



HPLC columns for sugar analyses



NUCLEOSIL® Carbohydrate separation of mono- and disaccharides · USP L8

Technical data

• Matrix: NUCLEOSIL® silica with amino modification, particle size 10 µm

Recommended application

• RP separation of mono- and disaccharides

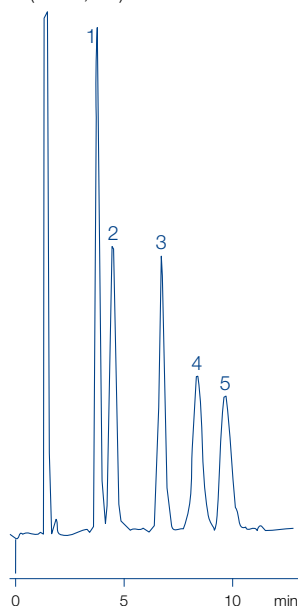
Separation of sugars

MN Appl. No. 102480

Column: 250 x 4 mm NUCLEOSIL® Carbohydrate
Eluent: acetonitrile – water (79:21, v/v)
Flow rate: 2 mL/min
Temperature: 25 °C
Detection: RI
Injection: 10 µL

Peaks:

1. Fructose
2. Glucose
3. Saccharose
4. Maltose
5. Lactose



Ordering information

Eluent in column acetonitrile – water (79:21, v/v)

ID

Length →
250 mm

EC guard columns*

NUCLEOSIL® Carbohydrate

Analytical EC columns



4 mm

720905.40

721170.30

* EC 4/3 guard columns for EC columns with 4 mm ID require the Column Protection System guard column holder (REF 718966, see page 251). Columns and guard columns in packs of 1.



NUCLEOGEL® SUGAR 810 separation of sugars · USP L17 (H-Form) · USP L19 (Ca form)

Technical data

- Sulfonated polystyrene - divinylbenzene resins in different ionic forms; due to a different selectivity pattern compared to NUCLEOGEL® SUGAR columns, the range of application is considerably enlarged
- Separation mechanism: ion exclusion, ion exchange, size exclusion, ligand exchange, NP and RP chromatography

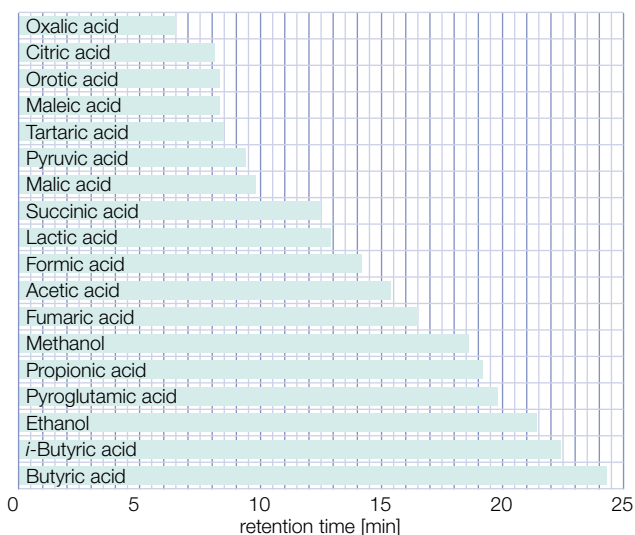
Recommended application

- H⁺ form: Separation of sugars, sugar alcohols and organic acids; eluent in column 5 mmol/L H₂SO₄
- Ca²⁺ form: Separation of mono-, di- and oligosaccharides; eluent in column water

Organic acids and alcohols

MN Appl. No. 113870

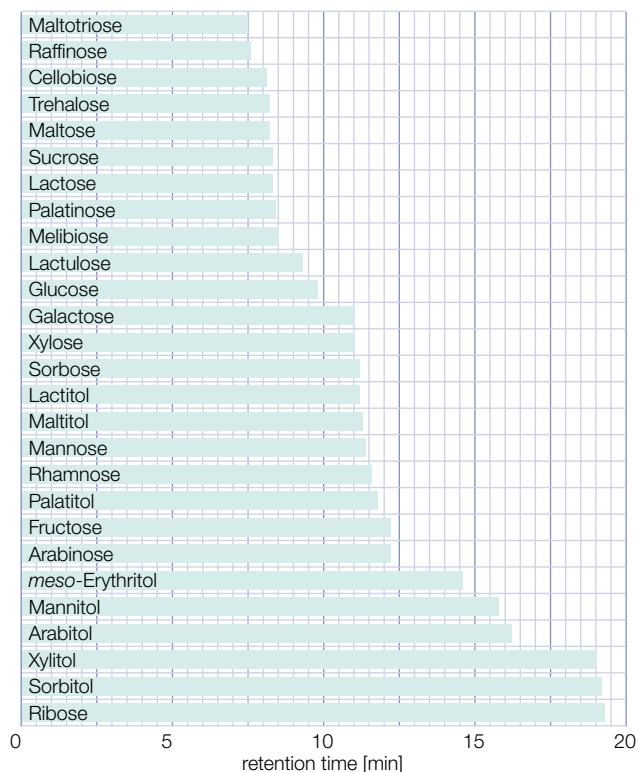
Column: 300 x 7.8 mm NUCLEOGEL® SUGAR 810 H
 Eluent: 5 mmol/L H₂SO₄
 Flow rate: 0.6 mL/min
 Temperature: 35 °C
 Detection: RI
 Injection: 5 µL



Sugars and sugar alcohols

MN Appl. No. 114160

Column: 300 x 7.8 mm NUCLEOGEL® SUGAR 810 Ca
 Eluent: water
 Flow rate: 0.6 mL/min
 Temperature: 85 °C
 Detection: RI



Ordering information

ID	Length → 300 mm	Guard columns*
NUCLEOGEL® SUGAR 810 H eluent in column 5 mmol/L H ₂ SO ₄		
Analytical Valco type columns		
7.8 mm	719574	719575
NUCLEOGEL® SUGAR 810 Ca eluent in column water		
Analytical Valco type columns		
7.8 mm	719570	719571

* NUCLEOGEL® SUGAR 810 guard columns measure 30 x 4 mm and require the CC column holder 30 mm (REF 721823)
 Columns in packs of 1, guard columns in packs of 2.



HPLC columns for sugar analyses



NUCLEOGEL® ION 300 OA / SUGAR

separation of sugars · USP L17 (H form) · USP L19 (Ca form) · USP L34 (Pb form) · USP L58 (Na form)

Technical data

- Sulfonated spherical PS/DVB resins in different ionic forms; mean particle size 10 µm, pore size 100 Å
- Separation mechanism includes steric exclusion, ligand exchange and partition effects, ligand exchange being the predominant force, since the hydrated metal ions form strong interactions with the hydroxyl groups of the sample molecules. The intensity of these interactions decreases in the sequence Pb > Ca > Na
- Recommended operating temperatures: 60–95 °C; maximum pressure 70 bar

Recommended application

- NUCLEOGEL® ION 300 OA:
H⁺ form for separation of sugars, alcohols and organic acids
- NUCLEOGEL® SUGAR:
Ca²⁺ form: separation of mono- and oligosaccharides, sugar alcohols
- Pb²⁺ form: separation of mono- and disaccharides from food and biological samples
- Na⁺ form: separation of oligosaccharides from starch hydrolysates and food

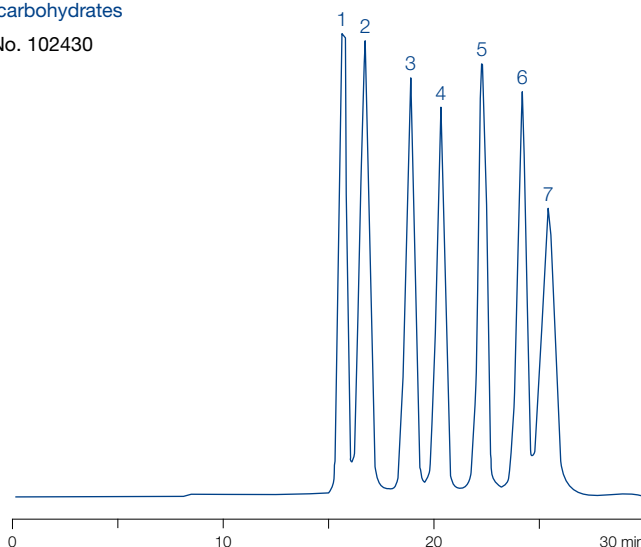
Separation of carbohydrates

MN Appl. No. 102430

Column: 300 x 7.8 mm NUCLEOGEL® SUGAR Pb
 Eluent: deionized water
 Flow rate: 0.4 mL/min
 Temperature: 80 °C
 Detection: RI

Peaks:

1. Sucrose
2. Maltose
3. Glucose
4. Xylose
5. Galactose
6. Arabinose
7. Mannose



Ordering information

ID	Length → 300 mm	Guard columns*
NUCLEOGEL® ION 300 OA eluent in column 5 mmol/L H ₂ SO ₄ 5 mmol/L H ₂ SO ₄		
Analytical Valco type columns 7.8 mm	719501	719537
NUCLEOGEL® SUGAR Ca eluent in column water + 0.02 % azide		
Analytical Valco type columns 6.5 mm	719531	719535
NUCLEOGEL® SUGAR Pb eluent in column water + 0.02 % azide		
Analytical Valco type columns 7.8 mm	719530	719534
NUCLEOGEL® SUGAR Na eluent in column water + 0.02 % azide		
Analytical Valco type columns 7.8 mm	719532	719536

* Valco Type guard columns measure 21 x 4 mm and require the guard column holder C, REF 719538, see page 250.
 Columns in packs of 1, guard columns in packs of 2.