

PD MultiTrap™ G-25

PD MultiTrap G-25 contains

- 4 prepacked PD MultiTrap 96-well filter plates, each well containing a column with 500 µl of Sephadex™ G-25 Medium
- Instructions for use

Purpose

PD MultiTrap G-25 is designed for a rapid and convenient single use sample clean-up of proteins/biomolecules.

PD MultiTrap G-25 can be used for sample preparation of multiple samples in parallel for a wide range of applications such as desalting, buffer exchange and removal of low-molecular weight compounds.

PD MultiTrap G-25 is suitable for both manual use and for automation together with a centrifuge.



Table of Contents

1	Principle	3
2	Advice on handling	4
3	Protocol	5
4	Characteristics	6
5	Ordering information	7

Please read these instructions carefully before using the PD MultiTrap G-25 filter plates.

Intended use

PD MultiTrap G-25 filter plates are intended for research use only, and shall not be used in any clinical or *in vitro* procedures for diagnostic purposes.

Safety

For use and handling of the product in a safe way, please refer to the Safety data sheet.

1 Principle

PD MultiTrap G-25 96-well filter plates contain *Sephadex G-25 Medium*, which allows rapid group separation of high molecular weight substances from low molecular weight substances.

PD MultiTrap G-25 96-well filter plates are used for high-throughput desalting, buffer exchange and sample clean-up of multiple samples in parallel. Small molecules like salt, free labels or other impurities are efficiently separated from the high molecular weight substances of interest.

The chromatography technique is gel filtration, where molecules are separated on the basis of differences in size.

- Molecules larger than the largest pores in the Sephadex matrix are excluded from the matrix and eluted first, in or just after the void volume. The void volume is the column volume outside the Sephadex matrix.
- Molecules smaller than the largest pores in the Sephadex matrix will penetrate the pores to varying extents. They have a larger accessible column volume than the large molecules and therefore they elute after the large molecules just before one total column volume of buffer has passed through the well.

GE Healthcare provides an assortment of sample clean-up products. The different formats available are summarized in Table 1

Table 1. Product overview

Clean-Up product	Exclusion limit, M_r	Bed volume	Sample volume gravity protocol ¹	Sample volume spin protocol ¹
PD SpinTrap™ G-25	5000	0.5 ml	–	100 to 180 μ l
PD MultiTrap G-25	5000	0.5 ml	–	70 to 130 μ l
PD MiniTrap™ G-25	5000	2.1 ml	0.1 to 0.5 ml	0.2 to 0.5 ml
PD MidiTrap™ G-25	5000	3.5 ml	0.5 to 1.0 ml	0.75 to 1.0 ml
PD-10 Desalting Columns	5000	8.3 ml	1.0 to 2.5 ml	1.75 to 2.5 ml
PD MiniTrap G-10	700	2.1 ml	0.1 to 0.3 ml	–
PD MidiTrap G-10	700	5.3 ml	0.4 to 1.0 ml	–

¹ Recommended sample volumes

2 Advice on handling

Equilibration

- It is critical to equilibrate the columns in the 96-well filter plate to remove the storage solution completely. Follow the protocol to ensure that a equilibration volume corresponding to 3 packed bed volumes is used.

Sample application

- Load 70 to 130 μ l samples per well. For larger sample volumes (or a few number of samples), consider use of a more suitable clean-up format, see Table 1.

- Addition of a stacker volume can improve the recovery. For sample volumes less than 100 μl it is recommended to apply a stacker volume of equilibration buffer after the sample has been fully absorbed so that the total volume equals 100 μl .

Centrifugation

- Centrifuge the PD MultiTrap G-25 at $800 \times g$.
- Remember to change or empty the collection plate between steps.

Note: *Collection plates are not included and must be ordered separately (see Section Ordering information).*

Recovery

Recovery of the applied amount of sample is dependent on the type of protein or other biomolecule. Typically the recovery is in the range 70% to 90%.

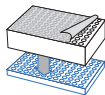
- An increase in sample concentration can improve recovery.
- Addition of a stacker volume can improve recovery.

3 Protocol

Step Action

1 PD MultiTrap G-25 preparation

- Suspend the medium by gently shaking the plate upside down.
- Remove the top and bottom seals and place the plate on the collection plate.
- Remove the storage solution by centrifugation for 1 minute at $800 \times g$.



Step Action

2 Equilibration

- Equilibrate by adding 300 μl equilibration buffer per well
- Centrifuge for 1 minute at $800 \times g$
- Discard the flowthrough and replace the collection plate.
- Repeat this procedure 4 times (5 times in total).



3 Sample application

- Replace the used collection plate with a new clean collection plate for sample collection.
- Apply the sample (70 to 130 μl) slowly in the middle of the packed bed.
- Optional: After the sample has entered the packed bed, apply a stacker volume



4 Elution

- Elute by centrifugation $800 \times g$ for 2 minutes.
- The cleaned products are now available in the collection plate.



4 Characteristics

Filter plate material	Polypropylene and polyethylene
Filter plate size	127.8 × 85.5 × 30.6 mm
Filter plate well volumes	800 μl
Matrix	Sephadex G-25 Medium
Particle size range	85 to 260 μm
Packed bed volume	500 μl (per well)
Maximum sample volume	130 μl
Desalting Capacity	> 85%
Exclusion limit	M_r 5000
Chemical stability	All commonly used buffers
Working pH range	2 to 13
Storage temperature	4°C to 30°C
Storage solution	20% ethanol

5 Ordering information

Product	Quantity	Code No
PD MultiTrap G-25	4 × 96-well filter plates	28-9180-06
Collection plate 500 µl V-bottom	5 × 96-well plates	28-4039-43

Releated products	Quantity	Code No
PD-10 Desalting Columns	30	17-0851-01
PD SpinTrap G-25	50	28-9180-04
PD MiniTrap G-25	50	28-9180-07
PD MidiTrap G-25	50	28-9180-08
PD MiniTrap G-10	50	28-9180-10
PD MidiTrap G-10	50	28-9180-11
HiTrap™ Desalting	5 × 5 ml	17-1408-01
HiTrap Desalting ¹	100 × 5 ml	11-0003-29
HiPrep™ 26/10 Desalting	1 × 53 ml	17-5087-01
HiPrep 26/10 Desalting	4 × 53 ml	17-5087-01

¹ Pack size available by special order.

For local office contact information, visit
www.gelifesciences.com

GE Healthcare Bio-Sciences AB
Björkgatan 30
751 84 Uppsala
Sweden

www.gelifesciences.com/sampleprep

GE, imagination at work and GE monogram are trademarks of General Electric Company.

HiPrep, HiTrap, MidiTrap, MiniTrap, MultiTrap, Sephadex and SpinTrap are trademarks of GE Healthcare companies.

© 2007-2012 General Electric Company – All rights reserved.
First published Sep. 2010

All goods and services are sold subject to the terms and conditions of sale of the company within GE Healthcare which supplies them. A copy of these terms and conditions is available on request. Contact your local GE Healthcare representative for the most current information.

GE Healthcare Europe GmbH
Munzinger Strasse 5, D-79111 Freiburg, Germany

GE Healthcare UK Limited
Amersham Place, Little Chalfont, Buckinghamshire, HP7 9NA, UK

GE Healthcare Bio-Sciences Corp.
800 Centennial Avenue, P.O. Box 1327, Piscataway, NJ 08855-1327, USA

GE Healthcare Japan Corporation
Sanken Bldg. 3-25-1, Hyakunincho Shinjuku-ku, Tokyo 169-0073, Japan



imagination at work