

CARBOHYDRATE ANALYSIS HPLC COLUMNS

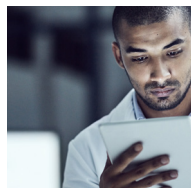
For over 30 years, Concise Separations has supplied the world with superior HPLC products and columns, providing customers with complete solutions for their separation needs. We have developed the widest range of Carbohydrate Analysis HPLC columns to provide you with the correct tool to optimize every sugar separation.

Ligand exchange is the preferred method for the separation of many sugars and sugar alcohols due to the simple water eluent. In ligand exchange, the negatively charged hydroxyl groups on the carbohydrate molecule interact with the positively charged, metal-loaded groups on the chromatography substrates. The carbohydrates are eluted by the polar water eluent mobile phase which competes for the sites on the metal ion.

Besides the ligand exchange mechanism, several secondary mechanisms' processes are also involved in the separation of the carbohydrates including size exclusion and normal phase partitioning. HPLC columns packed with low cross-linked polymers (gels) serve as the primary packings for carbohydrate analysis columns, and are available from a number of suppliers. In order to maximize the separation of a wide variety of samples, Concise Separations has developed the most complete line of carbohydrate analysis columns available on the market by combining ligand exchange (metals), size exclusion and partitioning (cross-linkage of polymer), particle size (column efficiency) and column size (speed versus resolution).

// FEATURES & BENEFITS //

- / Packed with chemically stable polymeric polystyrene divinylbenzene copolymers, varying in percent cross-linkage and particle sizes
- / Stable at high temperatures up to 95°C
- / Display consistent performance from column to column, polymer batch to polymer batch
- / Utilize the simplest and safest eluent of all-water
- / Offer more choices through combinations of cross-linkage (porosity), particle size, metal ligands, and column formats to meet your separation needs



30
years

CHROMATOGRAPHY

SEPARATIONS

REPRODUCIBILITY

PRECISION

Table 1 (Cont.)

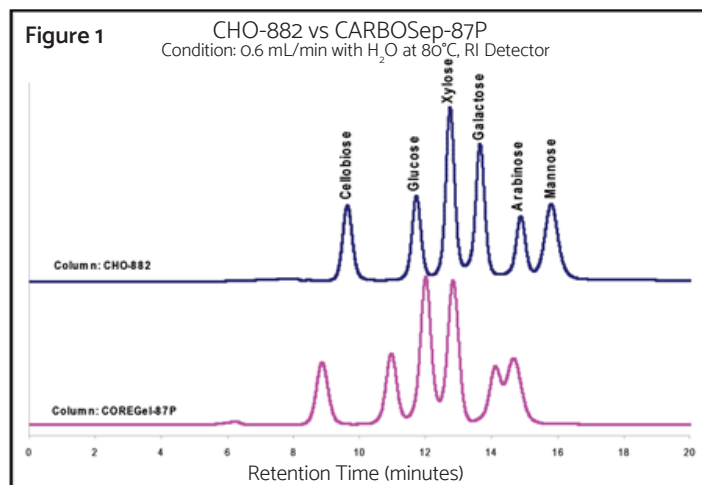
	4% XL	6% XL	7% XL	8% XL	Column Size (mm)	Ionic Form	Particle Size (μM)
Phenomenex							
Rezex™ RNO-Oligosaccharide	X				200x10.0	Sodium	12
Rezex™ RAM-Carbohydrate Ag+				X	300x7.8	Silver	8
Rezex™ RCM-Monosaccharide Ca+				X	300x7.8	Calcium	8
Rezex™ RCU-USP Sugar Alcohols				X	250x4.0	Calcium	8
Rezex™ RKP-Potassium K+				X	300x7.8	Potassium	8
Rezex™ RNM-Carbohydrate Na+				X	300x7.8	Sodium	8
Rezex™ RPM-Monosaccharide Pb++				X	300x7.8	Lead	8
Rezex™ RPM-Monosaccharide Pb++ USP				X	100x7.8	Lead	8
RPM-Monosaccharide Pb++ (Fast Analysis)				X	100x7.8	Lead	8
Supelco							
Supelcogel™ C-611				N/A	300x7.8	Mixed	9
Supelcogel™ Ca				N/A	300x7.8	Calcium	9
Supelcogel™ K				N/A	300x7.8	Potassium	9

Choosing a column for your sample

By combining polymer cross-linkage, particle size, and metal ligand in a variety of column formats, Concise Separations offers more column choices, maximizing our ability to meet your separation needs.

// COLUMN CONSIDERATIONS //

- / Resolution of peaks of interest
- / Analysis time
- / Selectivity (Elution order of peaks)
- / Durability



Resolution and Particle Size Effect

Using a smaller particle size (7 μM) in the CHO 882 column can improve the separation compared to the same type of ligand exchange column, CHO 87P, using a 9 μM particle, as seen in Figure 1.

CARBOsep Catalogue Numbers

Catalogue #	Part Name	Length (mm)
CHO-99-9850	CARBOsep CHO 411 Na Form Oligosaccharides	300
CHO-99-9854	CARBOsep CHO 682 Pb Form Carbohydrate	300
CHO-99-9751	CARBOsep CHO 611 Na Form Corn Syrup	300
CHO-99-7752	CARBOsep CHO 611 OH Na Form Carbohydrate	150
CHO-99-9753	CARBOsep CHO 620 Ca Form Carbohydrate	300
CHO-99-7770	CARBOsep CHO 782 Pb Form Carbo & Biomass Analysis	300
CHO-99-8770	CARBOsep CHO 882 Pb Form Carbohydrate	300
CHO-99-5882	CARBOsep CHO 882 7.8 x 150 mm Pb Form Carbohydrate	150
CHO-99-5860	CARBOsep CHO 87C FA Ca Form Fast Analysis Column	100
CHO-99-9865	CARBOsep CHO 87MM Ca/Na Form Carbohydrate	300
CHO-99-8453	CARBOsep USP L19 Ca Form Mannitol/Sorbitol Analysis	250
CHO-99-9855	CARBOsep CHO 820 Ca Form Carbohydrate	300
CHO-99-9860	CARBOsep CHO 87C Ca Form	300
CHO-99-9862	CARBOsep CHO 87K K Form Carbohydrate	300
CHO-99-9863	CARBOsep CHO 87N Na Form Carbohydrate	300
CHO-99-9864	CARBOsep CHO 87P Pb Form Carbohydrate	300