

# APPLICATION



## Optimizing Pharmacopoeia (Ph. Eur. & USP) Monographs of Sugar Alcohol Excipients Using Rezex™ Ion-Exclusion HPLC Columns

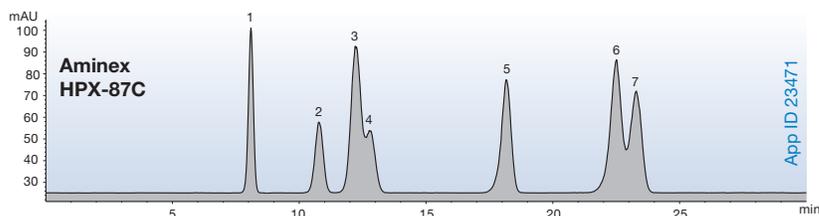
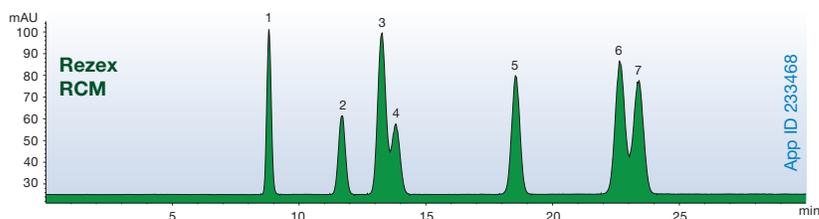
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### Overview

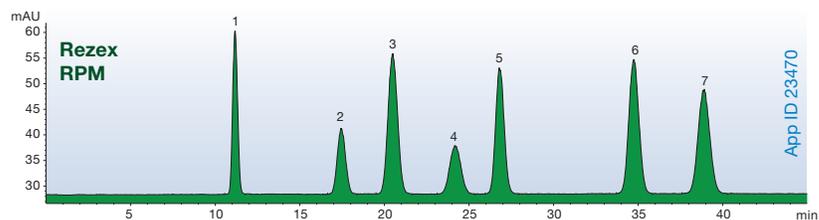
Rezex ion-exclusion HPLC columns are the solution for several published European Pharmacopoeia (Ph. Eur.) and United States Pharmacopoeia (USP) methodologies, particularly for excipients like sugar alcohols such as sorbitol, mannitol, isomalt, maltitol, lactitol, xylitol, trehalose, erythritol, etc. The Rezex RCM/RCU phases contain the strong cation exchange resin (calcium form), or L19 USP packing, that is recommended by most pharmacopoeia monographs for sugar alcohols, while the Rezex RPM (lead form), or L34 USP packing, will provide stronger separation power.

In this example, we study a mixture of 7 sugar alcohols whose monographs typically call for a column with calcium form, or L19 packing. A Bio-Rad® Aminex® HPX-87C is commonly recommended, but the direct replacement Rezex RCM provides sharper peak shape and higher resolution, as shown by the comparison below. As an excellent alternative, Rezex RPM provides stronger retention and higher resolution of the more closely eluting peaks compared to Rezex RCM. See below for an example of the Rezex RPM under the same conditions and sample mixture.

### Rezex RCM vs. Aminex HPX-87C



### Rezex RPM



### HPLC Conditions

Conditions for all columns:  
**Dimensions:** 300 x 7.8 mm  
**Mobile Phase:** Water  
**Flow Rate:** 0.6 mL/min  
**Detection:** ELSD  
**Temperature:** 85 °C  
**Sample:** 1. Trehalose  
 2. Isomalt  
 3. Maltitol  
 4. Isomaltitol  
 5. Mannitol  
 6. Xylitol  
 7. Sorbitol

### Column Cross Reference Chart

Phenomenex Rezex™	Bio-Rad® Aminex®
RCM-Monosaccharide	HPX-87C 125-0095
RHM-Monosaccharide	HPX-87H 125-0140
RPM-Monosaccharide	HPX-87P 125-0098
RNM-Carbohydrate	HPX-87N 125-0143
RSO-Oligosaccharide	HPX-42A 125-0097
ROA-Organic Acid	HPX-87H 125-0140
RFQ-Fast Acid	Fast Acid 125-0100
RKP-Potassium	HPX-87K 125-0142
RCU-USP Sugar Alcohols	Sugar Alcohols 125-0094



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## Rezex™ Ordering Information

Columns					Guards			SecurityGuard™ Cartridges (mm)
Part No.	Description	Size (mm)	Cross Linkage	Ionic Form	USP Packing	Part No.	Size (mm)	4 x 3.0* (10pk)
00H-0130-K0	RCM-Monosaccharide	300 x 7.8	8 %	Calcium	L19	03B-0130-K0	50 x 7.8	AJO-4493
00F-0130-K0	RCM-Monosaccharide	150 x 7.8	8 %	Calcium	L19	03B-0130-K0	50 x 7.8	AJO-4493
00G-0130-D0	RCU-USP Sugar Alcohols	250 x 4.0	8 %	Calcium	L19	03A-0130-D0	30 x 4.0	AJO-4493
00H-0135-K0	RPM-Monosaccharide	300 x 7.8	8 %	Lead	L34	03B-0135-K0	50 x 7.8	AJO-4492
00D-0135-K0	RPM-Monosaccharide	100 X 7.8	8 %	Lead	L34	03B-0135-K0	50 x 7.8	AJO-4492

for ID: 3.2-8.0 mm

\*SecurityGuard Analytical Cartridges require universal holder Part No. KJO-4282

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If you are not completely satisfied with the performance of any Rezex column, as compared to a competing product of the same size and phase, return the Rezex column with your comparative data within 45 days for a FULL REFUND.

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### Disclaimer

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SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362.

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

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