

Chiral ION-QN & Chiral ION-QD

UNIQUE SELECTIVITY FOR MAXIMUM PERFORMANCE

Chiral ION-QN & Chiral ION-QD

Weak Anion-Exchanger (WAX) stationary phases for reliable chiral separation of acidic compounds

Transform Your Chiral Analysis

One of the main challenges of today's liquid chromatography is chiral separation of ionised and ionisable analytes, e.g., organic acids, amino acids, *N*-protected amino acids, amino acid mimics, etc. The most efficient approach to purify and resolve such troublesome racemates utilises ion exchange-type stationary phases that facilitate strong interactions between the chiral selector and the analyte.



Galochrom introduces its own generic series of weak anion-exchangers, based on *tert*-butyl-carbamoylated *Cinchona* alkaloids quinine (QN) and quinidine (QD). These chiral phases have demonstrated excellent selectivity and improved peak resolution, resulting in highly accurate and replicable analyses.

Our innovative manufacturing and strict quality control ensure that these generic columns not only outperform commercial alternatives, but also meet your technical requirements.

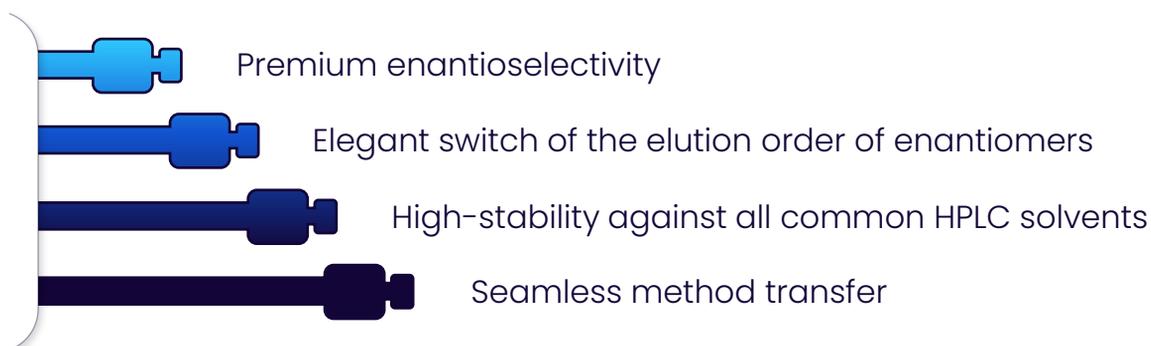
Chiral ION-QN & Chiral ION-QD represent the most efficient approach to purify and resolve even the most challenging mixtures.

Applications

Chiral ION-QN & Chiral ION-QD are ideal for enantioseparations of:

- ***N*-protected amino acids**
- **Aminophosphonic & Aminosulfonic acids**
- **Lactic & Thiolactic acids**
- **Clenbuterol & Thyroxine**

Upgrade your separation performance and gain:

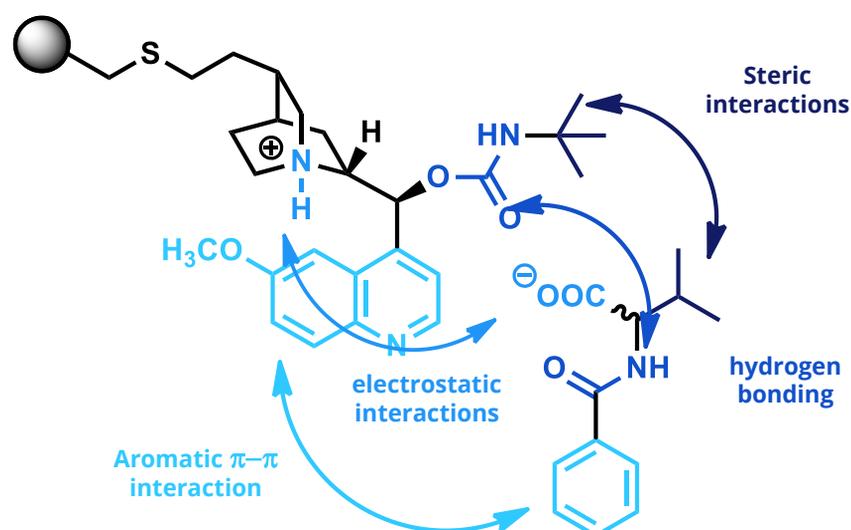


Powerful Selectivity

Aim for the best resolution and selectivity possible

In collaboration with dozens of researchers, we have selected the best-performing derivatives of both quinine (QN) and quinidine (QD). As a result, the Chiral ION-QN features *O*-9-(*tert*-butylcarbamoyl)quinine, which is immobilized on fully-porous spherical silica (see below). The unique chiral scaffold of the cinchona backbone provides exceptional selectivity for wide array of acidic compounds.

The Chiral ION-QD features structurally similar selector to Chiral ION-QN. As a result, these selectors, while being diastereomers, act as pseudo-enantiomers. **This feature enables elegant switch of elution order of enantiomers, which is often challenging for other chiral stationary phases.**



Molecular recognition

The prime driving force for specific molecular association are electrostatic or ionic interactions. Once analyte reaches close proximity of the selector, weaker non-bonding interactions such as H-bonding, π - π stacking and steric interactions apply. These directive interactions result in different column retention per each enantiomer.

Since analytes differ in combination and strength of these binding increments, our chiral stationary phase delivers superior molecular recognition.

Supporting professionals across many industries



Popular chiral columns

Essential tools with a wide range of applications

Find your best match

There are hundreds of chiral stationary phases available on the market. The selection of chiral HPLC columns below represents the most popular and top-performing choices for analysis and resolution of chiral acidic compounds. Displayed data are relevant to analytical and semi-preparative scale.

	Chiral ION-QN	Chiralpak QN-AX	Chiralpak IA	Chirobiotic R
Manufacturer	Galochrom	Daicel	Daicel	Astec
Phase	<i>O</i> -9-(<i>tert</i> -butylcarbamoyl) quinine	<i>O</i> -9-(<i>tert</i> -butylcarbamoyl) quinine	Amylose tris(3,5-dimethyl-phenylcarbamate)	Ristocetin A
Particle Size [µm]	3	5	5	5
Pore Size [Å]	200	120	N/A	100
Surface Area [m²/g]	220	N/A	N/A	N/A
pH Stability	2 - 8	2 - 8	2 - 9	3.5 - 6.8
Max. Pressure [bar]	250	180	100	170
Max. Temperature	50 °C	40 °C	40 °C	45 °C
Silica Morphology	Spherical, fully porous	Spherical, fully porous	Spherical	Spherical, fully porous
Endcapping	Yes	N/A	N/A	N/A

Take Full Advantage Of Unique Selectivity And **Expand Your Research Possibilities**

Chiral ION-QN & Chiral ION-QD now available at **ANALYTICAL & PREPARATIVE** scale

Reach new heights

Spend more time on testing and less time on troubleshooting

How can our unique columns help you succeed?

Chiral ION-QN and Chiral ION-QD empower researchers with their daily tasks, such as:

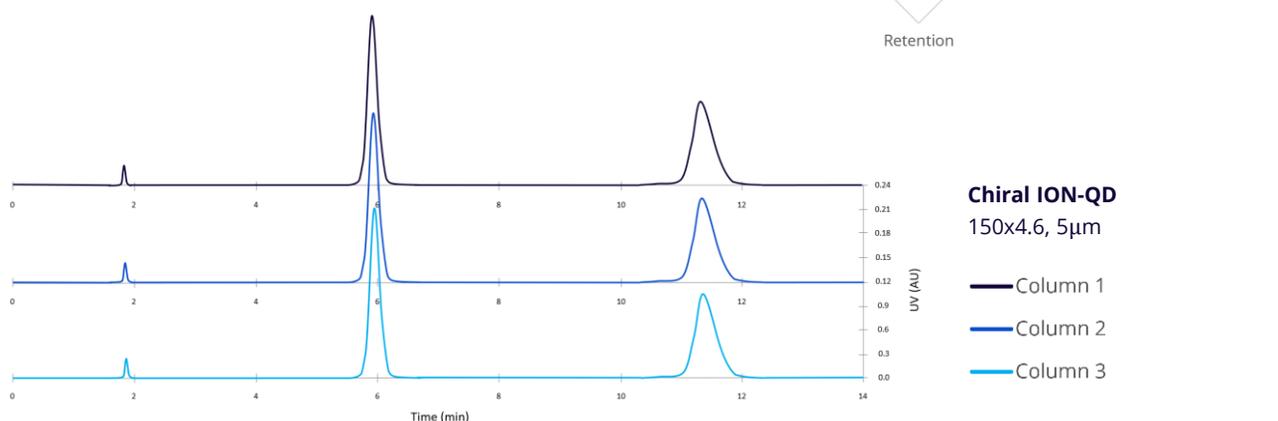
- Seamless method development
- Enantioseparation
- Quality control
- Monitoring of asymmetric reactions
- Intermolecular interaction studies
- Pharmacokinetic studies
- Preparative separation
- Production scale-up
- Efficient purification

What makes Chiral ION-QN unique?

Designed for stability

The manufacturing of Chiral ION-QN and Chiral ION-QD was designed to produce highly reproducible and reliable HPLC columns. Our high standards in synthesis of organic selectors and robust packing technology ensures that each customer receives identical high-performance product.

The chromatographic results are reproducible from run-to-run, column-to-column and batch-to-batch.



During our manufacturing, we implement strict quality control measures over all aspects from silica chemistry up to column packing. As a result, almost no variation is observed among manufactured batches of chiral stationary phases.

Achieve your results

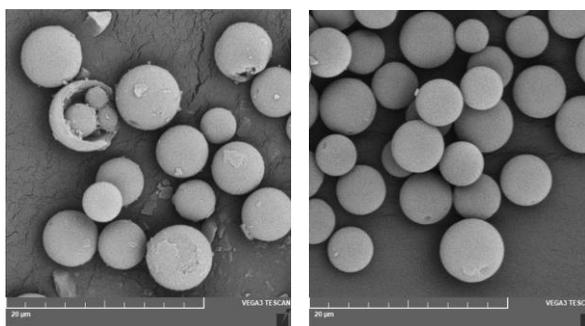
Increase your productivity with uniform, stable, and reproducible results

High-Quality Silica

Our columns contain fully-porous spherical particles from world's leading manufacturer based in Japan. These ultra-pure silica particles have narrow size distribution to ensure reproducible, robust and reliable results.

In comparison to other manufacturers, Galochrom's custom packing technology produces very stable and uniform bed with intact silica particles. As a result, our columns:

- Enhance productivity and resolution
- Provide accurate and consistent performance
- Generate significantly higher plate counts

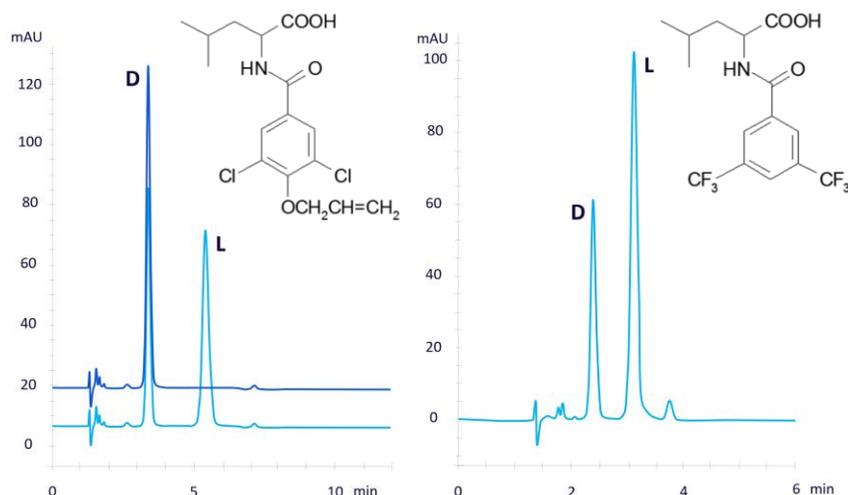


Competitor X

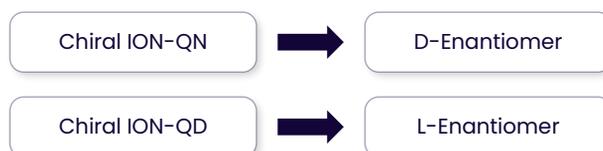
Galochrom

Elution Order

Chiral ION-QN and Chiral ION-QD represent a pair of columns that enable the reversal of elution order of enantiomers. **Now you can position your desired enantiomer first and easily achieve 100% purity at higher pace.**



The elution order was investigated with other QN/QD derivatives using enantiomeric pairs of Leucine derivatives. The conclusions for the first eluent are following:



Method Development

Develop robust methods that are easily transferable across laboratories

Engineered for reliable method development

Successful methods rely on results that can tolerate minor variations in chromatographic parameters. It is very important to have proper tools to easily and quickly develop robust methods. Chiral ION-QN and Chiral ION-QD are designed to provide you with accurate and consistent results, that are transferable across different LC system platforms. You can rapidly develop methods in several chromatographic modes:

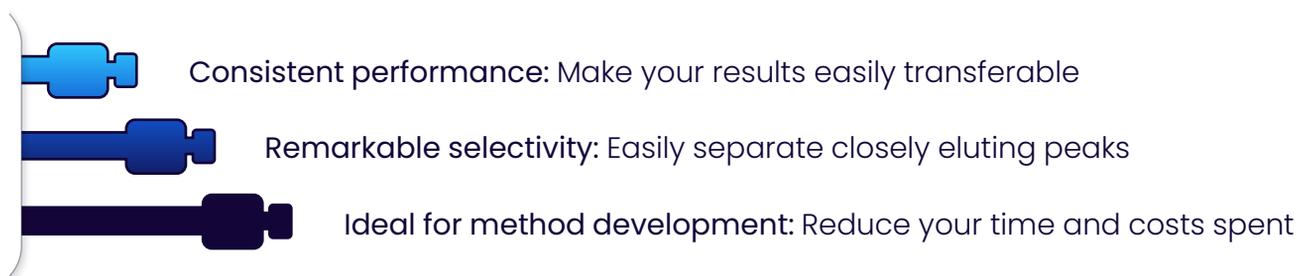
Normal-phase

Reversed-phase

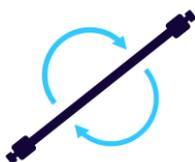
Polar organic

SFC

Chiral ION-QN & Chiral ION-QD

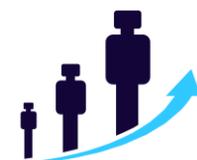


How can Galochrom columns enhance your methods?



Consistent reproducibility

Eliminate process variance and achieve your results with confidence



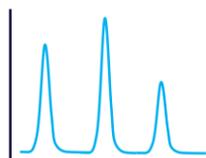
Seamless method scale-up

Transform your analytical method into preparative purification



Save time and money

Spend more time on efficient separations and less time on troubleshooting



Better peak shapes

Easily resolve even the most challenging mixtures

Preparative columns

Obtain higher throughput while maintaining your product quality

Optimized loading parameters

Our preparative columns provide optimized properties for the purification of wide array of compounds. Some of their inherent parameters include:

- **High surface area for increased loading**
- **Smooth silica for stable packed beds**
- **Optimal particle and pore size for outstanding performance**
- **Exceptional quality of silica for column longevity**

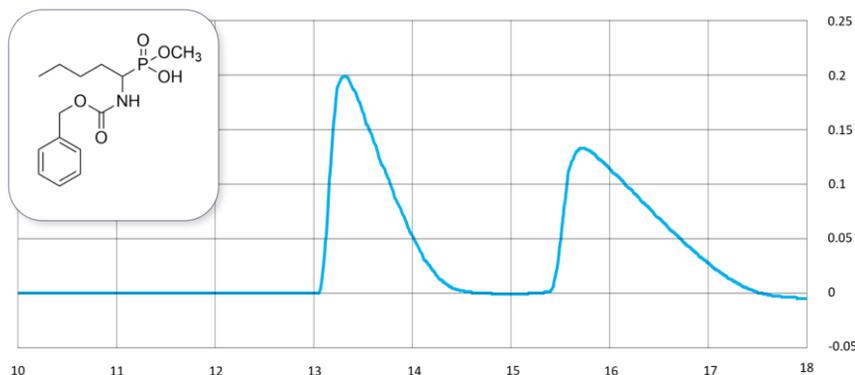
Uniform media with intact particles

Our state-of-art packing process eliminates potential bed collapse and ensures longer column lifetime. The combination of optimal slurry amounts and packing pressure significantly reduces column-to-column variability. As a result, each column contains uniform stationary phase with optimal packing density.

Technical information

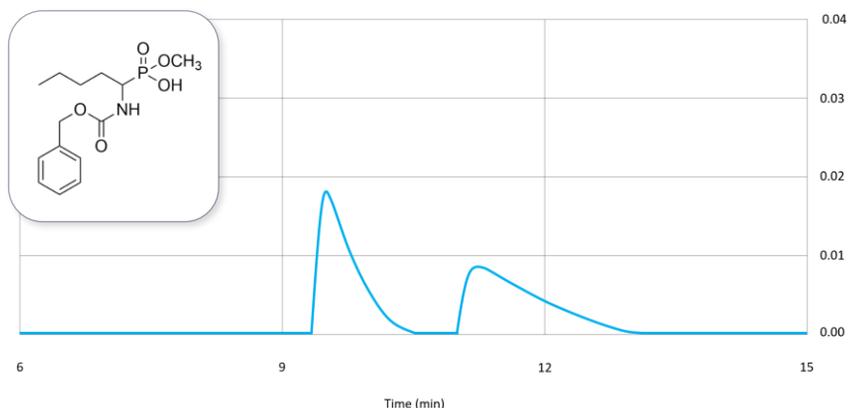
Particle Size [µm]	5
Pore Size [Å]	120
Surface Area [m²/g]	300
pH Stability	2 - 8
Max. Pressure [bar]	200
Max. Temperature	50 °C
Silica Morphology	Spherical, fully porous
Endcapping	Yes

Moreover, you can order custom column dimensions along with preferred particle size.



Technical information [50 mg]

Column	Chiral ION-QN
Dimensions	250 mm x 20 mm, 5.0 µm
Mobile phase	MeOH:FA:HCOONH ₄ 99:1:0.5 (v/v/w)
Flow rate	15 mL/min
Temperature	25 °C
Detection	UV @220 nm



Technical information [100 mg]

Column	Chiral ION-QD
Dimensions	250 mm x 20 mm, 5.0 µm
Mobile phase	MeOH:FA:AF 100:2:0.5 (v/v/w)
Flow rate	20 mL/min
Temperature	25 °C
Detection	UV @254 nm

Order information

Analytical Columns



Name	Chiral ION-QN	Chiral ION-QD
Dimensions [mm]	150 x 4	150 x 4
Porosity [Å]	200	200
Cat. No.	ION01-A150	ION02-A150
Price [€]	1 450	1 450

*As an alternative, we can also offer 150x3 mm, 3 µm with 120 Å

Preparative Columns



Name	Chiral ION-QN		Chiral ION-QD	
	150 x 20	250 x 20	150 x 20	250 x 20
Dimensions [mm]	150 x 20	250 x 20	150 x 20	250 x 20
Porosity [Å]	120	120	120	120
Cat. No.	ION03-P150	ION04-P250	ION05-P150	ION06-P250
Price [€]	10 000	12 500	10 000	12 500

SPECIAL OFFER 1+1

Buy 1 preparative column and get analytical column for FREE

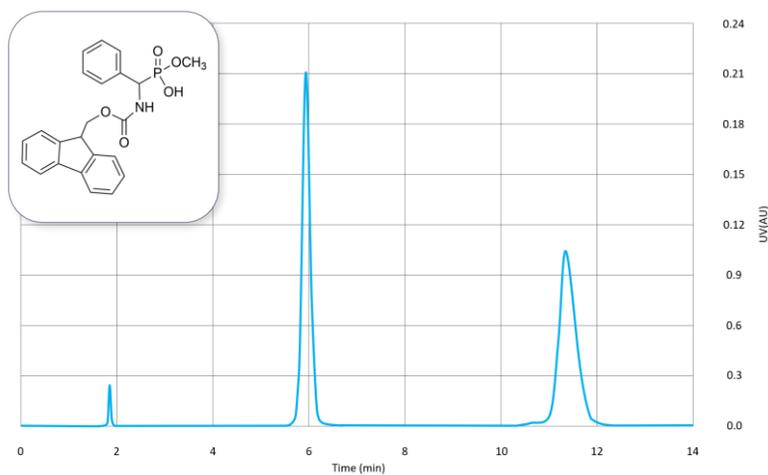
You can choose 150x4 or 250x4 column with the same sorbent as your preparative column.

What did others say about Galochrom?

„The Chiral ION-QD column from Galochrom has been a remarkable addition to our laboratory. The preparative column outperformed other brands and made our separations more efficient. Galochrom's HPLC columns are now our preferred choice for chiral separations.“

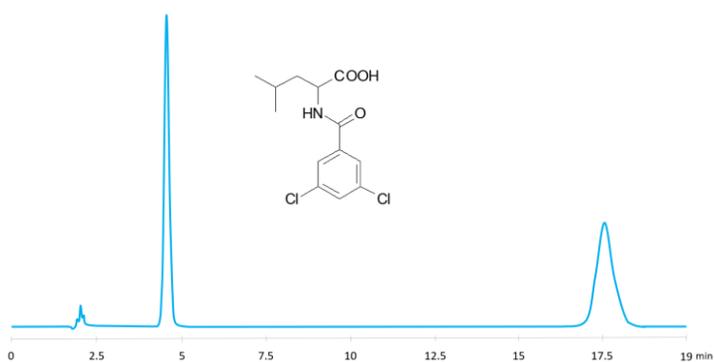
Dr. Petr Slavík, Head of Chemistry @ Santiago Lab

Applications



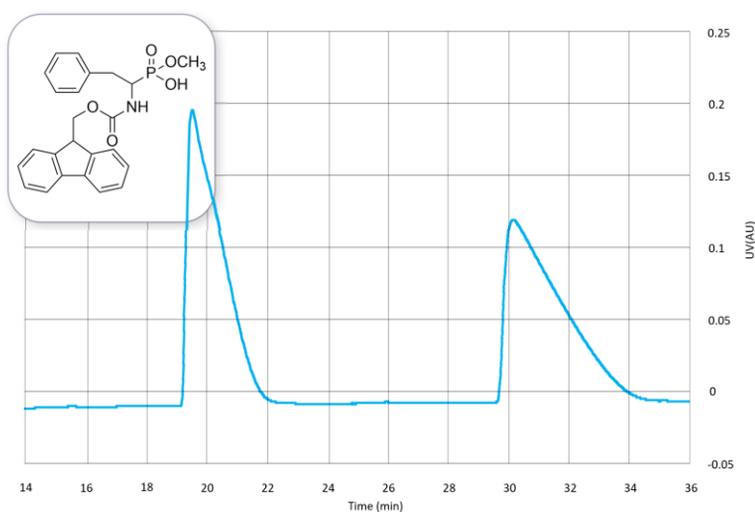
Aminophosphonic acids

Column	Chiral ION-QD
Dimensions	150 mm x 4 mm, 5.0 μ m
Mobile phase	MeOH:AcOH:AA 98:2:0.5 (v/v/w)
Flow rate	1 mL/min
Temperature	25 °C
Detection	UV @254 nm



Leucine derivatives

Column	Chiral ION-QD
Dimensions	150mm x 4 mm, 5.0 μ m
Flow rate	1 mL/min
Temperature	25 °C
Detection	UV @280 nm



Aminophosphonic acids

Column	Chiral ION-QN
Dimensions	250 mm x 20 mm, 5.0 μ m
Mobile phase	MeOH:FA:HCOONH4 99:1:0.5 (v/v/w)
Flow rate	15 mL/min
Temperature	25 °C
Detection	UV @254 nm