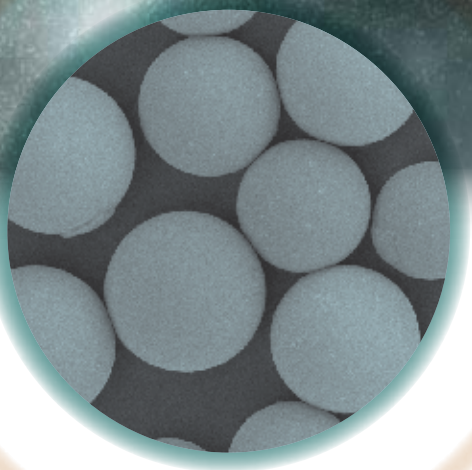
NEW ARION HAS BEEN BORN

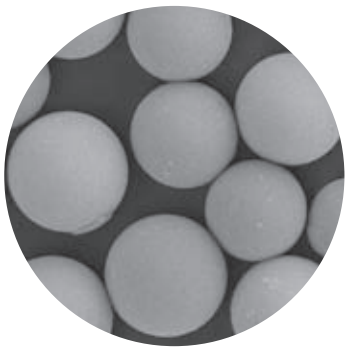
WORKHORSE
FOR YOUR APPLICATIONS



ARION

As ARION® is one of the latest objects found in space, so it also is the latest workhorse for your application. Explore our new line of HPLC columns ARION®. What innovations does this column bring to you?

- Strict quality control of alkaline and heavy metal content during the silica gel production process
- Narrow particle size and pore size distribution
- Unique production process ensuring high lot-to-lot reproducibility
- Good stability at higher temperatures



ARION® Silicagel

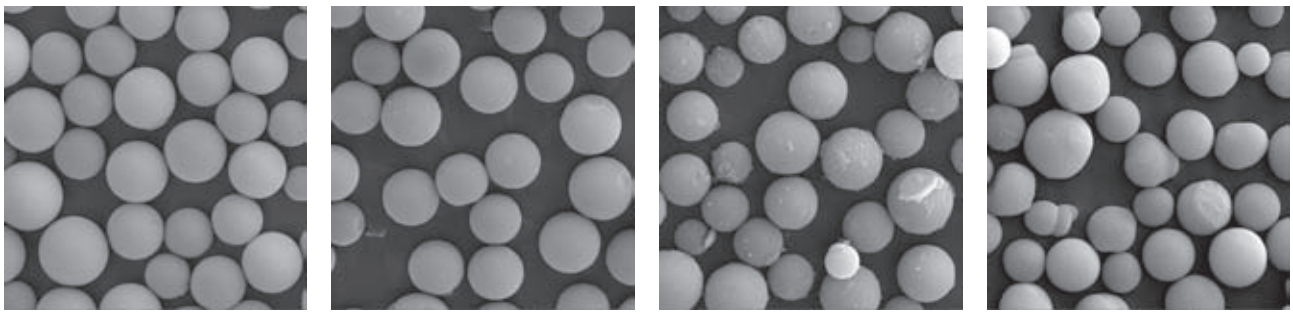
Endcapping	Multi-step
USP Code	L1
Temperature stability	100 °C*
Mean particle diameter	5.3 ± 0.9 µm
Proximity to the shape of circle	0.96 ± 0.04

* Depends on mobile phase used and silica bonding

ARION® phases	Particle size (µm)	Pore size (Å)	Surface area (m^2/g)	Carbon load	pH stability	100% aqueous mobile phase
C18 Plus	3, 5	100	420	18 %	1 to 10	×
C18 Polar	3, 5	120	325	16 %	1.5 to 7	✓

WHAT DOES ARION QUALITY LOOK LIKE?

ARION® particles have a very tight distribution and the highest proximity to the shape of a spherical particle (c=0,9618 ± 0,0353). This ensures high separation power and separation reproducibility.



ARION® | Competitor L | Competitor X | Competitor E

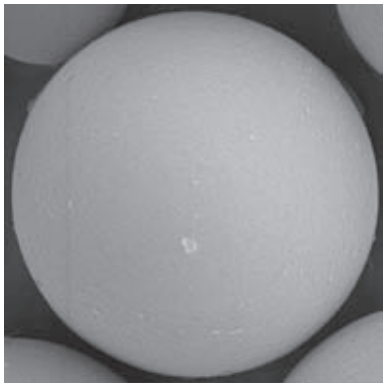
SEM HV analysis 20.0 kV, view field 30 µm (by independent laboratory)

The ARION® media does not include broken or "potato-shaped" particles. The silica spherical shape is unique; both surface uniformity and surface smoothness enable better packing into HPLC columns and therefore paramount chromatography resolution and reproducibility.

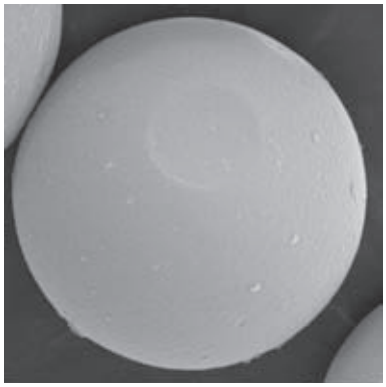
ARION

Up close

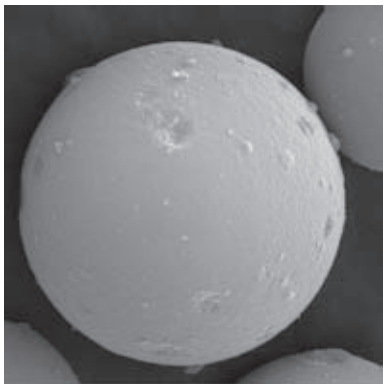
The 5-micron electron microscope field clearly shows the highest quality of ARION® particles.



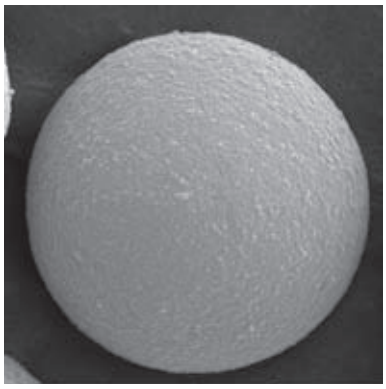
ARION®



Competitor L



Competitor X



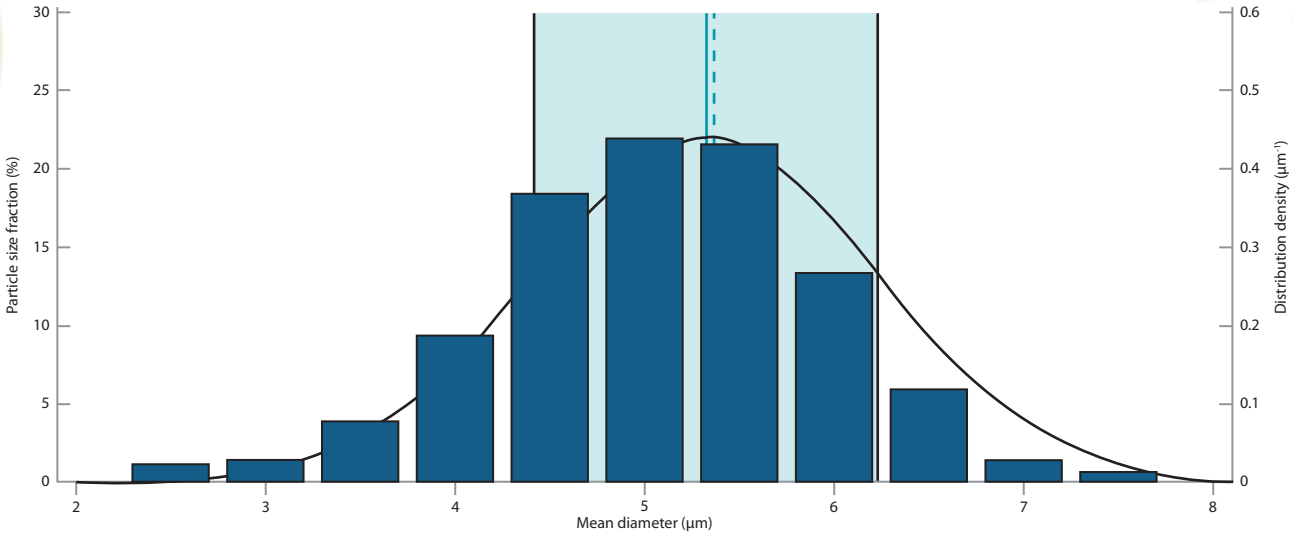
Competitor E

Main particle characteristics:

- The highest proximity to a circle
- Unique surface smoothness shown on pictures above
- Tight particle size distribution
- No broken particles
- No presence of clustered particles
- No "Moon craters or mountains"

ARION

Particle size distribution



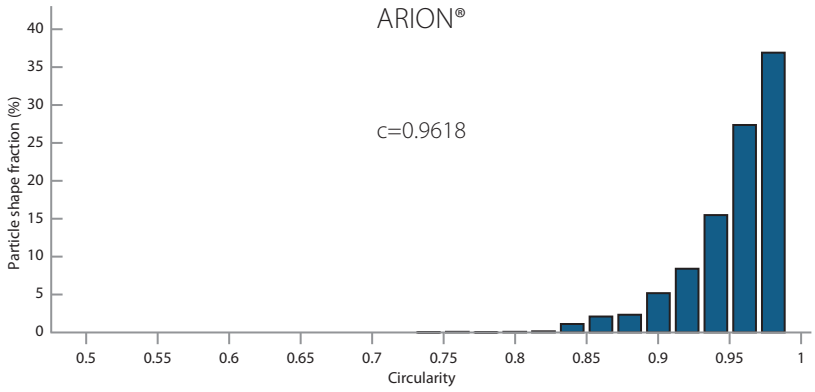
Particle size distribution of ARION® particles shows a tight profile calculated from ferret figures by SEM.

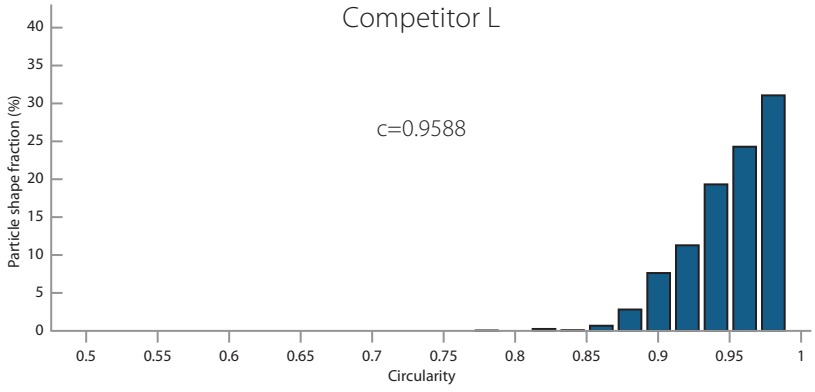
ARION® column hardware:

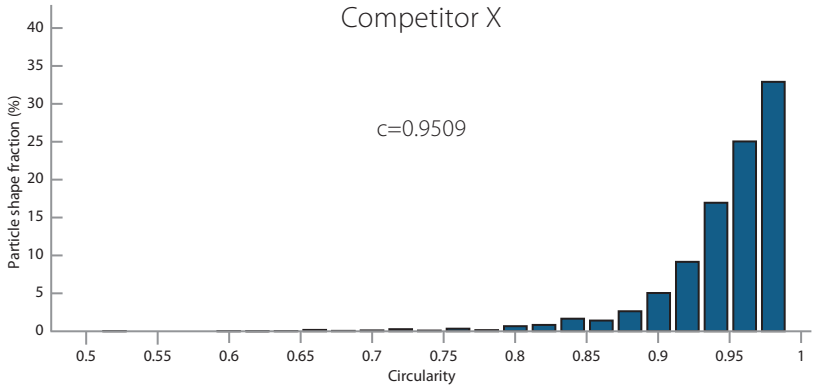
- Modern column hardware for easy handling in a narrow space
- UHPLC grade Stainless Steel with an amazing smooth internal surface
- Colour coded fittings

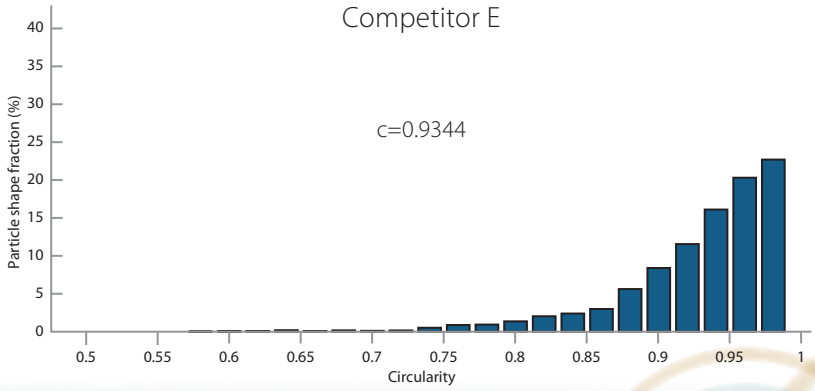
ARION

Circularity









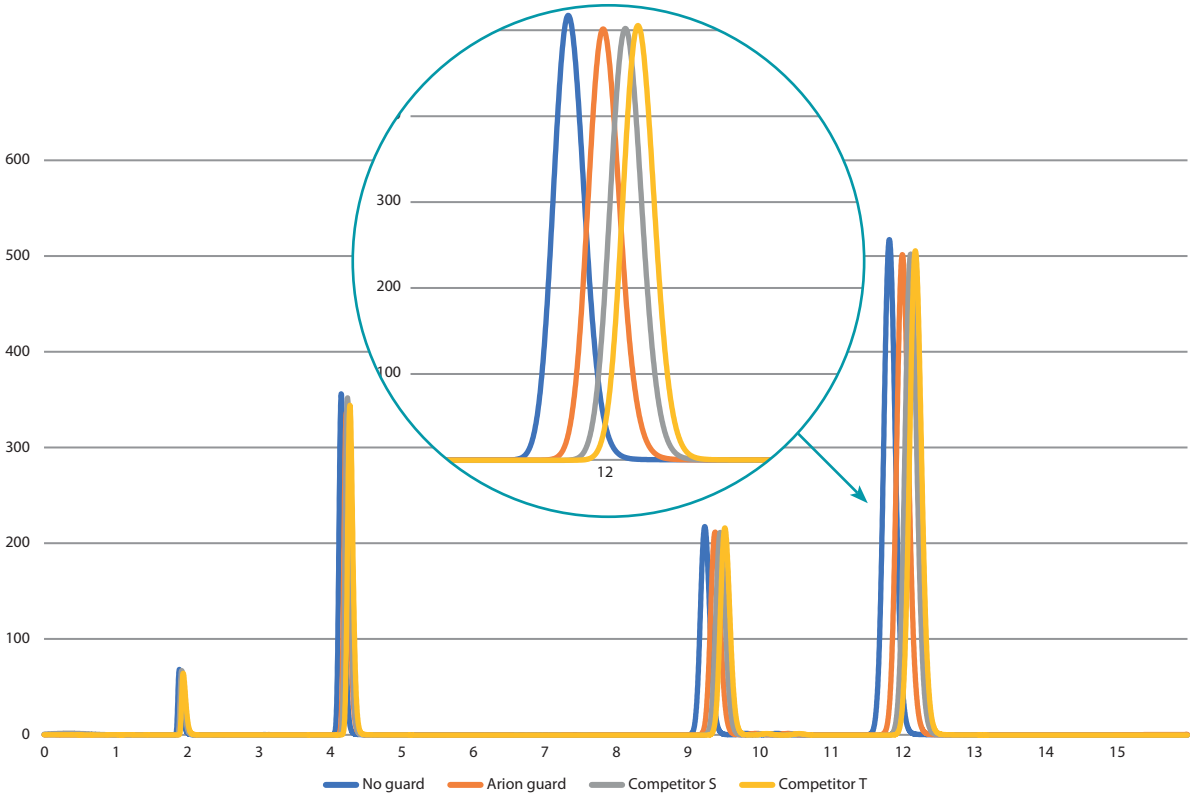
ARION

Guard column system

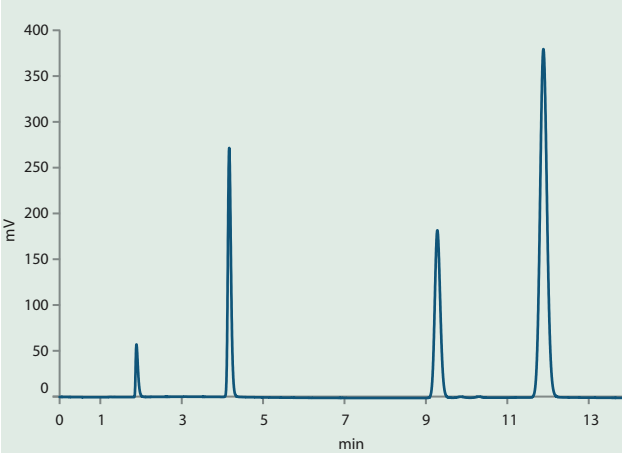
ARION® Guard System (AGS) is a universal guard system, which can be connected to almost any column hardware on the market. It is easy to use and it offers the shortest retention time shift of analytes in comparison with other major manufacturers. The AGS consists of a Guard holder and Guard cartridge, which is offered with various silica materials according to the stationary phase in the HPLC column used.

- Universal – fits to virtually any column
- The **lowest influence on retention times** compared with other guard systems
- Small size for easier installation in the column oven
- **Any orientation** of the cartridge
- Pressure rating up to **900 bars**
- Higher bed capacity

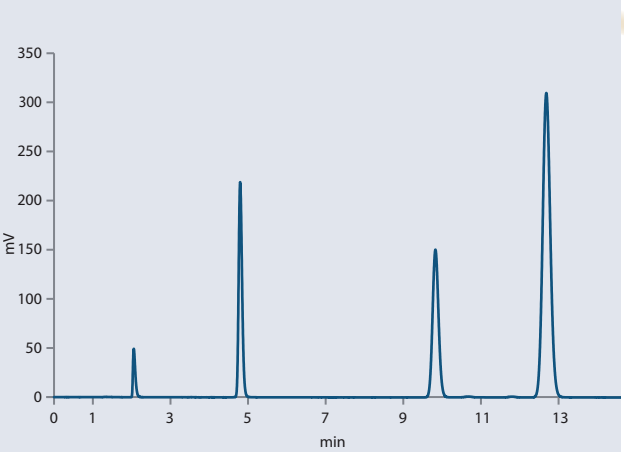
AGS-5731-000



Comparison of guard systems from various manufacturers



ARION® Plus with Arion Guard System



ARION® Polar with Arion Guard System

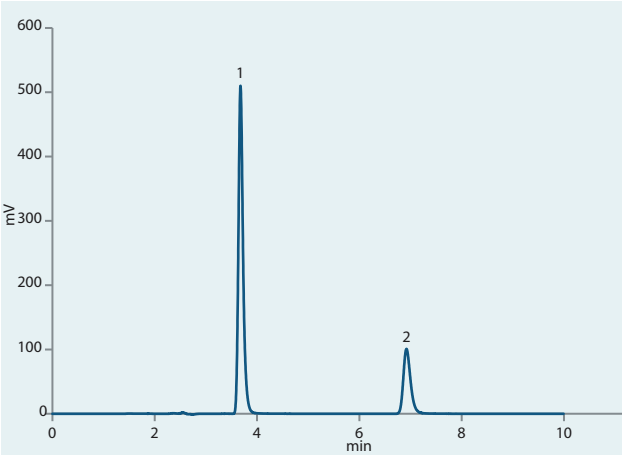
Both chromatograms above show the separation of Uracil, Acetophenone, Toluene and Naphthalene with ARION® Guard system in Acetonitrile/Water (65:35) at 254 nm. ARION® Guard system does not affect column performance. It does not show any influence on peak symmetry or column resolution.
A higher sorbent bed (5 × 4 mm ID) offers a raised capacity without needing to couple two cartridges together. All this ensures lower running costs.

ARION® Guard exploded view

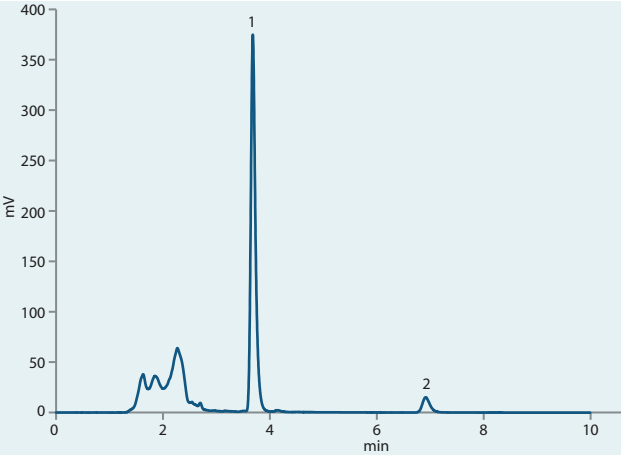
ARION - Applications

Alcaloids – Xanthine derivatives

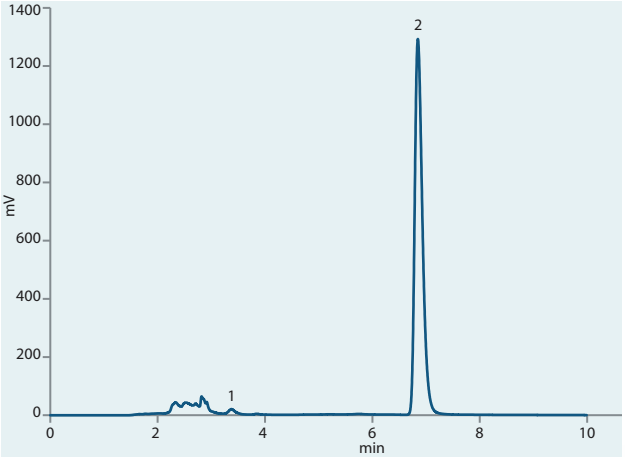
Xanthine alkaloids occur naturally in various plants, such as cocoa, tea and coffee tree. They are commonly used for their effects as mild stimulants. Xanthine alkaloids are monitored in food and drinks, e.g. in chocolate, coca powder, and energy drinks.



Theobromine and caffeine standard



Cocoa sample



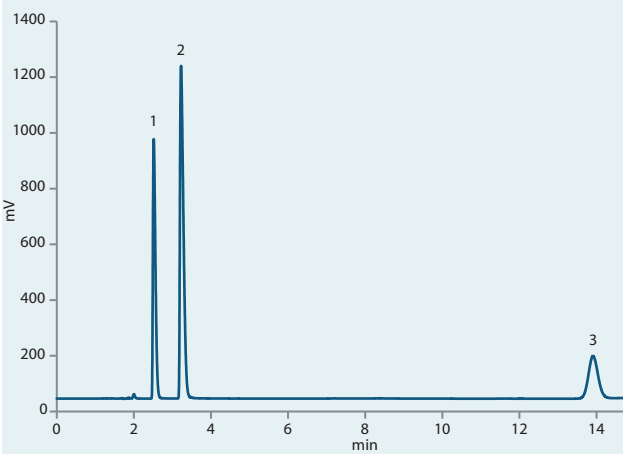
Energy drink

Column	ARION® Plus C18, 5.0 µm
Dimensions	250 mm × 4.6 mm
Part number	ARI-5720-LM46
Mobile Phase	methanol/water (30/70 v/v)
Flow rate	1.0 ml/min
Temperature	30 °C
Detection	UV @280 nm
Analytes	**1. Theobromine** **2. Caffeine**

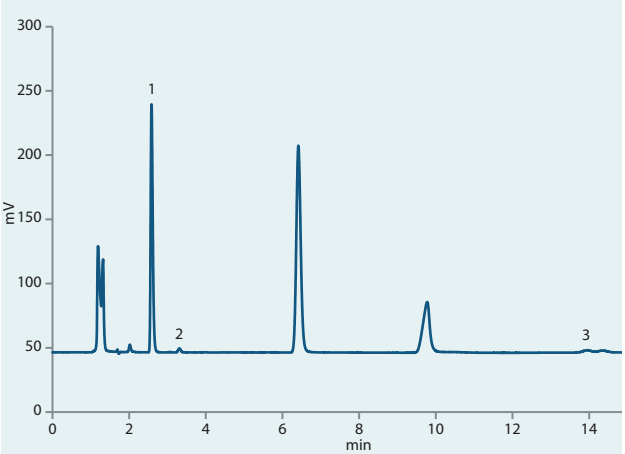
ARION - Applications

Non-nutritive sweeteners

Low-caloric value sweeteners are commonly used worldwide in the food and drink industry. The list of approved sweeteners varies from country to country. The most common method used to monitor these highly consumed products involves high performance liquid chromatography (HPLC or UHPLC).



Standard mixture



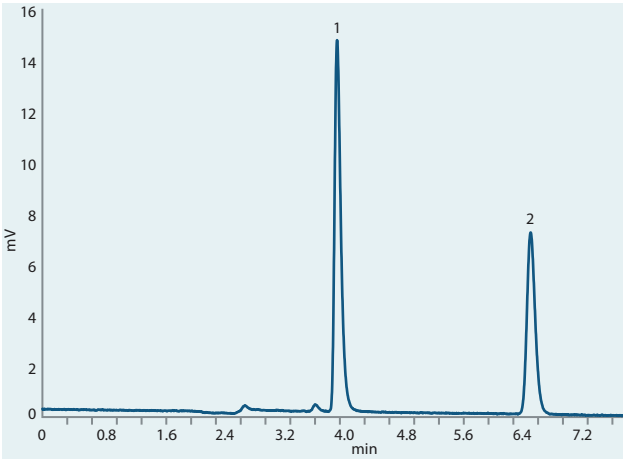
Energy drink

Column	ARION® Plus C18, 5.0 µm
Dimensions	250 mm × 4.6 mm
Part number	ARI-5720-LM46
Mobile Phase	20 mM KH_2PO_4/AcN (90/10 v/v)
Flow rate	2.0 ml/min
Temperature	30 °C
Detection	UV @220 nm
Analytes	**1. Acesulfame-K (ACS-K)** **2. Saccharin (SAC)** **3. Aspartame (ASP)**

ARION - Applications

Organic acids

The identification and quantitative analysis of major organic acids in fruits and vegetables is considered very important for the food and beverage industry. Organic acids play a significant role thanks to their influence on flavour, stability and keeping quality. Organic acids are generated during the aerobic oxidation of carbohydrates, proteins and fats in most biological systems.



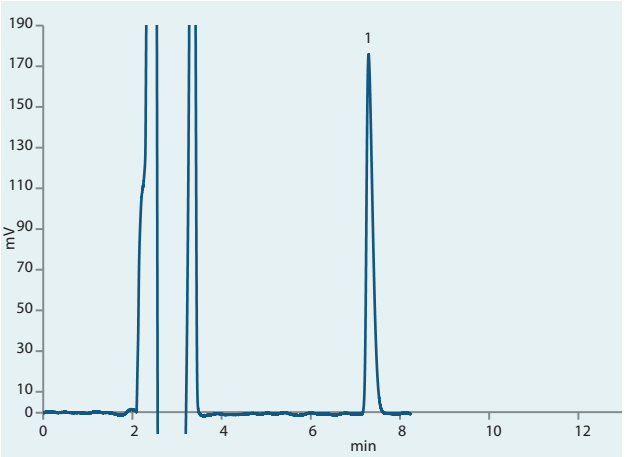
Standard mixture

Column	ARION® Polar C18, 5.0 µm
Dimensions	250 mm × 4.6 mm
Part number	ARI-5721-LM46
Mobile Phase	0.05% H_3PO_4
Flow rate	1.0 ml/min
Temperature	30 °C
Detection	UV @207 nm
Analytes	**1. Formic acid** **2. Acetic acid**

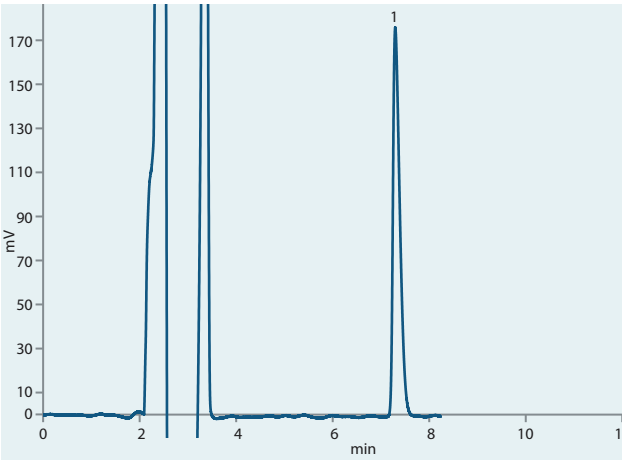
ARION - APPLICATIONS

PHARMACEUTICAL DRUGS

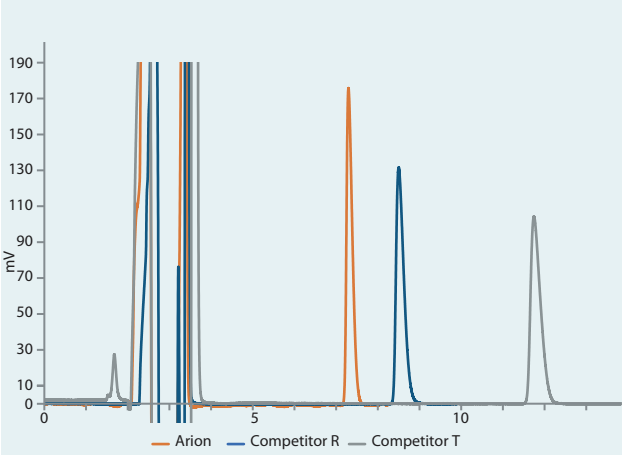
Tamsulosin hydrochloride is used to treat the symptoms of an enlarged prostate. This drug is an alpha-blocker that works by relaxing the muscles in the prostate and the bladder. Tamsulosin is sold under various trade names, e.g. Flomax, Urimax, Contiflo XL, Mesir LP, Prostanil MR, Tamsin, Fokusin, etc. Shown below is a chromatogram of the determination of the tamsulosin hydrochloride content according to the proprietary method.



Standard mixture



Drug sample



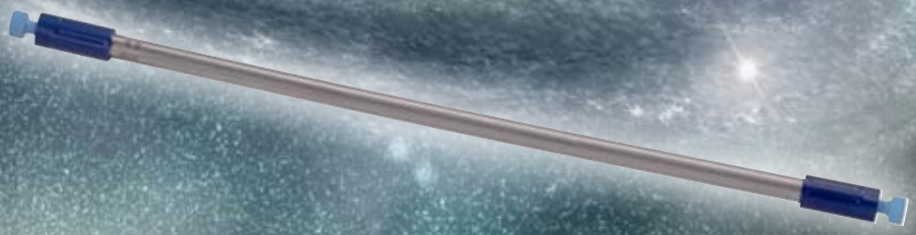
Comparison of fully porous particles

Column	Arion® Plus C18, 5.0 µm
Dimensions	250 mm × 4.6 mm
Part number	ARI-5720-LM46
Mobile Phase	acetate buffer / acetonitrile
Flow rate	1.0 ml/min
Temperature	30 °C
Detection	UV @225 nm
Analytes	**1. Tamsulosin hydrochloride**

ORDERING INFORMATION

5 µm ARION® Plus all dimensions in mm						**ARION® Guard Cartridges***
Phase	**100 × 3.0**	**150 × 3.0**	**100 × 4.6**	**150 × 4.6**	**250 × 4.6**	**5 × 4.0**
C18	–	–	ARI-5720-LI46	ARI-5720-LK46	ARI-5720-LM46	AGS-5731-RD4

3 µm ARION® Plus all dimensions in mm						**ARION® Guard Cartridges***
Phase	**100 × 3.0**	**150 × 3.0**	**100 × 4.6**	**150 × 4.6**	**250 × 4.6**	**5 × 4.0**
C18	ARI-5720-II30	ARI-5720-IK30	ARI-5720-II46	ARI-5720-IK46	ARI-5720-IM46	AGS-5731-RC4



5 µm ARION® Polar all dimensions in mm						**ARION® Guard Cartridges***
Phase	**100 × 3.0**	**150 × 3.0**	**100 × 4.6**	**150 × 4.6**	**250 × 4.6**	**5 × 4.0**
C18	–	–	ARI-5721-LI46	ARI-5721-LK46	ARI-5721-LM46	AGS-5731-RD4

3 µm ARION® Polar all dimensions in mm						**ARION® Guard Cartridges***
Phase	**100 × 3.0**	**150 × 3.0**	**100 × 4.6**	**150 × 4.6**	**250 × 4.6**	**5 × 4.0**
C18	ARI-5721-II30	ARI-5721-IK30	ARI-5721-II46	ARI-5721-IK46	ARI-5721-IM46	AGS-5731-RC4

* ARION® Guard cartridges require ARION® Guard Holder p/n AGS-5731-000 (supplied without cartridges).

Distributor: