
EconoFit Bio-Gel P-6 Desalting Columns, 5 ml

Instruction Manual

Catalog number

12009238

12009239

Please read the instructions in this manual prior to using EconoFit Bio-Gel P-6 Desalting Columns. If you have any questions or require any further assistance, please contact your Bio-Rad Laboratories representative.



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Section 1

Introduction

EconoFit Bio-Gel P-6 Desalting Columns are convenient, disposable, prepacked low-pressure chromatography columns. They facilitate both increased run-to-run uniformity and high purity of proteins through the column design and novel resin technology. Compatible with most aqueous buffers commonly used for protein purification, EconoFit Columns offer improved performance for your protein separation needs.

EconoFit Bio-Gel P-6 Desalting Columns are packed with Bio-Gel P-6 Gel. This gel consists of hydrophilic, spherical, polyacrylamide beads designed for the purification of proteins, nucleic acids, viruses, plasmids, and other macromolecules. The Bio-Gel P-6 Beads are designed to provide high-efficiency desalting or buffer exchange at low backpressure. Detailed product information is given in Table 1.

Section 2

Product Information

EconoFit Columns are disposable, easy-to-use, prepacked chromatography columns supplied ready for use in convenient 1 and 5 ml sizes. They can be quickly connected to liquid chromatography systems using 10-32 fittings. Columns are available for a variety of chromatographic techniques, including desalting (size exclusion), ion exchange, affinity, mixed-mode, and hydrophobic interaction chromatography. Refer to bio-rad.com/ResinsandColumns for a complete listing of products in the EconoFit Column portfolio.

Table 1. EconoFit Bio-Gel P-6 Desalting Column information.

Property	Description
Size	5 ml bed volume
Bed dimensions	25 mm length x 16 mm inner diameter
Fittings	10-32 (1/16"), female inlet and male outlet
Column material	Polypropylene
Frit material	High-density polyethylene
Autoclavability	Not autoclavable
Shipping conditions	20 mM Bis-Tris, pH 6.5 + 0.05% azide
Storage recommendation	20 mM Bis-Tris, pH 6.5 + 0.05% azide

Section 3

Buffers and Methods

EconoFit Bio-Gel P-6 Columns contain 20 mM Bis-Tris, pH 6.5 + 0.05% sodium azide as the storage solution. The fully hydrated support is ready to use after equilibrating the column in the buffer of choice. To perform a buffer exchange, connect the column to a liquid chromatography system and equilibrate the column with 2.2 column volumes of degassed equilibration buffer.

Inject the sample onto the column and monitor the UV signal to determine when the sample elutes from the column. Recommended sample injection volumes can be found in Table 2.

Sample Preparation

Table 2. Products for buffer exchange.

Sample Volume	Recommended Product	Use	Catalog #
10–75 µl	Micro Bio-Spin P-6 Column	Desalting proteins over 6 kD	7326221
10–75 µl	Micro Bio-Spin P-30 Column	Desalting proteins over 30 kD	7326223
50–100 µl	Bio-Spin P-6 Column	Desalting proteins over 6 kD	7326227
50–100 µl	Bio-Spin P-30 Column	Desalting proteins over 30 kD	7326231
100 µl–3 ml	EconoFit Bio-Gel P-6 Desalting Column	Desalting proteins over 6 kD	12009239
Up to 3 ml	Econo-Pac 10DG Desalting Columns	Desalting proteins over 6 kD	7322010
Unlimited	Bio-Gel P-6DG Gel	Desalting proteins over 6 kD	1500738

Section 4

Troubleshooting Guide

Problem	Possible Cause	Solution
Column clogging or slow flow rate	Particulates in sample	Filter all samples and buffers through 0.2 µm filter prior to application
No target protein in eluate	Low level of target	Check expression level of protein in starting SDS-PAGE material
	Target is not bound	Change the equilibration buffer
	Target is in flowthrough	Optimize binding conditions
	Target is not eluted	Recheck and optimize the elution buffer and conditions
Precipitation during purification	Binding capacity of column exceeded	Load less sample
	Protein aggregating	<ul style="list-style-type: none"> ■ Include low amount of detergent (0.1% Triton X-100, Tween 20) ■ Include glycerol up to 10% ■ Optimize buffer pH and salt concentration

Section 5

Ordering Information

Catalog #	Description
7326221	Micro Bio-Spin P-6 Columns , pkg of 25, sample volume 10–75 µl
7326223	Micro Bio-Spin P-30 Columns , pkg of 25, sample volume 10–75 µl
7326227	Bio-Spin P-6 Columns , pkg of 25, sample volume 50–100 µl
7326231	Bio-Spin P-30 Columns , pkg of 25, sample volume 50–100 µl
12009238	EconoFit Bio-Gel P-6 Desalting Column , 1 x 5 ml
12009239	EconoFit Bio-Gel P-6 Desalting Columns , 5 x 5 ml
7322010	Econo-Pac 10DG Desalting Columns , pkg of 30, 10 ml packed resin, 20 ml reservoir, includes upper frit
1500738	Bio-Gel P-6DG Gel , 100 g

Section 6

Bibliography

- Drevland et al. (2018). Improved process economics of HUMIRA biosimilar purification with ion exchange and mixed-mode resins. *Bio-Rad Bulletin* 7130.
- Elms P and Habel J (2015). Automated mAb workflows: combining multidimensional (Multi-D) purifications with product analysis. *Bio-Rad Bulletin* 6770.
- Fitchmun M et al. (2016). Development of an efficient manufacturing process for adenovirus. *Bio-Rad Bulletin* 6719.
- Greenwood J et al. (2017). Development of a non-affinity based purification platform for neutral/basic IgMs. *Bio-Rad Bulletin* 6966.
- Harris ELV and Angal S (1989). *Protein Purification Methods: A Practical Approach* (Oxford: IRL Press).
- He X et al. (2012). Nuvia S Media: A high-capacity cation exchanger for process purification of monoclonal antibodies. *Bio-Rad Bulletin* 5984.
- Khandelwal P and Snyder M (2018). A non-affinity chromatography resin alternative for capture purification of antibodies. *Bio-Rad Bulletin* 7134.
- Scopes RK (1993). *Protein Purification: Principles and Practice*, 3rd ed. (New York: Springer).
- Snyder LR et al (2009). *Introduction to Modern Liquid Chromatography*, 3rd ed. (New York: Wiley).

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