28	0.2	5190-5116
	28	0.45	5190-5117
Glass microfiber	15		5190-5120
	28		5190-5122

Econofilters 1,000/pack

Membrane	Diameter (mm)	Pore Size (µm)	Part No.
PVDF	13	0.2	5190-5261
	13	0.45	5190-5262
	25	0.2	5190-5263
	25	0.45	5190-5264
PTFE	13	0.2	5190-5265
	13	0.45	5190-5266
	25	0.2	5190-5267
	25	0.45	5190-5268
Nylon	13	0.2	5190-5269
	13	0.45	5190-5270
	25	0.2	5190-5271
	25	0.45	5190-5272
PES	13	0.2	5190-5273
	13	0.45	5190-5274
	25	0.2	5190-5275
	25	0.45	5190-5276
Polypropylene	13	0.2	5190-5277
	13	0.45	5190-5278
	25	0.2	5190-5279
	25	0.45	5190-5280
Regenerated cellulose	15	0.2	5109-5310
	15	0.45	5190-5308
	25	0.2	5190-5309
	25	0.45	5190-5307

Captiva disposable syringes, 100/pack

Volume	Part No.
5 mL	9301-6476
10 mL	9301-6474
20 mL	5190-5103

Layered filters, 100/pack

Description	Diameter (mm)	Pore Size (µm)	Certification	Housing	Part No.
Glass microfiber/PTFE	15	0.2	LC	Polypropylene	5190-5126
	15	0.45	LC	Polypropylene	5190-5127
	25	0.2	LC	Polypropylene	5190-5128
	25	0.45	LC	Polypropylene	5190-5129
Glass microfiber/Nylon	15	0.2	LC	Polypropylene	5190-5132
	15	0.45	LC	Polypropylene	5190-5133
	25	0.2	LC	Polypropylene	5190-5134
	25	0.45	LC	Polypropylene	5190-5135

Captiva filter vials

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

Captiva 96-well filter plates

Pore Size (µm)	Filter Material	Unit	Part No.
0.2	Polypropylene	5/pk	A5960002
	Polypropylene	100/pk	A5960002B
0.45	Polyvinyldifluoride and polypropylene	5/pk	A5967045
	Polypropylene	5/pk	A5960045
	Polypropylene	100/pk	A5960045B
10	Glass fiber	5/pk	A596401000
20	Polypropylene	5/pk	A596002000
	Polypropylene bulk pack	100/pk	A596002000B

Captiva ND filter cartridges

Description	Pore Size (µm)	Filter Material	Volume (mL)	Unit	Part No.
Non-Drip	0.22	Polypropylene	3	100/pk	A5300063
Non-Drip Lipids	0.22	Polypropylene	3	100/pk	A5300635

Captiva filter cartridges

Pore Size (µm)	Filter Material	Volume (mL)	Unit	Part No.
0.2	Polyvinyldifluoride and polypropylene	3	100/pk	A5300002
0.45	Polyvinyldifluoride and polypropylene	3	100/pk	A5307045
		6	100/pk	A5060045
10	Glass fiber	10	100/pk	A500401000

Captiva ND 96-well filter plates

Description	Unit	Part No.
Captiva ND plate, 0.2 µm, polypropylene Recommended for both methanol and acetonitrile	5/pk	A596002
Captiva ND plate, 0.45 µm, polypropylene Suitable for acetonitrile only	5/pk bulk pack	A5969045

Captiva EMR—Lipid

Description	Unit	Part No.
Captiva EMR—Lipid 96-well plate, 40 mg*	1/pk	5190-1000
Captiva EMR—Lipid 96-well plate, 40 mg*	5/pk	5190-1001
Captiva EMR—Lipid, 1 mL, 40 mg*	100/pk	5190-1002
Captiva EMR—Lipid, 3 mL, 300 mg	100/pk	5190-1003
Captiva EMR—Lipid, 6 mL, 600 mg	50/pk	5190-1004

*96-well plate and 1 mL cartridge formats incorporate a solvent retention frit to allow in-well protein precipitation.

Captiva ND Lipids 96-well filter plates

Description	Unit	Part No.
Captiva ND Lipids 96-well filtration plate	100/pk	A59640002B
Captiva ND Lipids 96-well filtration plate, 1-mL well	1/pk	A59640002I
Captiva ND Lipids 96-well filtration plate, 1-mL well	5/pk	A59640002V
DuoSeal 96 96-well plate seals	10/pk	A8961008

Agilent CrossLab services. From insight to outcome.

CrossLab is an Agilent capability that integrates services and consumables to support workflow success and important outcomes like improved productivity and operational efficiency. Through CrossLab, Agilent strives to provide insight in every interaction to help you achieve your goals. CrossLab services include method optimization, flexible service plans, and training for all skill levels. We have many other products and services to help you manage your instruments and your lab for best performance.

Learn more about Agilent CrossLab, and see examples of insight that leads to great outcomes, at **www.agilent.com/crosslab**.

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