



## Detergent-OUT™ SDS-300

*For Removing SDS from Protein Solutions*

### INTRODUCTION

Detergent-OUT™ SDS-300 kit is a simple method for removing free detergents from protein solutions with higher performance than equilibrium dialysis, electro-dialysis or other ion exchange methods. This method removes free detergents without substantial loss or dilutions of the protein solution. Detergent-OUT™ method is capable of achieving molar ratio of protein: SDS to 1:1.

Simply load the protein solution on the Detergent-OUT™ Spin column, spin and collect a protein solution substantially free from free detergent. SDS tightly bound to the protein is recovered with the protein solution.

The kit is supplied in two sizes: Micro kit has the capacity to remove 2mg SDS from protein solution and Medi kit has the capacity to remove 10 mg SDS. The kit is supplied with SDS detection kit for determining efficiency of SDS removal.

ITEM(S) SUPPLIED	Cat# 786-150 [MICRO]	Cat# 786-151 [MEDI]
Detergent-OUT™ - SDS-300 Column	MICRO Columns 10	MEDI Columns 10
Collection Tubes, 2ml size	10	N/A
<b>SDS Detection &amp; Estimation Kit</b> [Cat # 786-129] as under:		
Blue Dye	30ml x 1	30ml x 1
Dye Extraction Buffer	15ml x 1	15ml x 1

### STORAGE CONDITION

The kit is shipped at ambient temperature. Upon arrival, store at 4°C.

### ITEMS NEEDED BUT NOT SUPPLIED

Chloroform, Centrifuge & Collection Tubes

### PROTOCOLS

1. Invert the spin column several times to re-suspend the resin material. Remove the tip of the column and let the liquid drain off by gravity or spin briefly at 1000x g for 10-15 seconds.

2. Buffer Equilibration: Detergent-OUT™ columns supplied are equilibrated in deionized water. A better result is obtained when the column and protein solution are in water. Column may be equilibrated with other types of buffers. However, do not equilibrate the columns with borate buffers.

For buffer equilibration, apply about 0.5 ml (1ml for Medi columns) of a desired buffer into the column. Let the buffer drain off, and repeat this process 3 times.

3. Place the column in a centrifuge collection tube. For the Micro spin column, use a 2.0ml micro centrifuge collection tube, and for Medi spin column, use a 15ml centrifuge collection tube. Centrifuge at 1000xg for 20-30 seconds, and discard the liquid collected in the centrifuge tube.

4. Place the column back in the centrifuge collection tube. Carefully, apply the protein solution sample to the center of the column, and wait for 5 minutes.

5. After loading the column centrifuge at 1000xg for 20-30 seconds. Collect the protein solution substantially free from free SDS detergent that was originally present in the sample.



**NOTE:** *Sample may be passed through a second column for the removal of any residual detergents in the sample.*

#### **DETECTING EFFICIENCY OF SDS REMOVAL**

Mix 1-5 $\mu$ l of sample with 2ml Blue Dye and 1ml Dye Extraction Buffer. Add 2 ml chloroform into the mix, and mix the tube content by inverting the tube 5-6 times. Prepare a control containing 1-5 $\mu$ l of water. Allow the tube to stand 5 minutes. If the chloroform layer extracts color, then it is indicative of the presence of SDS in the sample. Measure the optical density of the chloroform layer at 600nm.

By comparing the optical density of the chloroform layers of the control, you can determine the efficiency of the SDS removal. Up to two-fold increase in the optical density over the control (containing no SDS) may simply represent elution of SDS tightly bound to the protein. If the optical density substantially increases over two fold, then it is an indication of the elution of free SDS. By preparing calibration plots for protein and SDS concentration, you may determine the Protein: SDS molar ratio.

#### **RELATED PRODUCTS**

1. **Spin-OUT™** -is a spin column that is suitable for buffer exchange or removal of small molecules from protein and nucleic acid solutions.
2. **PROTEIN-Concentrate™ Kit** concentrates dilute protein solution in a few minutes.
3. **Non-Interfering Protein Assay™** is a protein assay that is not affected by the presence of common laboratory agents such as detergents, reducing agents, EDTA, dyes etc.
4. **Tube-O-DIALYZER™** is for the dialysis of small samples.

**NOTE:** *For other related products, visit our web site at [www.GBiosciences.com](http://www.GBiosciences.com) or contact us.*