A part of **Agilent**

10279 - Column Application Note Separation of Human Insulin

Insulin is a polypeptide hormon from the pankreas. The molecular weight is approx. 6000 Da. In the presence of Zn ions associates with a molecular weight of 12 000 Da, 24 000 Da etc. were formed. The souce of industrial insulin production is mainly made by DNA recombination technology but also from animal pancreas. 1kg of animal pancreas contains approx. 70-100 mg insulin. Genetic engineering methods for the production of insulin become more common.

Experimental Setup

Mobile Phase:	Water Acetic acid Acetonitrile, L-Arginin
Stationary Phase:	PSS PROTEEMA
Flow rate [mL/min]:	0,50
Temperature [°C]:	25
Detection:	GPC1100 UV GPC1100 Refract
Calibration:	Protein mixture
Data processing:	PSS WinGPC

Recommandations for Sample Concentration

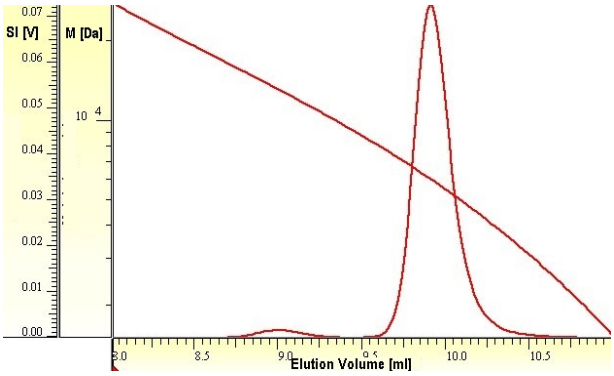
narrow PDI	
M 100 Da - 10 000 Da:	2 g/L
M 10 000 Da - 1 000 000 Da:	1-2 g/L
M > 1 000 000 Da:	0.5 g/L or less
broad PDI (>1.5)	
all molar masses:	3.0 - 5.0 g/L
Injection volume [µL]:	50

Suitable Columns

low molecular weights:	P/N pra080505 and 2x pra0830051e2
medium molecular weights:	-
high molecular weights:	-
ultrahigh molecular weights:	-

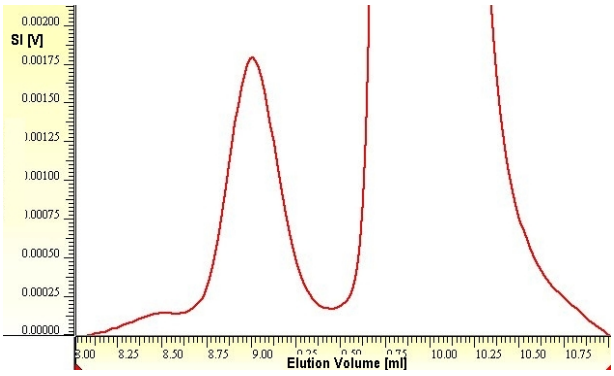
Chromatogram and Calibration

separation on PSS PROTEEMA



Chromatogram with magnified tri- and drimer peaks.

separation on PSS PROTEEMA



PSS Polymer Standards Service GmbH
In der Dalheimer Wiese 5
55120 Mainz | Germany

Phone +49 6131 96239-0
Fax +49 6131 96239-11
E-Mail info@pss-polymer.com
Web www.pss-polymer.com

Polymer Standards Service-USA, Inc.
160 Old Farm Rd, Suite A
Amherst | MA 01002 | USA

Phone +1 413 835-0265
Fax +1 413 835-0354
E-Mail pssusa@pss-polymer.com
Web www.pss-polymer.com

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