

GE Healthcare  
Life Sciences

# PD SpinTrap G-25

Product booklet

Codes: 28-9180-04



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# 1. Legal

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## 2. Handling

### 2.1. Safety warnings and precautions

**Warning: For research use only.**

Not recommended or intended for diagnosis of disease in humans or animals. Do not use internally or externally in humans or animals.

All chemicals should be considered as potentially hazardous. We therefore recommend that this product is handled only by those persons who have been trained in laboratory techniques and that it is used in accordance with the principles of good laboratory practice. Wear suitable protective clothing such as laboratory overalls, safety glasses and gloves. Care should be taken to avoid contact with skin or eyes. In the case of contact with skin or eyes wash immediately with water. See material safety data sheet(s) and/or safety statement(s) for specific advice.

### 2.2. Storage

Storage temperature  
4 to 30°C.

### 2.3. Expiry

810 days

## 3. Components

### **PD SpinTrap G-25 contains**

- 50 prepacked PD SpinTrap™ columns each containing 700 µl slurry of Sephadex™ G-25 Medium
- 50 collection tubes
- Instructions for use

### **Purpose**

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

PD SpinTrap 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.

## 4. Description

### 4.1. Introduction

PD SpinTrap G-25 columns contain *Sephadex G-25 Medium*, which allows rapid *group separation* of high molecular weight substances from low molecular weight substances.

PD SpinTrap G-25 columns are used for desalting, buffer exchange and sample clean-up. 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 and 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 are 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 extent. 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 column.

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 <sup>1</sup>	Sample volume spin protocol <sup>1</sup>
PD SpinTrap G-25	5000	~0.6 ml	-	100 to 180 $\mu$ l
PD MultiTrap™ G-25	5000	0.5 ml	-	70 to 130 $\mu$ 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	-

<sup>1</sup> Recommended sample volumes.

## 4.2. The Basic Principle

### Lids and caps

- Twist off the bottom closure off the SpinTrap column.
- Slightly open the screw cap lid before the first centrifugation (twist the cap lid  $\sim 90^\circ$  counterclockwise)

### Equilibration

- It is critical to equilibrate the column to remove the storage solution completely, since UV absorbing stabilizers are used in column packing.
- Follow the protocol to ensure that a equilibration volume corresponding to 3 packed bed volumes is used!

### Sample application

- Load 100–180  $\mu\text{l}$  samples per column.
- For larger sample volumes (or a high 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 140  $\mu\text{l}$  it is recommended to apply a stacker volume of equilibration buffer to reach 140  $\mu\text{l}$  after the sample has fully absorbed.

### Centrifugation

- Centrifuge the PD SpinTrap G-25 at  $800 \times g$ .
- After the first centrifugation; place a mark on the side of the column where the level of the compacted resin is highest. Place the column with the mark facing outwards in all sub sequent centrifugation steps.
- Remember to change or empty the collection tubes between steps.



## **Recovery**

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

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

## 5. Protocol

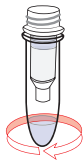
### 1. PD SpinTrap G-25 preparation

- Suspend the medium by vortexing.
- Loosen screw cap lid and twist off bottom closure.
- Place the column in an appropriate size collection tube.
- Remove the storage solution by centrifugation for 1 minute at  $800 \times g$ .



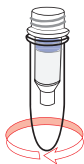
### 2. Equilibration

- Equilibrate by adding 400  $\mu\text{l}$  equilibration buffer.
- Centrifuge for 1 minute at  $800 \times g$ .
- Discard the flow-through and replace the collection tube.
- Repeat this procedure 4 times (5 times in total).



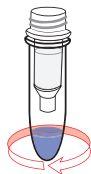
### 3. Sample application

- Replace the used collection tube with a new clean collection tube for sample collection.
- Apply the sample (100–180  $\mu\text{l}$ ) slowly in the middle of the packed bed.
- Optional: After the sample has entered the packed bed, apply a stacker volume. Recommended for sample volume less than 140  $\mu\text{l}$ . Add stacker volume to reach 140  $\mu\text{l}$ .



#### 4. Elution

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



## 6. Column characteristics

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Column material	Polypropylene barrel and polyethylene frits
Column volume	1000 $\mu$ l
Matrix	Sephadex G-25 Medium
Particle size range	85 to 260 $\mu$ m
Packed bed volume	~600 $\mu$ l
Maximum sample volume	180 $\mu$ l
Desalting Capacity	>85%
Exclusion limit	$M_r$ 5000
Chemical stability	All commonly used buffers
Working pH range	2-13
Storage temperature	4 to 30°C
Storage solution	0,05% Kathon CG/ICP Biocide

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## 7. Ordering information

<b>Product</b>	<b>Pack size</b>	<b>Code No.</b>
PD SpinTrap G-25	50	28-9180-04

<b>Related products</b>	<b>Product</b>	<b>Code No.</b>
PD-10 Desalting Columns	30	17-0851-01
PD MultiTrap G-25	4 × 96-well filter plates	28-9180-06
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 <sup>1</sup>	100 × 5 ml	11-0003-29
HiPrep™ 26/10 Desalting	1 × 53 ml	17-5087-01
HiPrep 26/10 Desalting	4 × 53 ml	17-5087-02

<sup>1</sup> Pack size available by special order.





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