

# Purospher® STAR RP-18 endcapped, 2 µm Capillary Columns

Best in Class C18 phase for excellent peak symmetry, performance and pH stability

Fully porous silica particles (FPP) have been the go-to choice in HPLC for decades, offering high efficiency, versatility, and compatibility with modern instrumentation. Advancements in particle technology are still making them widely recognized as the state of the art in HPLC separations.

Purospher® STAR RP-18 endcapped capillary columns are based on ultra-pure fully porous silica particles (Type B). They are designed for universal use and allow the separation of basic, neutral, and metal chelating compounds with simple mobile phases and excellent peak symmetry. These columns offer an outstanding stability from pH 1.5 to 10.5 over a wide temperature range, and demonstrate best all-round retention characteristics.

## Features and Benefits

- Accurate results with excellent peak shape for all types of analytes
- Outstanding resolution due to high separation efficiency
- Proven reliability and reproducibility from run to run and batch to batch
- Universal compatibility with best all-round performance acc. to Tanaka test
- Maximum flexibility in method development and choice of mobile phase
- pH stability from pH 1.5 – 10.5
- Highest sensitivity and suitability for LC-MS applications

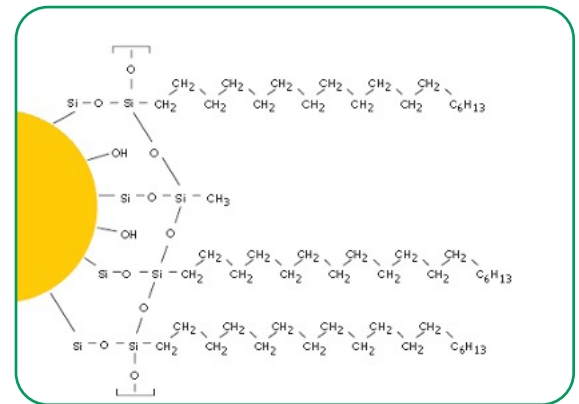
## High Column Efficiency for Robust Methods

The efficiency of an HPLC column, as described by the Knox equation, is significant in chromatographic separations, and directly affects resolution, sensitivity, analysis speed, peak capacity, selectivity, and method robustness.

The high separation efficiency of Purospher® STAR RP-18 endcapped (2 µm) capillary columns contributes to improved chromatographic performance and reliable analytical results.

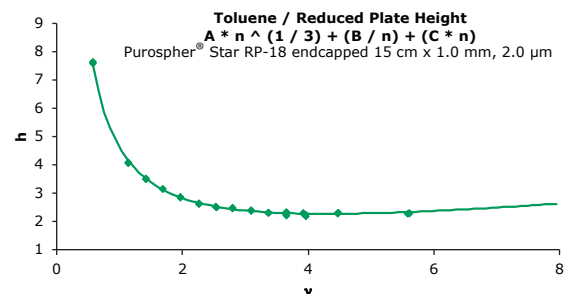
The Knox equation is widely used to illustrate the dependence of the plate height (H) on the linear velocity (v) of the mobile phase. It helps analyze the efficiency of the column by evaluating the height equivalent to a theoretical plate (HETP) at different flow rates. A lower HETP indicates better column efficiency.

The Knox Plot results on the right demonstrate the high separation power of the Purospher® STAR RP-18 endcapped (2 µm) 150 mm × 1.0 mm I.D capillary columns.



## Purospher® STAR RP-18 endcapped specifications:

Silica:	Type B (High purity silica)
Particle platform:	Fully porous particles (FPP)
Phase chemistry:	Octadecyl
USP:	L1
Particle size:	2.0 µm
Pore size:	120 Å
Carbon load:	17%
Surface Area:	330 m <sup>2</sup> /g
pH range:	1.5 – 10.5
Max temperature:	60 °C
Endcapped:	Yes

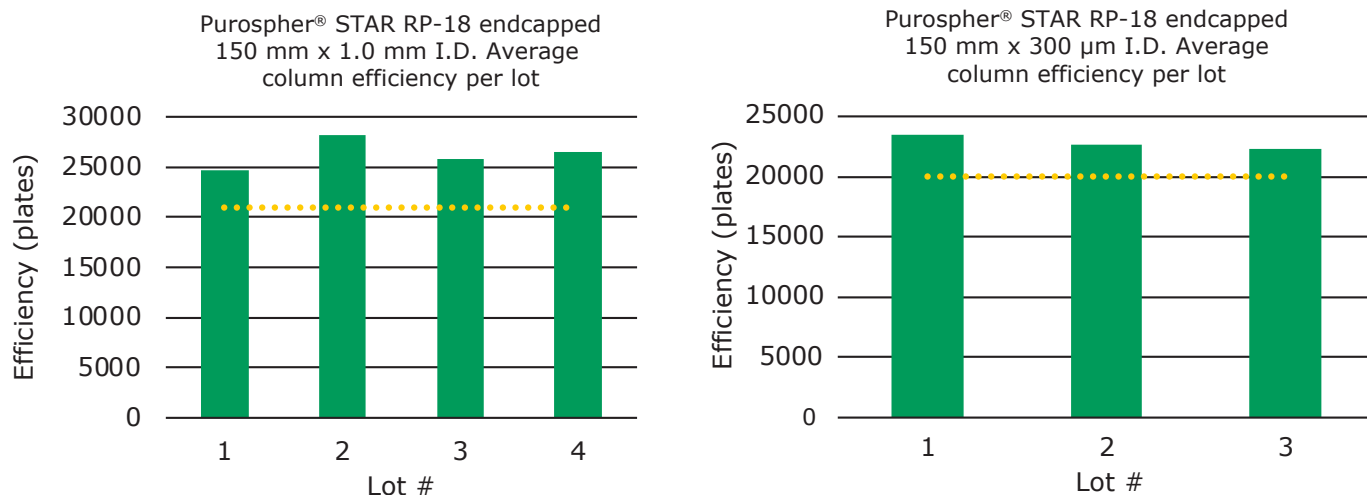


## Column-to-Column and Lot-to-Lot Reproducibility

The success of any method depends on the quality of the stationary phase. Precise, long-term reproducibility is a key factor in achieving reliable results.

Below the lot-to-lot consistency of the Purospher® STAR RP-18 endcapped capillary columns is shown. Three different lots of material are tested for column performance in both the 1.0 mm I.D. and 300 µm I.D. column dimension.

Furthermore, meticulous care is given to quality control over all aspects of silica structure and chemistry. These factors ensure that the columns will always perform consistently, resulting in method reproducibility you can trust.

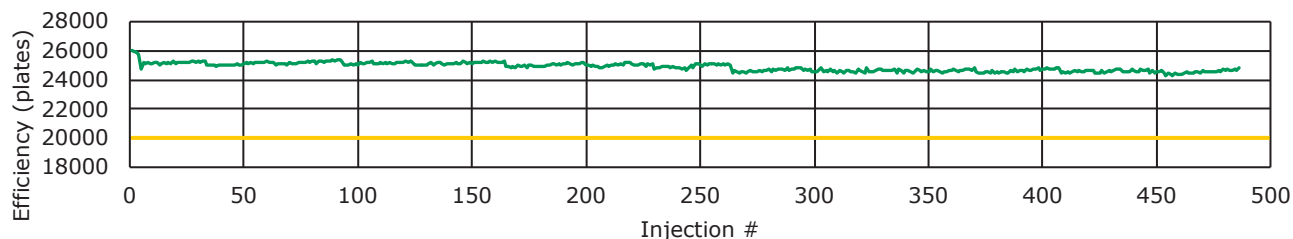


## Long-term Column Stability

The long-term HPLC column stability is crucial for consistent performance, method reproducibility, cost savings, time efficiency, and data integrity.

The study below evaluates the long-term stability of the Purospher® STAR RP-18 endcapped (2 µm) capillary column over a 500 injection series.

Purospher® STAR RP-18 endcapped (2 µm) capillary columns provide consistent and reliable separation performance over an extended period ensuring that the column retains its efficiency, resolution, and selectivity, allowing for accurate and reproducible analysis.



Purospher® STAR RP-18 endcapped (2 µm) 150 mm x 300 µm I.D.

Injection Stability: Efficiency over 500 injections

## Ordering Information

### Purospher® STAR RP-18 endcapped (2 µm)

Length (mm)		I.D. (mm)	Part number
50	x	1.0	50111-U
150	x	1.0	50115-U
50	x	0.3	50114-U
150	x	0.3	50118-U

MilliporeSigma is the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany.

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. MilliporeSigma, the vibrant M, Purospher and Supelco are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

MS\_FL13380EN Ver. 0.1 54216 04/2024

