

explore

LUNA[®]
OMEGA

Sweet Sugar Separations Are in Your Future

Luna Omega SUGAR LC Column

- Improved carbohydrate retention and separation with novel HILIC selectivity
- Enhanced lifetime with highly robust and efficient thermally modified fully porous particle
- QC tested for sugars to ensure reliable quality

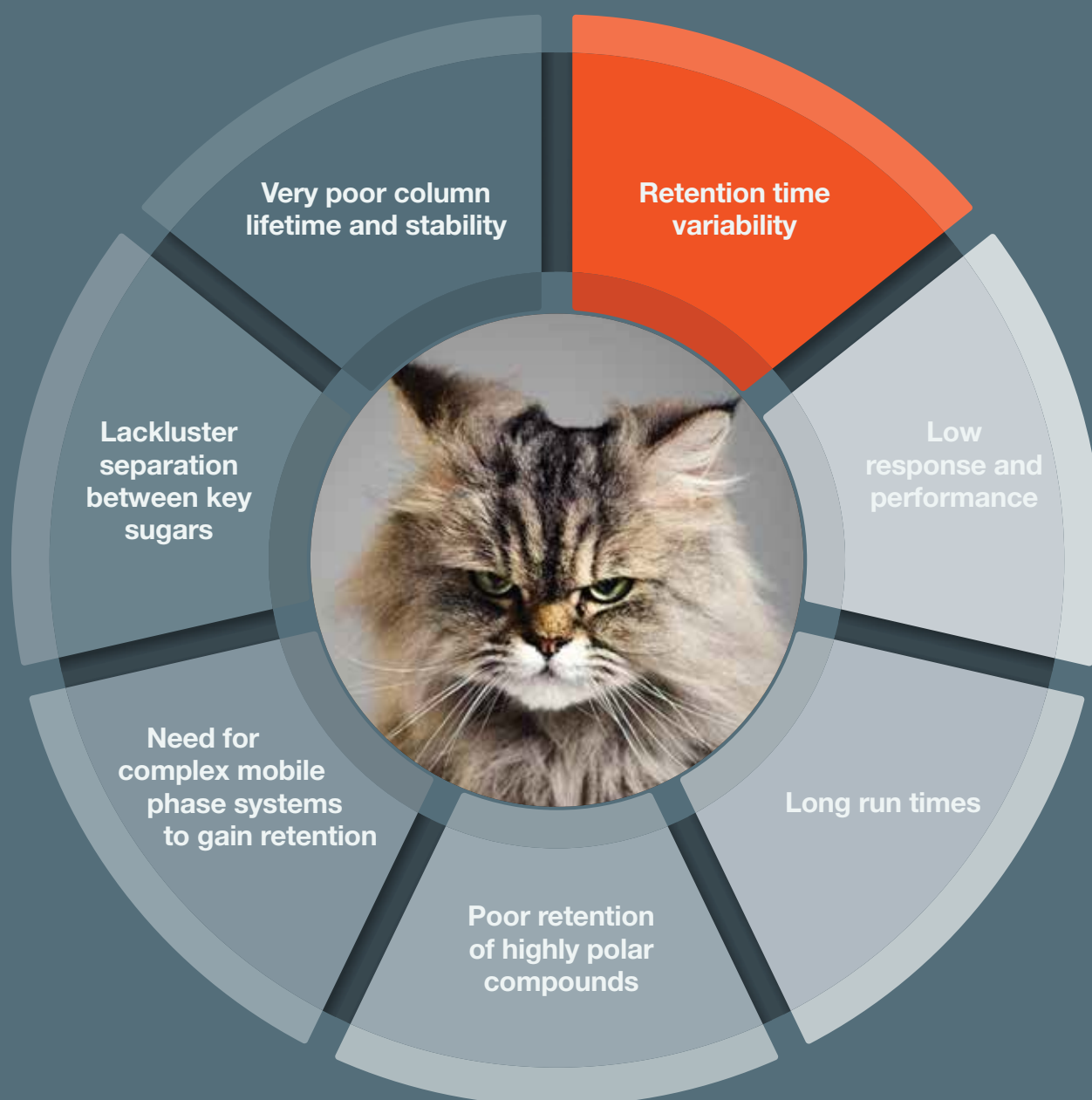
New

phenomenex[®]
...breaking with traditionSM

www.phenomenex.com/Sugars

The Sugary Dilemma

Over the past year, we've worked and spoken with a large number of customers in regards to sugar analysis from all kinds of different matrices. Turns out that traditional amide and amino phases were just not hitting that SWEET spot for simple sugars. They were actually causing quite a number of customers to HIT THE WALL because of:



A Tasty Result With Luna Omega SUGAR

With so many problems, a unique solution was needed! So, we took all this knowledge and feedback and combined it with our 36 years of separation science technology and experience. Now it's time for you to take our newest creation for a taste test!

The New Particle, New Phase Just For Sugars!

Novel stationary phase	p. 4
Exceptional retention and separation of sugars	p. 5
Simple HILIC operating conditions for RI or ELSD	p. 5
High reproducibility	p. 6
Brilliant column robustness and stability	p. 7

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The New Particle and New Phase Just For Sugar!

The new Luna® Omega SUGAR breaks ground as it combines the performance benefits of thermally modified fully porous particles with a novel HILIC stationary phase that excels at polar compound retention and selectivity.

Cutting Edge Fully Porous Silica Particle

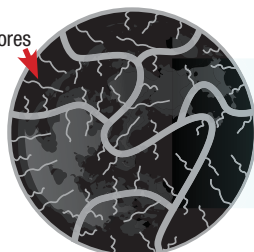
Luna is one of the most recognized HPLC brands on the market, delivering high efficiency, ruggedness, reproducibility, and dependability for a wide range of analyses. The new Luna Omega builds upon this legacy with an innovative yet rugged silica particle architecture, designed and manufactured by Phenomenex based on more than 20 years of applied knowledge, invention, and customer experience.

Novel Design and Manufacturing Process

Within the novel manufacturing process of Luna Omega silica, we implement a proprietary processing technique to gain greater particle inertness, a stronger particle morphology, and more consistent porosity.



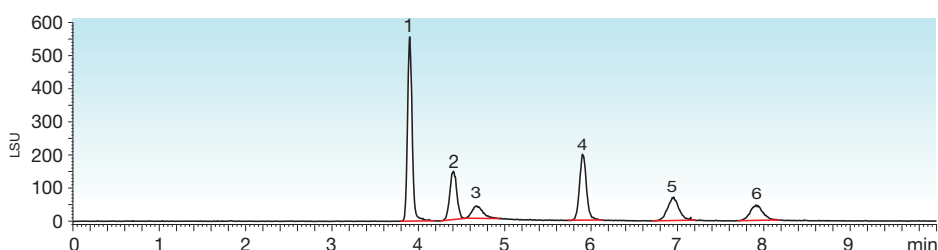
Micropores



Thermally Modified Pore Structure

Most importantly, through our proprietary process, we eliminate micropores, further improving column efficiency, inertness, and reproducibility.

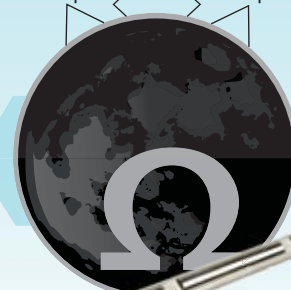
Consistent Porosity



Column: Luna Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: ELSD

Sample: 1. Fructose
2. Glucose
3. Galactose
4. Sucrose
5. Maltose
6. Lactose

Amide Polyol
Amino
Aq



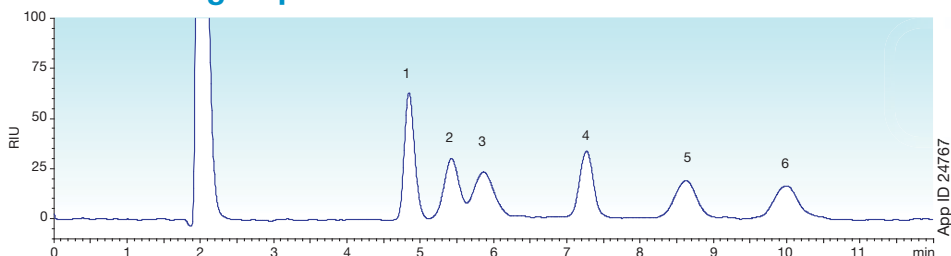
Novel nitrogen containing stationary phase that greatly increases the retention of sugars and sugar alcohols under HILIC conditions

Exceptional Retention and Separation



Luna® Omega SUGAR greatly improves upon the retention and separation capabilities of traditional fully porous, core-shell, and hybrid materials, while also allowing for greater peak response! All this while also ensuring that customers do not need to depend on buffers or ion pair agents to get adequate separation at the cost of losing signal.

Luna Omega 3 µm SUGAR

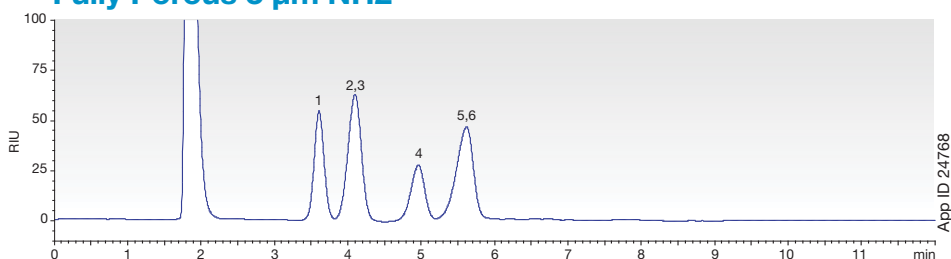


Excellent Simple Sugar Separation!

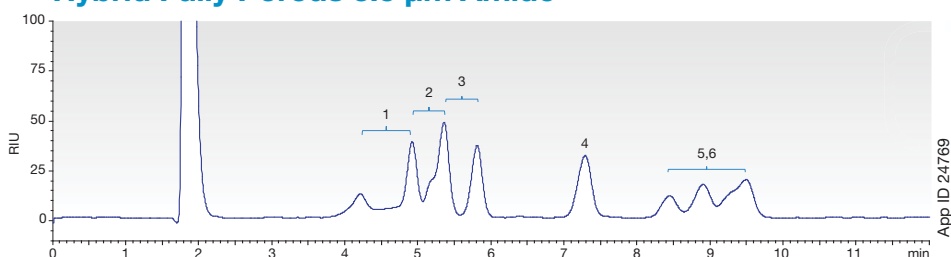
Conditions for all columns:

Column: Luna Omega 3 µm SUGAR
Fully Porous 3 µm NH₂
Hybrid Fully Porous 3.5 µm Amide
Dimension: 150 x 4.6 mm
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 25 °C
Detection: RI
Sample: 1. Fructose
2. Glucose
3. Galactose
4. Sucrose
5. Maltose
6. Lactose

Fully Porous 3 µm NH₂



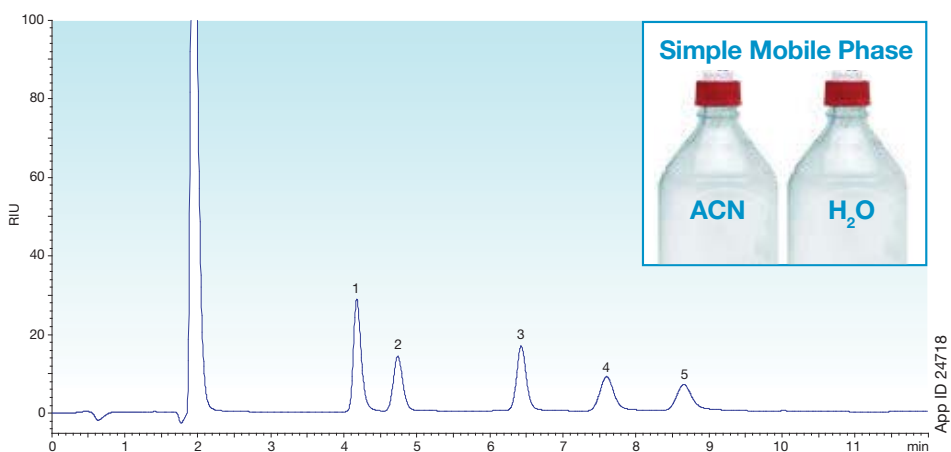
Hybrid Fully Porous 3.5 µm Amide



Peak Splitting and Poor Resolution!

Simplified HILIC Conditions for RI or ELSD

Why make things tough? While making the new Luna Omega SUGAR we focused on simplified HILIC mobile phase systems that would work with all common detectors including RI, ELSD, and MS. Additionally, the high organic content decreases interference as non-polar compounds and contaminants are forced to elute early in the run.



Simple Mobile Phase

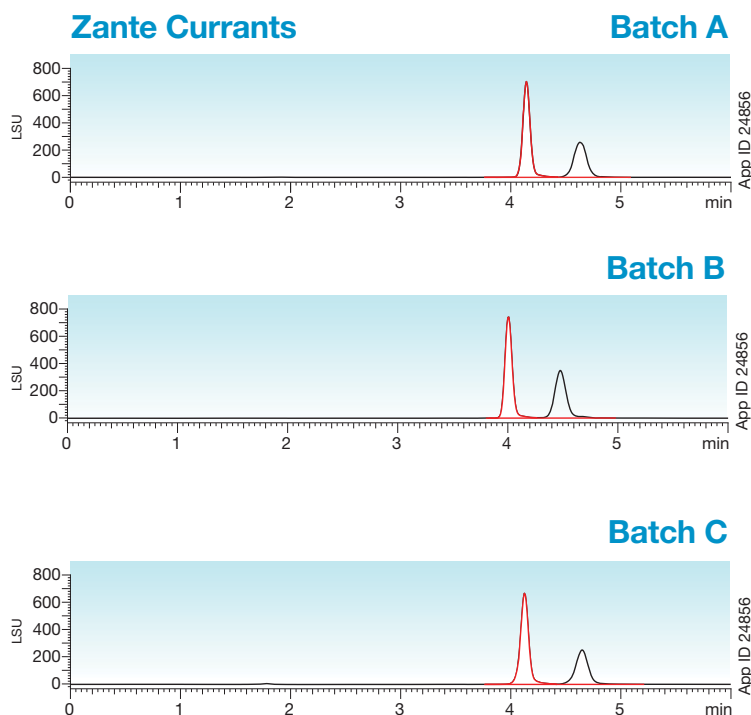
Column: Luna Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: RI
Sample: 1. Fructose
2. Glucose
3. Sucrose
4. Maltose
5. Lactose

Comparative separations may not be representative of all applications.



High Reproducibility

Luna® Omega SUGAR media and columns are designed to be consistent and incredibly accurate tools for sugar analysis by HPLC and UHPLC. Each batch and column is specifically tested for the analysis of simple sugars to confirm proper selectivity, alongside a large number of other tests to ensure performance, particle quality, dependability, and overall reproducibility.



Conditions for all columns:

Column: Luna Omega 3 μ m SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 35 °C
Detection: ELSD
Sample: 1. Fructose
2. Glucose



Sample Preparation with Phenex™ Nylon Syringe Filter

1. 5 g of each material (Goji Berries, Zante Currants, and Turkish Apricots) frozen at -80 °C for 1 hour
2. Use spice grinder to homogenize the samples
3. Place the material in a 250 mL beaker and add 50 mL of DI water and heat to 50 °C with a stir-bar for 30 minutes
4. Add 50 mL of Chloroform and mix on high for 15 min at 50 °C
5. Let solution come to rest at room temperature to allow two phases to form
6. Decant top (aqueous) layer to centrifuge tube, dispose of bottom layer
7. Centrifuge at 6000 RPM
8. Decant into new 20 mL scintillation vials
9. Filter using 0.45 μ m Phenex Nylon syringe filter
10. Inject 5 μ L

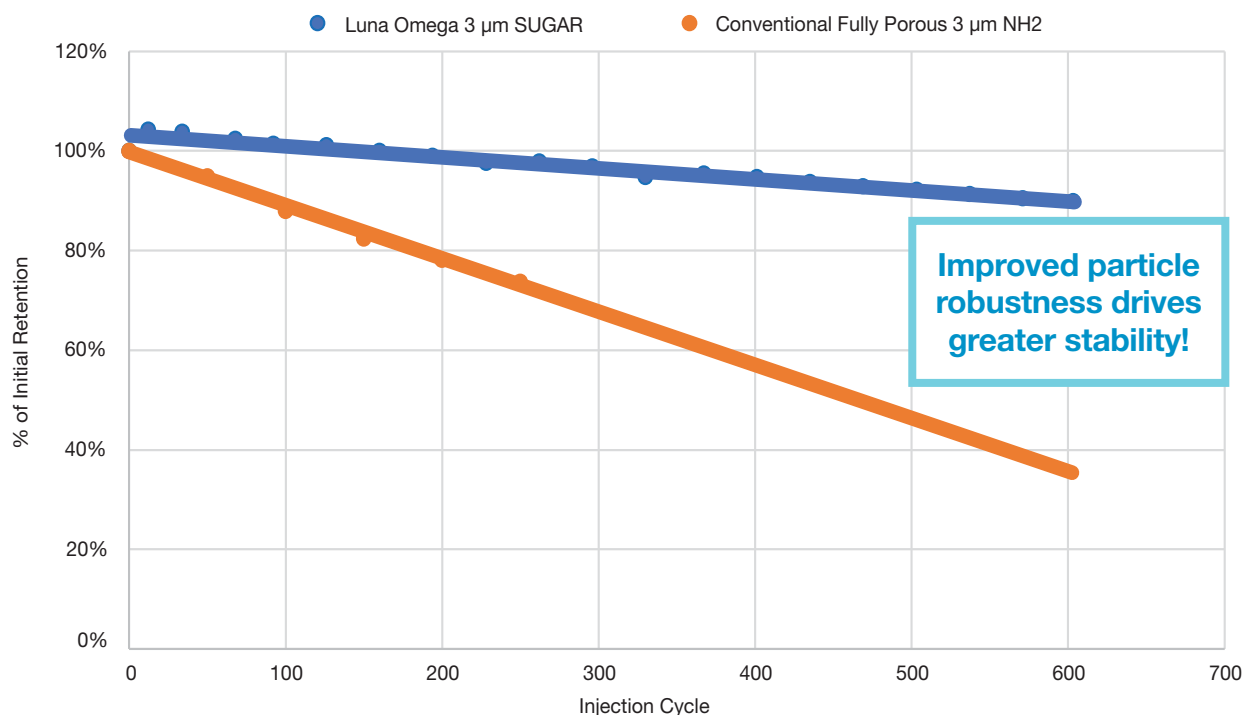


Brilliant Column Robustness and Stability

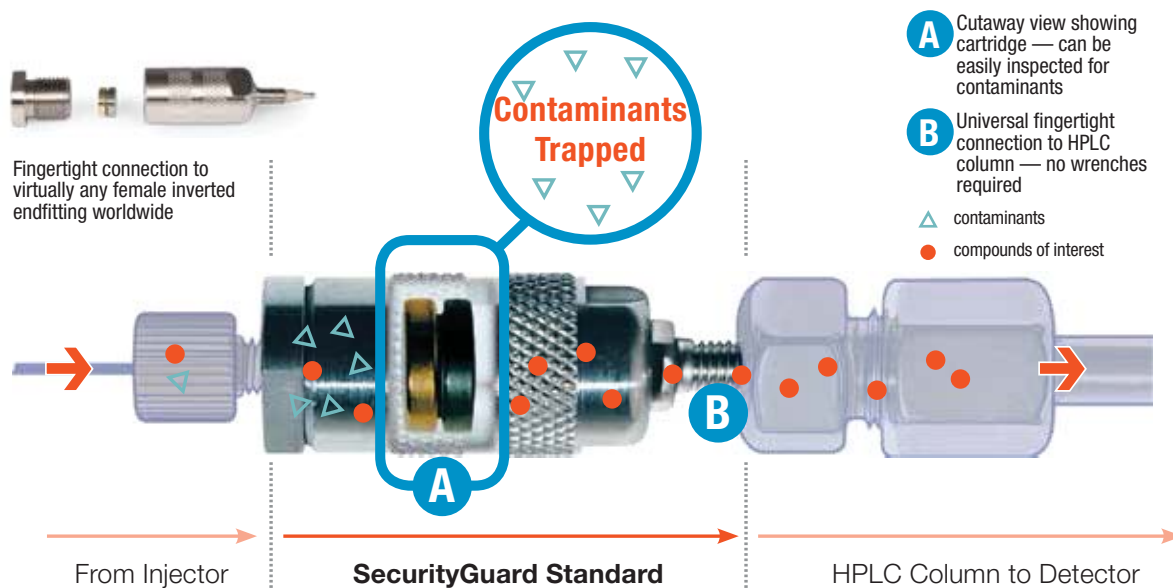


A major concern for a lot of customers (maybe even yourself) was the short life span of their traditional amide and amino columns. With the Luna® Omega SUGAR, we focused heavily on combined particle and stationary phase robustness to greatly minimize efficiency and retention loss over time.

Stability Comparison of Fully Porous Materials



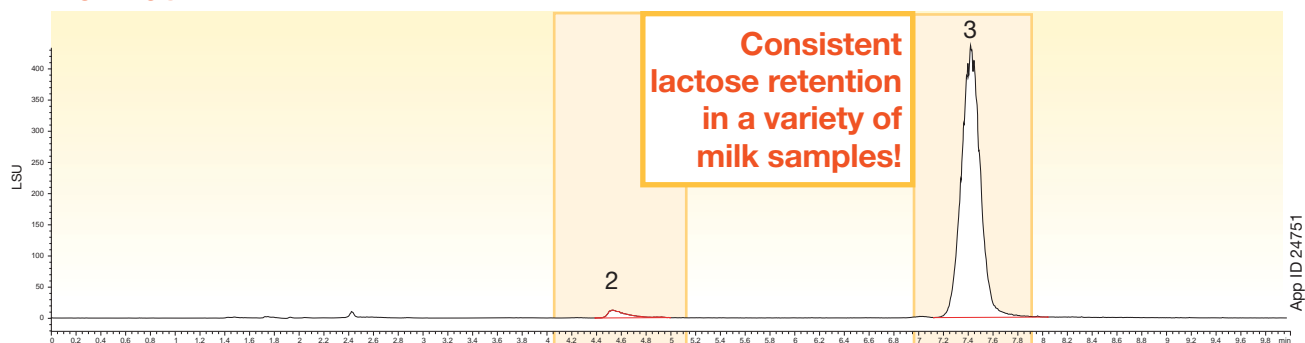
Extend Column Lifetime Even **MORE** with a SecurityGuard™ Guard Cartridge System!



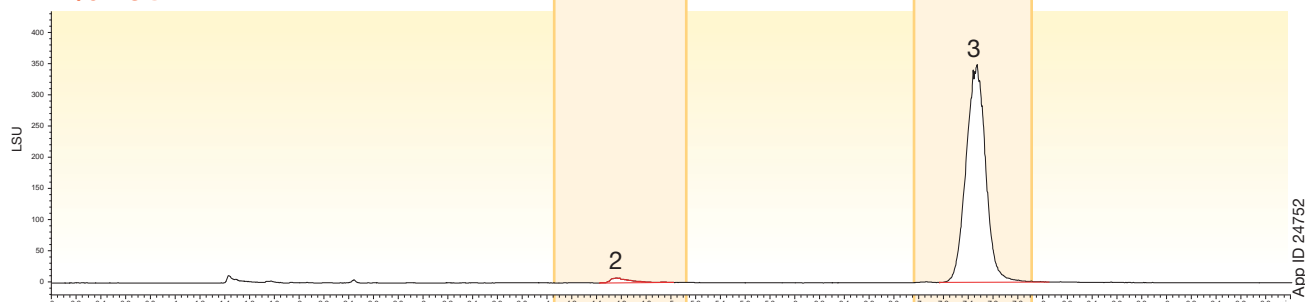
See page **22** for details



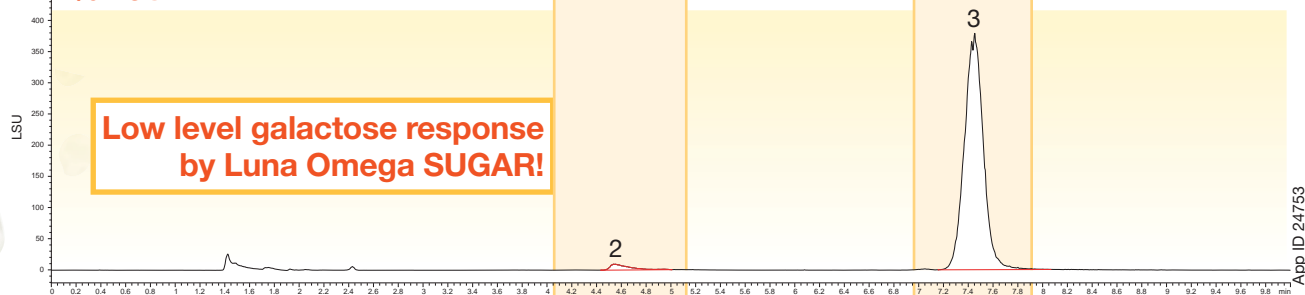
Non-Fat Milk



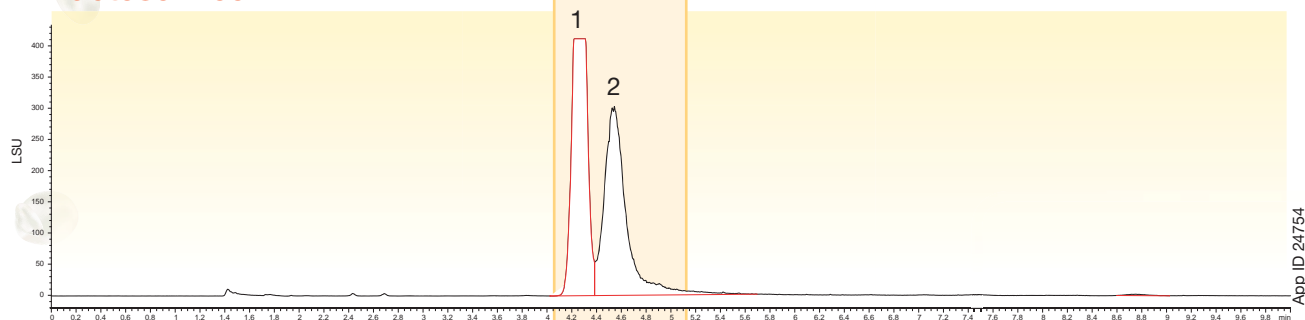
1% Fat Milk



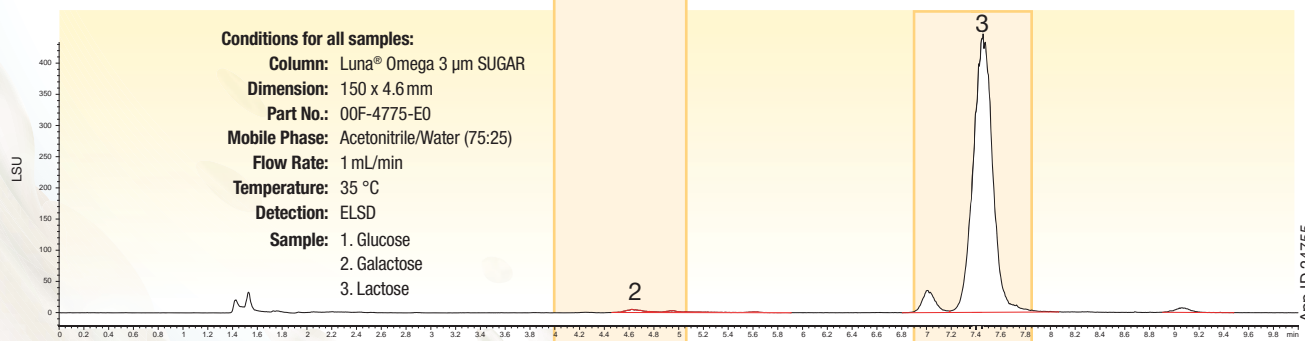
2% Fat Milk



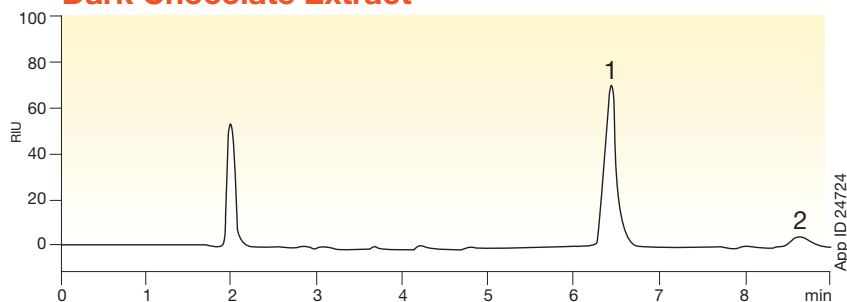
Lactose Free Milk



Infant Formula



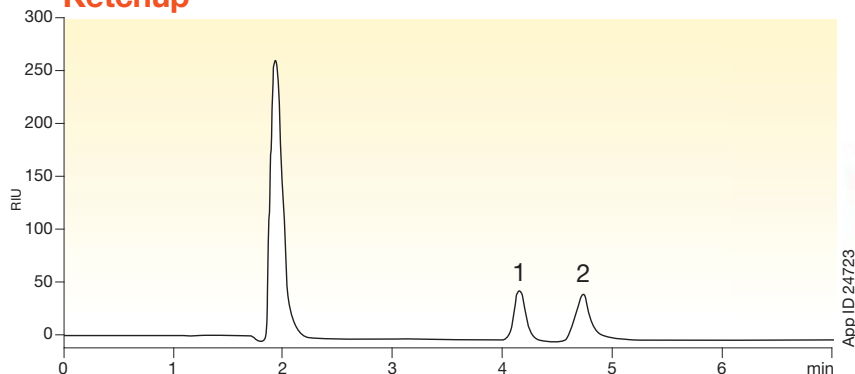
Dark Chocolate Extract



Column: Luna® Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: RI
Sample: 1. Sucrose
 2. Lactose



Ketchup



Column: Luna Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: RI
Sample: 1. Fructose
 2. Glucose



Tip!

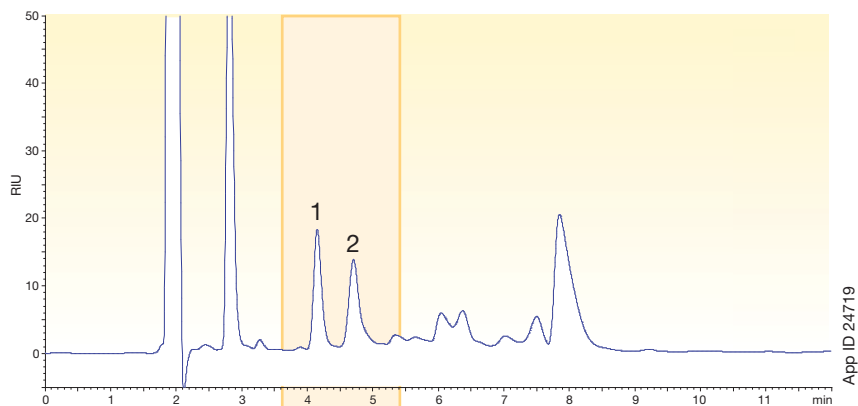
**Quick and Easy Sample Filtration
with Phenex Nylon Syringe Filters!**



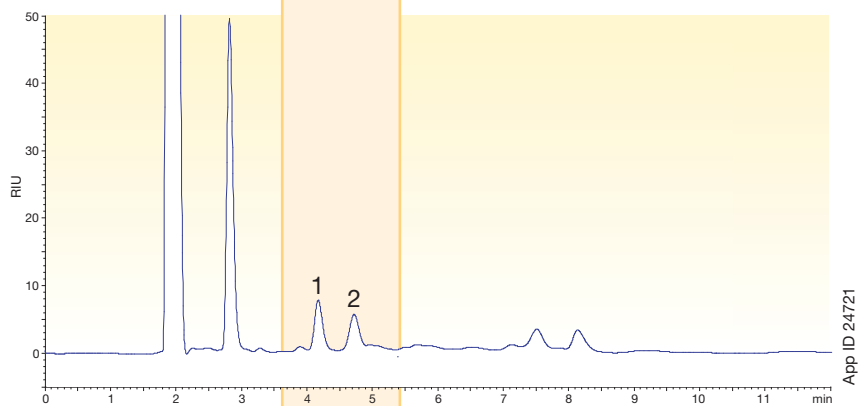
See page 18-19



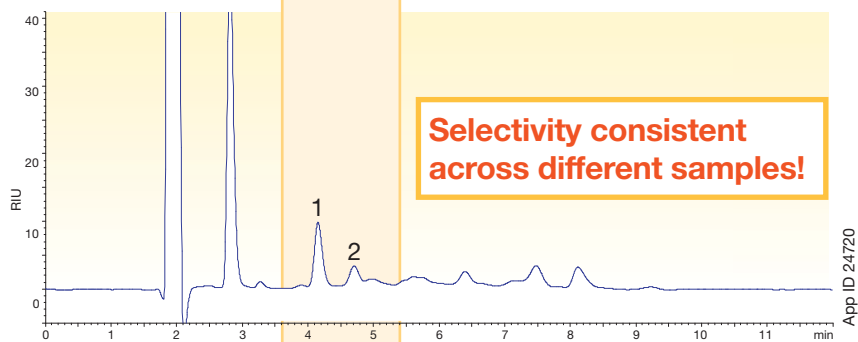
Merlot



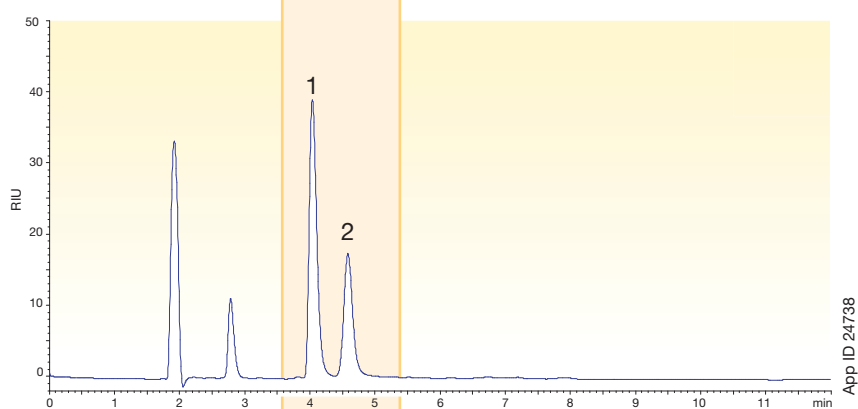
White Wine



Gewurztraminer Wine



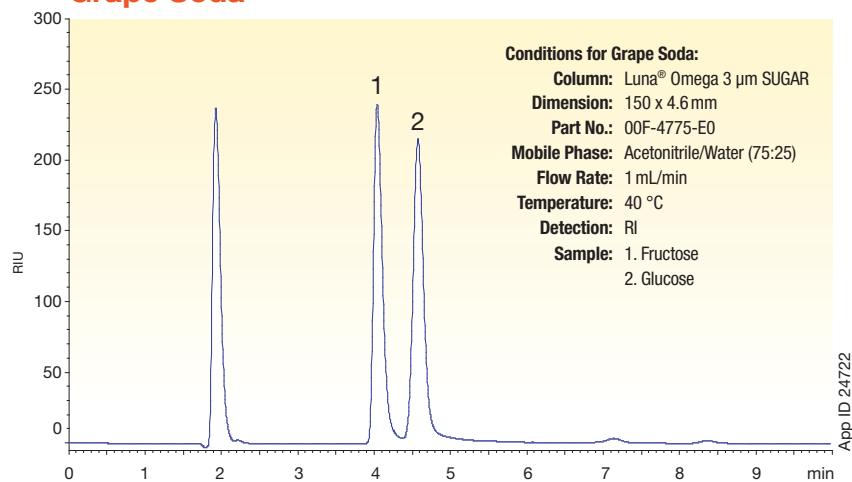
Dessert Wine



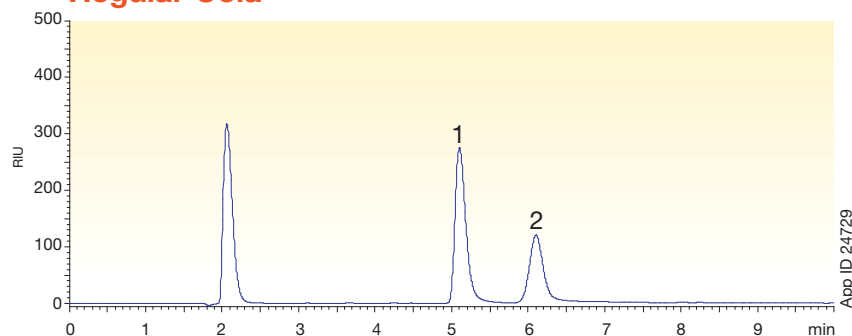
Conditions for all samples:

Column: Luna® Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: RI
Sample: 1. Fructose
2. Glucose

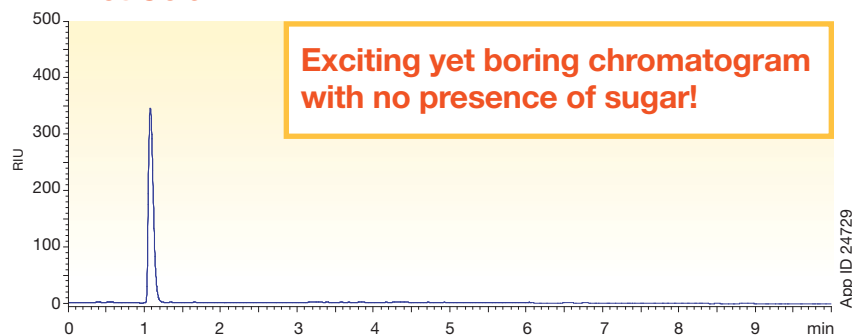
Grape Soda



Regular Cola



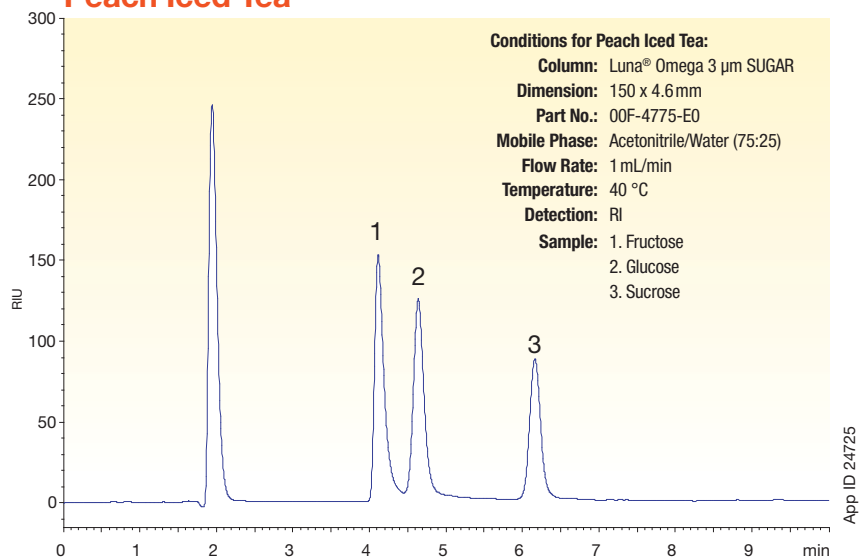
Diet Cola



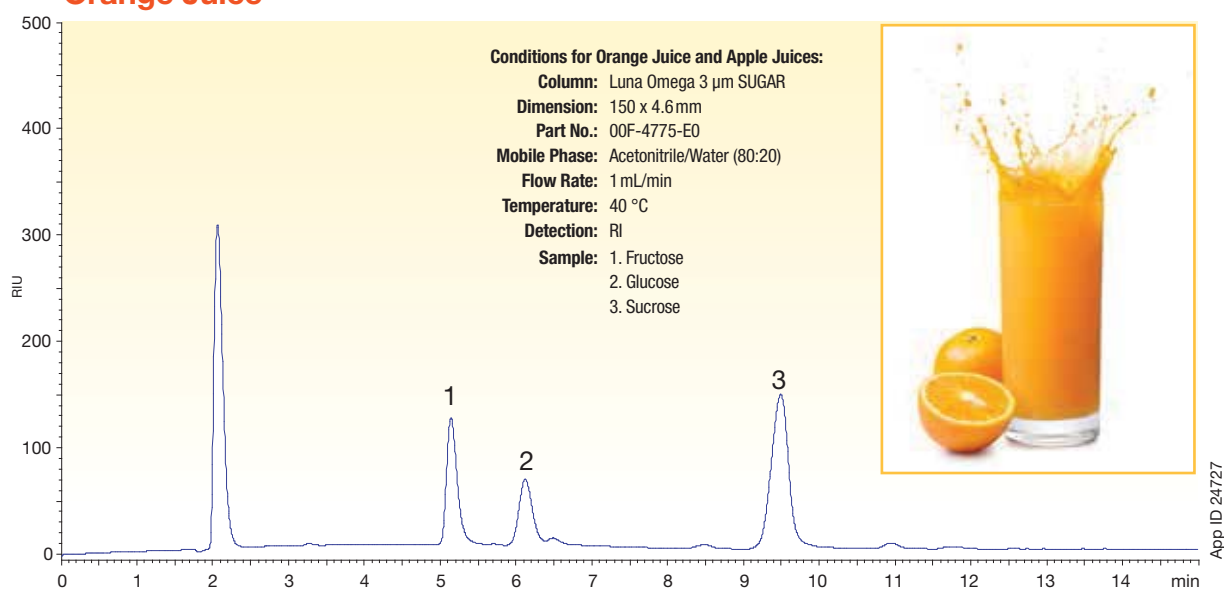
Conditions for Cola:
Column: Luna Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (80:20)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: RI
Sample: 1. Fructose
 2. Glucose



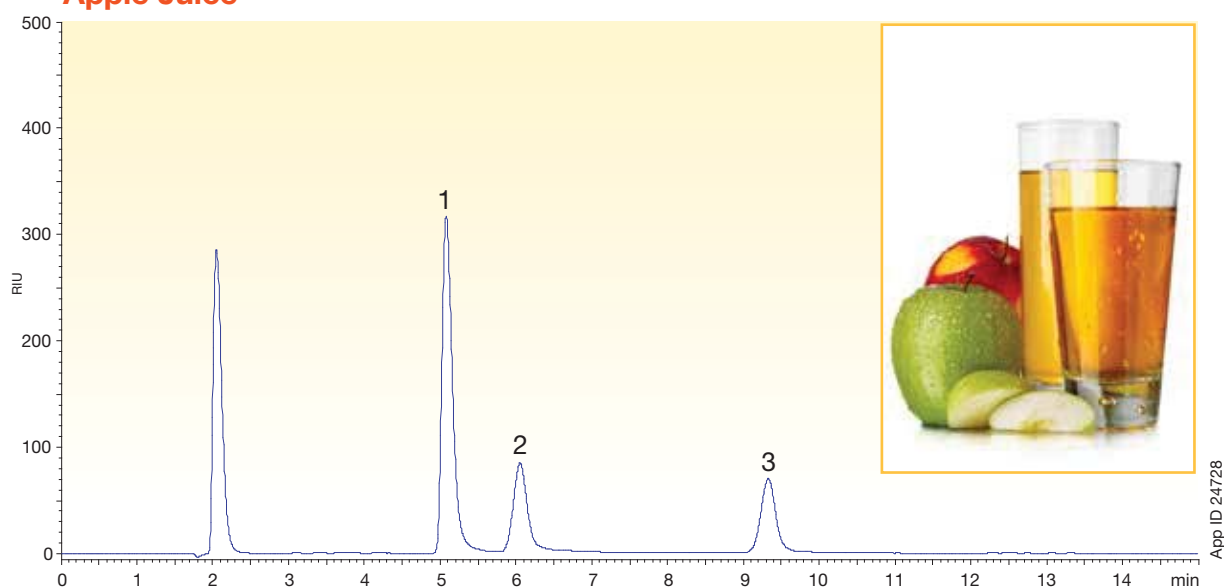
Peach Iced Tea



Orange Juice



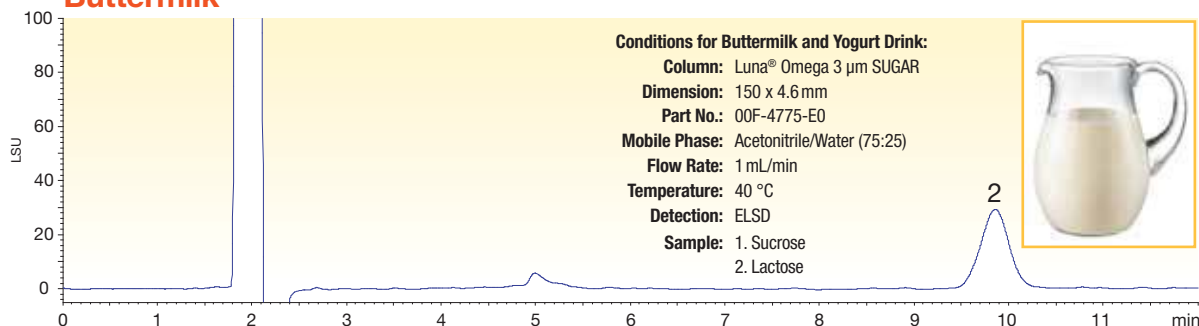
Apple Juice



Food and Beverages Yogurt, Buttermilk, and Sugar Alcohols

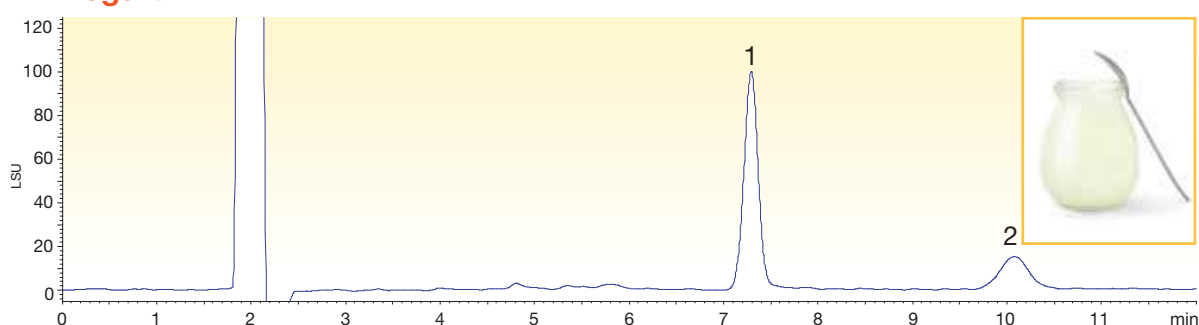


Buttermilk



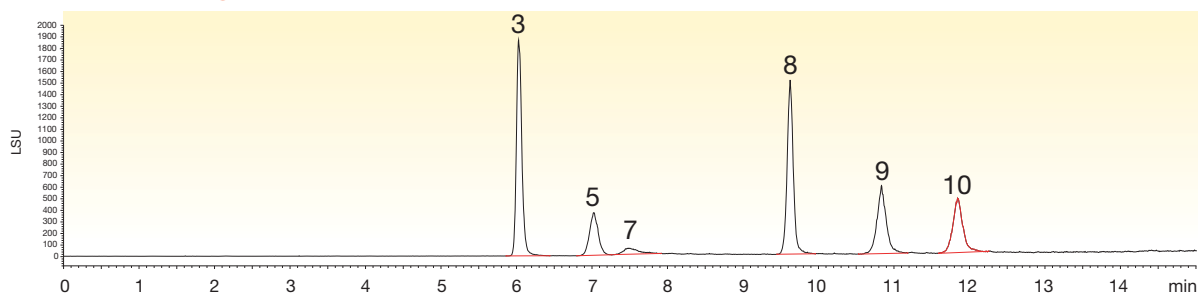
App ID 24744

Yogurt Drink



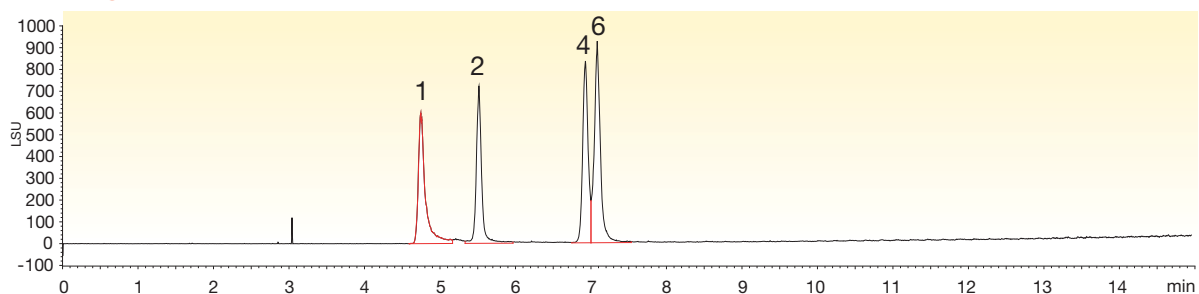
App ID 24745

Simple Sugars



App ID 24747

Sugar Alcohols



App ID 24747

Conditions for Sugar and Sugar Alcohols:

Column: Luna Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: A: Water
 B: Acetonitrile/Isopropanol/Water
 (90:5:5)

Gradient:

Time (min)	% B
0	90
0.5	90
15.5	70
17	70
18	90
20	90

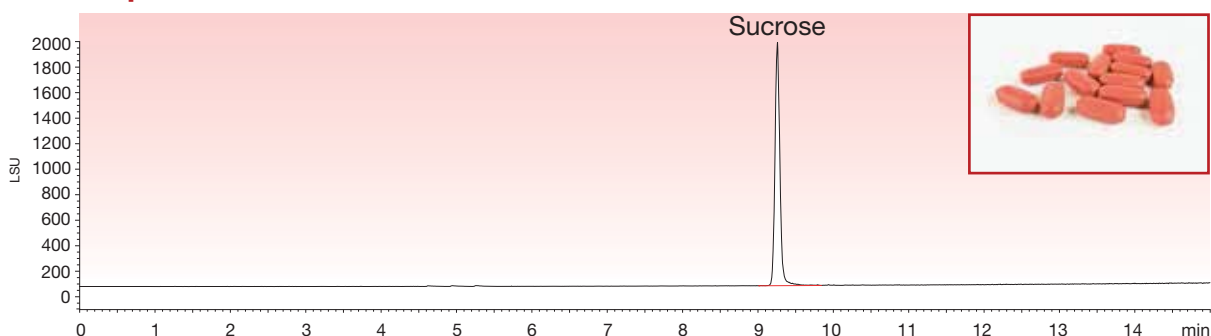
Flow Rate: 1 mL/min

Temperature: 35 °C
Injection Volume: 5 µL
Detection: ELSD
Sample:

1. Xylitol	6. Mannitol
2. Arabitol	7. Galactose
3. Fructose	8. Sucrose
4. Sorbitol	9. Maltose
5. Glucose	10. Lactose

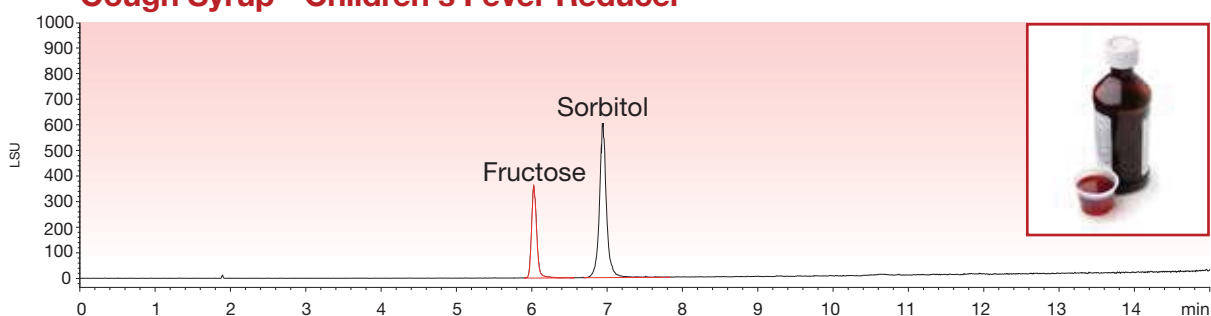


Ibuprofen Tablet



App ID 24792

Cough Syrup - Children's Fever Reducer



App ID 24793

Conditions for all samples:**Column:** Luna® Omega 3 µm SUGAR**Dimension:** 150 x 4.6 mm**Part No.:** 00F-4775-E0**Mobile Phase:** A: WaterB: Acetonitrile/Isopropanol/Water
(90:5:5)**Gradient:**

Time (min)	% B
0	90
0.5	90
15.5	70
17	70
18	90
20	90

Flow Rate: 1 mL/min**Temperature:** 35 °C**Injection Volume:** 5 µL**Detection:** ELSD**Sample:** As Noted

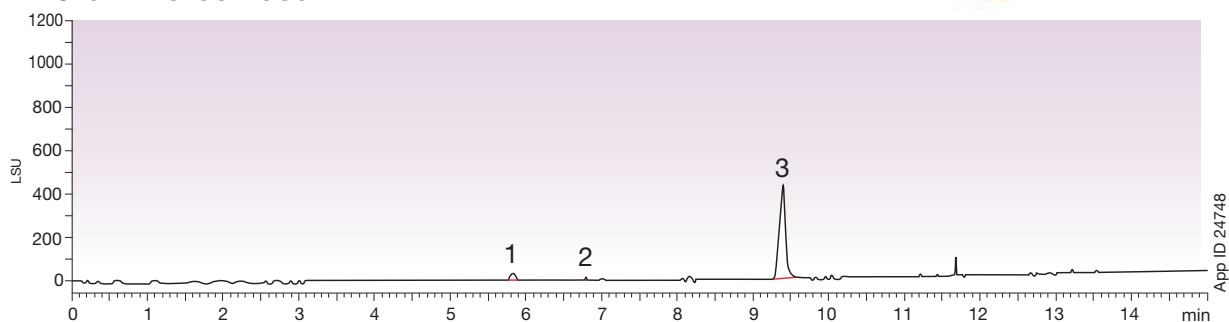
A Better Search!

Easily find applications,
product guides, and
technical tips through
our new search tool!

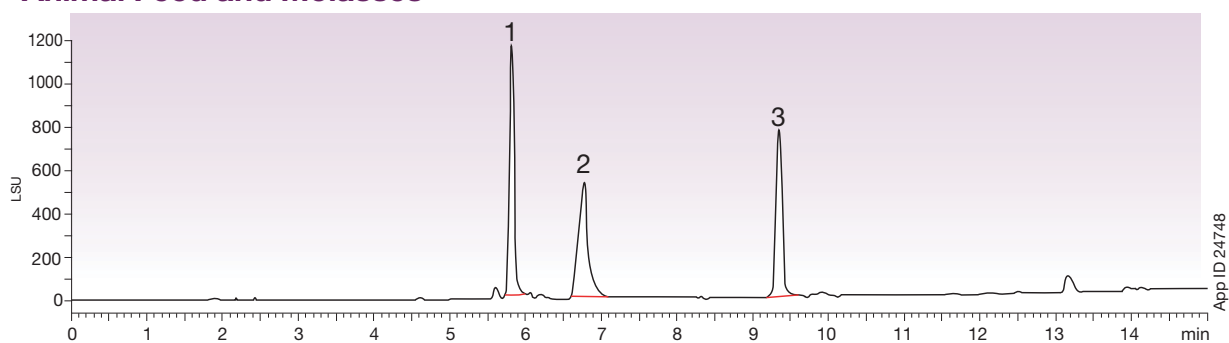
www.phenomenex.com/search



4-Grain Horse Feed



Animal Feed and Molasses



Conditions for all samples:

Analytical Column: Luna® Omega 3 µm SUGAR

Dimension: 150 x 4.6 mm

Part No.: 00F-4775-E0

Mobile Phase: A: Water

B: Acetonitrile/Isopropanol/Water
(90:5:5)

Gradient:	Time (min)	% B
	0	90
	0.5	90
	15.5	70
	17	70
	18	90
	20	90

Flow Rate: 1 mL/min

Temperature: 35 °C

Injection Volume: 5 µL

Detection: ELSD

Sample: 1. Fructose
2. Glucose
3. Sucrose

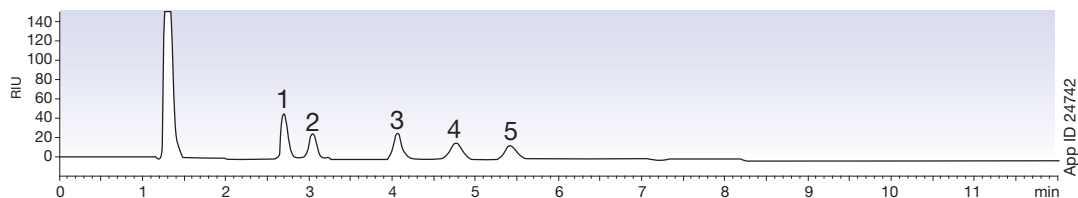


Method Development Tips

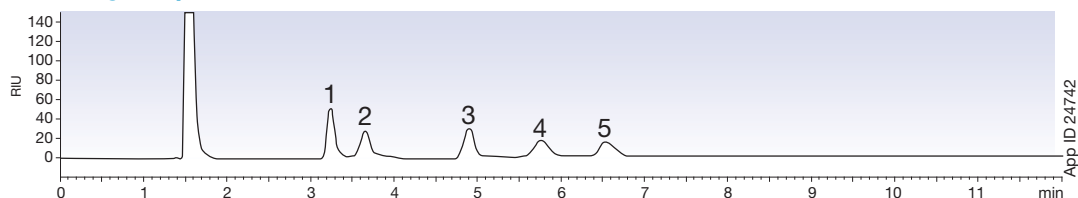
Flow Rate

With the fine-tuned selectivity of Luna Omega SUGAR for simple sugars, you have the ability to adjust the flow rate if needed for less system stress or for speeding up the analysis to improve throughput.

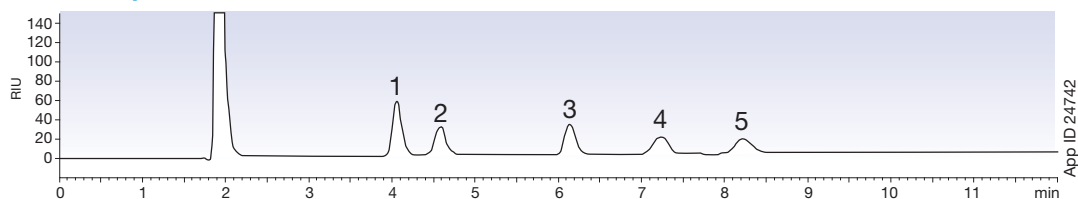
1.5 mL/min



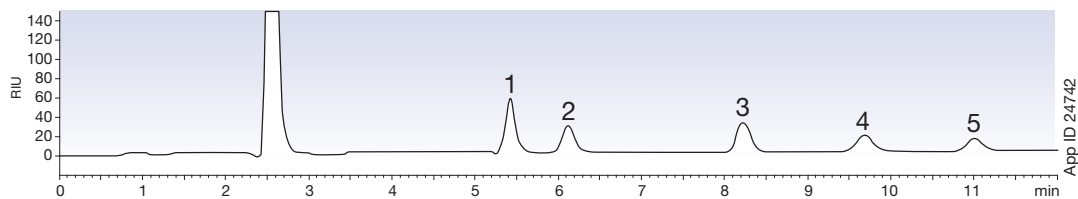
1.25 mL/min



1 mL/min



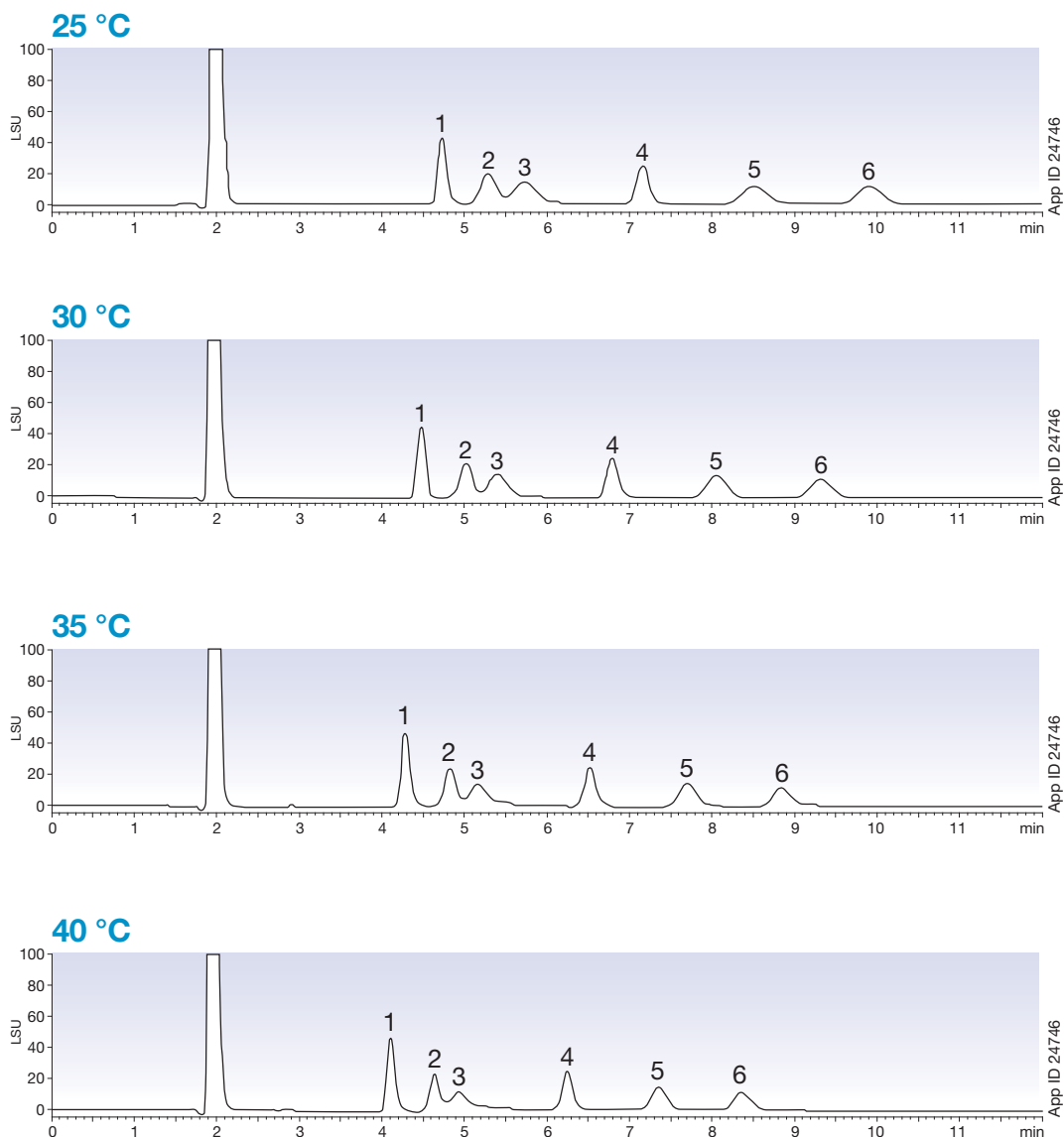
0.75 mL/min



Conditions for all samples:

Column: Luna® Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 25 °C
Detection: RI
Sample: 1. Fructose
2. Glucose
3. Sucrose
4. Maltose
5. Lactose

In this illustration you can see the direct effect of temperature on the separation and peak shape. With the increase in temperature, the analysis time shortens and peaks start to sharpen up. This can be quite advantageous when looking to improve productivity, especially without the need to adjust column length.



Conditions for all samples:

Column: Luna® Omega 3 µm SUGAR
Dimension: 150 x 4.6 mm
Part No.: 00F-4775-E0
Mobile Phase: Acetonitrile/Water (75:25)
Flow Rate: 1 mL/min
Temperature: 40 °C
Detection: ELSD
Sample: 1. Fructose
 2. Glucose
 3. Galactose
 4. Sucrose
 5. Maltose
 6. Lactose

- **Rapid filtration of LC samples prior to analysis**
- **Particulate, PVC, and extractable-free filters**
- Less system downtime
- More consistent, reproducible results
- Increased column lifetime



Syringe Filter Selection Guide

1. Choose filter diameter based on sample volume

≤ 2 mL Sample Volume

4 mm Diameter

2 - 10 mL Sample Volume

15 mm Diameter

10 - 100 mL Sample Volume

25 - 28 mm Diameter

2. Choose a pore size based on the nature of your sample and chromatographic method

Sample Description	Recommended Filter Pore Size
General aqueous or mixed organic samples prior to LC analysis with columns packed with > 3 µm particles. General clarification of GC, SFC, CE, and GPC samples.	0.45 µm
Viscous samples or samples containing high levels of particulate matter.	
General aqueous or mixed organic samples prior to LC analysis with columns packed with ≤ 3 µm particles. Removal of fine particulate matter prior to GC, SFC, CE, and GPC samples.	0.20 µm
Gas samples prior to GC. Liquid samples prior to UHPLC or LC/MS. Other particulate-sensitive methods.	
Viscous samples such as serum, plasma or other biological matrices. Solutions with high particulate load such as some environmental, biofuels or food and beverage applications.	Glass Fiber Filter with 0.45 µm filter membrane

3. Choose a filter membrane according to the characteristics of your sample and filtering objective

Membrane Type	Recommended Uses
RC (Regenerated Cellulose)	Hydrophilic Regenerated Cellulose filter membranes are compatible with a very broad range of aqueous and mixed-organic solutions. Phenex-RC filters also exhibit fast-flow and ultra-low protein and non-specific binding characteristics. Due to the beneficial material characteristics, Phenex-RC membranes are broadly recommended as an excellent general purpose/high-performance sample filter for most applications.
PTFE, Teflon® (Polytetrafluoroethylene)	PTFE is an inherently hydrophobic membrane excellent for filtration of organic-based, highly acidic or basic samples and solvents especially well suited for the clarification of non-aqueous samples. Although this membrane is hydrophobic, it can be made hydrophilic by wetting the membrane with alcohol and then flushing with deionized water.
PES (Polyethersulfone)	Polyethersulfone membranes exhibit very fast-flow and ultra-low protein binding characteristics and are ideally suited for use in many life science clarification applications. Phenex-PES membranes typically offer better chemical resistance than cellulose acetate and are broadly recommended for filtering critical biological samples, tissue culture media, additives and buffers.
NY (Nylon)	Nylon has inherent hydrophilic characteristics and works well for filtration of many aqueous and mixed-organic samples. In combination with a glass pre-filter (Phenex-GF/NY), this membrane is excellent for the filtration of particle-laden samples, such as foods and beverages, environmental, biofuels, and dissolution samples.
CA (Cellulose Acetate)	Cellulose Acetate membranes exhibit ultra-low protein binding and are broadly used in the filtration of biological samples. In combination with a glass pre-filter (Phenex-GF/CA), this membrane is excellent for filtration of tissue culture media, general biological sample filtration.
PVDF (Polyvinylidene Fluoride)	Hydrophilic PVDF membrane provides high flow rates and throughput, low extractables, and broad chemical compatibility. This membrane binds less protein than nylon or PTFE membranes.
GF (Glass Fiber)	Glass Fiber (GF) filters are made of inert borosilicate glass and have a nominal 1.2 µm pore size. They are commonly used with highly viscous samples or samples that contain high concentrations of particulate matter (e.g., food analysis, biological samples, soil samples, fermentation broth samples, removal of yeasts, molds, etc.). Glass Fiber filters can be used alone or in series with other Phenex filter membranes such as the 0.45 µm pore Phenex-RC filter to reduce clogging of the membrane and optimize flow.

Easy Sample Filtration Phenex Syringe Filters



Tip: Try a Sample Pack!

Request yours today by phone or visit
www.phenomenex.com/sample



guarantee

If Phenex Syringe Filters do not perform as well or better than your current syringe filter product of similar membrane, diameter and pore size, return the product with comparative data within 45 days for a FULL REFUND.

Membrane Type/Size	4 mm Diameter for ≤ 2 mL sample volumes			15 mm Diameter for 2 – 10 mL sample volumes			25 - 28 mm Diameter for 10 – 100 mL sample volumes		
	Part No.	Unit	Price	Part No.	Unit	Price	Part No.	Unit	Price
0.20 µm	RC (Regenerated Cellulose)	AF0-3203-12	100/pk	AF0-2203-12	100/pk		AF0-8203-12 ⁵	100/pk	
		AF0-3203-52	500/pk	AF0-2203-52	500/pk		AF0-8203-52 ⁵	500/pk	
	PES ³ (Polyethersulfone)	—	—	—	—	—	AF0-8208-12 ⁷	100/pk	
		—	—	—	—	—	AF0-8208-52 ⁷	500/pk	
	PTFE ⁶ (Polytetrafluoroethylene)	AF0-3202-12	100/pk	AF0-2202-12	100/pk		AF0-1202-12	100/pk	
		AF0-3202-52	500/pk	AF0-2202-52	500/pk		AF0-1202-52	500/pk	
	NY (Nylon)	AF3-3207-12	100/pk	AF0-2207-12	100/pk		AF0-1207-12	100/pk	
		AF3-3207-52	500/pk	AF0-2207-52	500/pk		AF0-1207-52	500/pk	
	GF/NY ² (Glass Fiber/Nylon)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a Nylon (NY) membrane. Excellent for filtration of particle-laden samples, such as foods and beverages, environmental, biofuels, and dissolution samples. Use less hand pressure to filter even the most difficult samples. Outlet connection is luer lock.					AF0-1A47-12 ⁷	100/pk	
							AF0-1A47-52 ⁷	500/pk	
	PVDF (Polyvinylidene Fluoride)	—	—	AF6-5206-12 ⁸	100/pk		AF6-6206-12	100/pk	
		—	—	AF6-5206-52 ⁸	500/pk		AF6-6206-52	500/pk	
0.45 µm	GF/PVDF (Glass Fiber/Polyvinylidene Fluoride)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a PVDF membrane. The hydrophilic PVDF membrane provides high flow rates and throughput, low extractables and broad chemical compatibility. This membrane binds less protein than nylon or PTFE membranes.					AF6-6C06-12	100/pk	
							AF6-6C06-52	500/pk	
	CA ⁴ (Cellulose Acetate)	—	—	—	—	—	AF0-8204-12 ⁷	100/pk	
		—	—	—	—	—	AF0-8204-52 ⁷	500/pk	
	GF/CA ^{2,3,4} (Glass Fiber/Cellulose Acetate)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a CA membrane. Excellent for filtration of tissue culture media, general biological sample filtration and clarification. Outlet connection is luer lock.					AF0-8A09-12 ⁷	100/pk	
							AF0-8A09-52 ⁷	500/pk	
	RC (Regenerated Cellulose)	AF0-3103-12	100/pk	AF0-2103-12	100/pk		AF0-8103-12 ⁵	100/pk	
		AF0-3103-52	500/pk	AF0-2103-52	500/pk		AF0-8103-52 ⁵	500/pk	
	PES ³ (Polyethersulfone)	—	—	—	—	—	AF0-8108-12 ⁷	100/pk	
		—	—	—	—	—	AF0-8108-52 ⁷	500/pk	
	PTFE ⁶ (Polytetrafluoroethylene)	AF0-3102-12	100/pk	AF0-2102-12	100/pk		AF0-1102-12	100/pk	
		AF0-3102-52	500/pk	AF0-2102-52	500/pk		AF0-1102-52	500/pk	
1.20 µm	NY (Nylon)	AF3-3107-12	100/pk	AF0-2107-12	100/pk		AF0-1107-12	100/pk	
		AF3-3107-52	500/pk	AF0-2107-52	500/pk		AF0-1107-52	500/pk	
	GF/NY ² (Glass Fiber/Nylon)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a Nylon (NY) membrane. Excellent for filtration of particle-laden samples, such as foods and beverages, environmental, biofuels, and dissolution samples. Use less hand pressure to filter even the most difficult samples. Outlet connection is luer lock.					AF0-1B47-12 ⁷	100/pk	
							AF0-1B47-52 ⁷	500/pk	
	PVDF (Polyvinylidene Fluoride)	—	—	AF6-5106-12 ⁸	100/pk		AF6-6106-12	100/pk	
		—	—	AF6-5106-52 ⁸	500/pk		AF6-6106-52	500/pk	
	GF/PVDF (Glass Fiber/Polyvinylidene Fluoride)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a PVDF membrane. The hydrophilic PVDF membrane provides high flow rates and throughput, low extractables and broad chemical compatibility. This membrane binds less protein than nylon or PTFE membranes.					AF6-6D06-12	100/pk	
							AF6-6D06-52	500/pk	
	GF/CA ^{2,3,4} (Glass Fiber/Cellulose Acetate)	An integrated syringe filter unit containing an inert borosilicate glass fiber prefilter and a CA membrane. Excellent for filtration of tissue culture media, general biological sample filtration and clarification. Outlet connection is luer lock.					AF0-8B09-12 ⁷	100/pk	
							AF0-8B09-52 ⁷	500/pk	
	GF ^{2,3} (Glass Fiber)	Prefiltration of heavily contaminated or highly viscous samples. When used in-series preceding a membrane filter, clogging of the membrane filter is prevented and sample clean up is optimized. Outlet connection is luer lock.					AF0-8515-12 ⁷	100/pk	
							AF0-8515-52 ⁷	500/pk	



1. Larger quantity purchases at significant savings are available.
2. Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90 % of all particles >1.2 µm.
3. Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.



Above syringe filters are non-sterile. Housing is made of medical-grade polypropylene (PP), and offer luer lock inlet/slip outlet connections, unless otherwise indicated.

4. Cellulose acetate is surfactant-free.
5. 26 mm diameter.
6. Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.

7. 28 mm diameter.
8. 17 mm diameter.
9. Additional dimensions and membrane types are available. Please contact your local Phenomenex technical consultant or distributor for availability or assistance.

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Decrease LC-MS Down Time for Maintenance	•	•	•
Increase Column Lifetime	•	•	•
Remove Particulates	•	•	•
Remove Proteins	•	•	•
Remove Phospholipids	•	•	•
De-salt		•	•
Solvent Switching		•	•
Specifically Extract Target Analytes			•
Concentrate			•
Product Recommendation	roQ QuEChERS Kits	novum™ simplified liquid extraction strata® DE Supported Liquid Extraction	strata[®]X Polymeric SPE strata[®] Solid Phase Extraction
Clean-up Time (min)	< 10	< 15	< 30
Degree of Cleanliness			

www.phenomenex.com/sampleprep

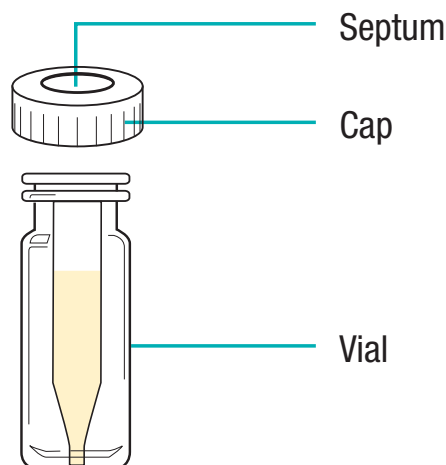
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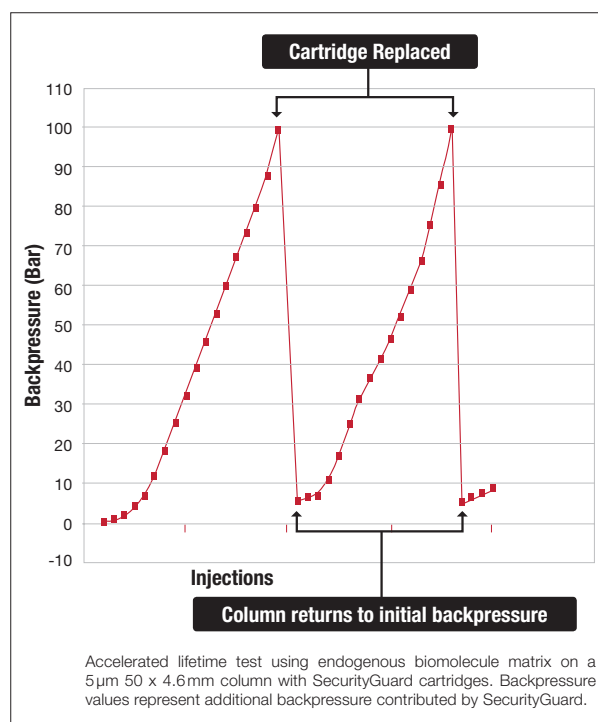
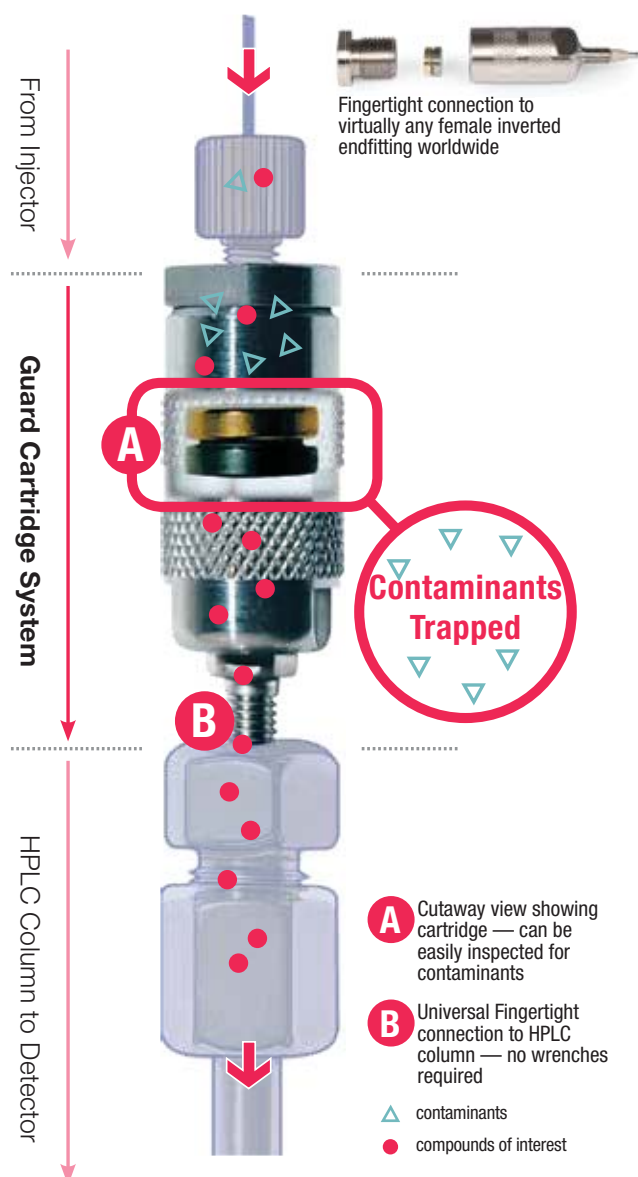
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Luna® Omega SUGAR Ordering Information



3 µm Minibore Columns (mm)				SecurityGuard™ Cartridges (mm)
Phases	50 x 2.1	100 x 2.1	150 x 2.1	4 x 2.0*
				/10pk
Sugar	00B-4775-AN	00D-4775-AN	00F-4775-AN	AJ0-4496 for ID: 2.0-3.0 mm

3 µm MidBore™ Columns (mm)		SecurityGuard™ Cartridges (mm)
Phases	150 x 3.0	4 x 2.0*
		/10pk
Sugar	00F-4775-Y0	AJ0-4496 for ID: 2.0-3.0 mm

3 µm Analytical Columns (mm)				SecurityGuard™ Cartridges (mm)
Phases	100 x 4.6	150 x 4.6	250 x 4.6	4 x 3.0*
				/10pk
Sugar	00D-4775-E0	00F-4775-E0	00G-4775-E0	AJ0-4495 for ID: 3.2-8.0 mm

* SecurityGuard Analytical Cartridges require holder, Part No.: KJ0-4282

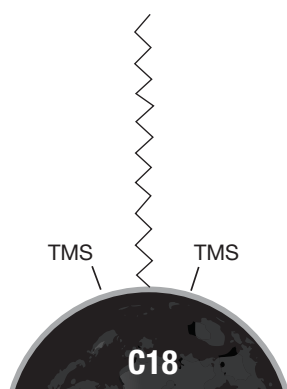


If Luna analytical columns do not provide at least an equivalent separation as compared to a competing column of the same particle size, similar phase and dimensions, return the column with comparative data within 45 days for a FULL REFUND.

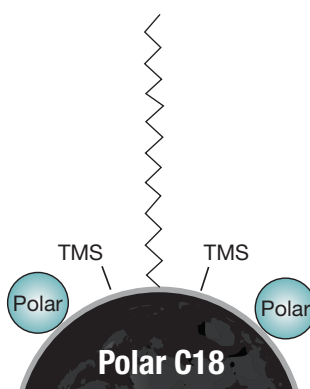


Additional Selectivities

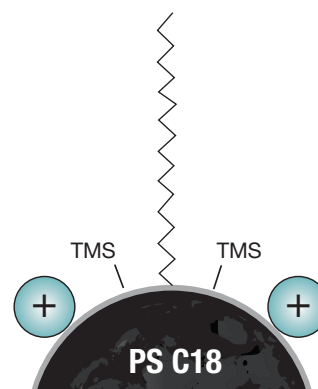
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Disclaimer

Comparative separations may not be representative of all applications.

Strata-X is patented by Phenomenex. U.S. Patent No. 7,119,145

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

Novum is patent pending.

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