

## INSTRUCTIONS

# SnakeSkin™ Dialysis Tubing

0732.3

Number	Description
88244	SnakeSkin Dialysis Tubing, 3.5K MWCO, 35mm dry diameter (ID) × 10.7m
68035	SnakeSkin Dialysis Tubing, 3.5K MWCO, 22mm dry diameter (ID) × 10.7m
88242	SnakeSkin Dialysis Tubing, 3.5K MWCO, 16mm dry diameter (ID) × 10.7m
68700	SnakeSkin Dialysis Tubing, 7K MWCO, 22mm dry diameter (ID) × 10.7m
88245	SnakeSkin Dialysis Tubing, 10K MWCO, 35mm dry diameter (ID) × 10.7m
68100	SnakeSkin Dialysis Tubing, 10K MWCO, 22mm dry diameter (ID) × 10.7m
88243	SnakeSkin Dialysis Tubing, 10K MWCO, 16mm dry diameter (ID) × 10.7m

**Storage:** Upon receipt store at room temperature or 4°C. Keep in closed original packaging tube to prevent desiccation, which results in cracks or pinholes in the membrane. For best results, keep membrane hydrated by occasionally adding 1-2 drops of distilled water to the packaging tube.

## Introduction

The Thermo Scientific™ SnakeSkin™ Dialysis Tubing is dialysis membrane tubing that has been pleated into a cylinder format that simplifies dialysis set-up. To use this tubing, simply pull the membrane from the cylinder, cut off the desired length, and it is ready to use. The membrane does not require boiling in borate/EDTA buffer or lengthy pre-hydration in dialysis buffer. Tubing ends may be closed by knotting or with SnakeSkin Dialysis Tubing Clips (Product No. 68011). Tubing that is closed with clips can be suspended in solution by attaching a Thermo Scientific Slide-A-Lyzer Buoy (Product No. 66432). Dialysis time and performance with SnakeSkin Tubing is similar to flat dialysis tubing because it is made from the same type of regenerated cellulose as conventional tubing.

Dialysis enables buffer exchange and low-molecular weight contaminant removal from sample solutions without significant loss of the macromolecule of interest. The method is based on the diffusion of small molecules through a semi-permeable membrane until equilibrium is reached. The molecular-weight cutoff (MWCO) of a membrane is a way of expressing the membrane's pore size. A membrane of a given MWCO generally retains 90% of molecules of that size or larger during dialysis. Effective dialysis requires that the compound be significantly (i.e., 5-10 times) smaller than the MWCO. For example, with the 10K MWCO membrane, a 10kDa protein typically will be fully retained in the sample, and salts and small (< 2kDa) peptides will dialyze out of the tubing. A 5kDa peptide, although smaller than the 10K MWCO, will likely not dialyze to equilibrium, even after 24-48 hours.

The SnakeSkin Dialysis Tubing is available in three MWCOs and diameters to best suit your sample. The sample volume per centimeter of tubing for each diameter format is listed in Table 1. SnakeSkin Dialysis Tubing is supplied in eight-inch (20cm) cylinders containing 10.7m of tubing.

## Procedure

**Note:** Wear gloves when handling the SnakeSkin Dialysis Tubing to avoid sample contamination.

### Using Tubing Clips as the Closure System

**Note:** This method requires the SnakeSkin Dialysis Tubing Clips (Product No. 68011) and the Slide-A-Lyzer Buoy (Product No. 66432).

1. Pull out the required length of membrane from the packaging tube with an additional ~1 inch (2.54cm) for tube closure. Refer to the volume capacity information (Table 1). Cleanly cut tubing at a 90° angle using scissors.
2. Twice fold over ~0.25" of the dry tubing on one end (for 35mm membranes, first diagonally fold in the corners).
3. Apply the tubing clip and securely snap clip closed.
4. Add sample into the open end, being careful to properly support and secure tubing.
5. Fasten another clip to the other end of the membrane tubing as in Steps 2-3.
6. Inspect seals to ensure ends are secured properly and no leakage is occurring.
7. Securely insert the clip into buoy.
8. Using an appropriately sized container, float the filled dialysis tubing in the desired dialysis buffer.
9. Dialyze the sample for the appropriate time to reach equilibrium (typically 4-8 hours). Exchange the external dialysis buffer two or more times. Use a total dialysis buffer of at least 300 times the volume of the sample during the course of the dialysis procedure. If desired, the dialysis buffer can be stirred or temperature-controlled throughout the process.

### Using Knots as the Closure System

1. Pull out the required length of membrane from the packaging tube with an additional 1-2 inches (2.54cm) for tube closure. Refer to the volume capacity information (Table 1). Cleanly cut tubing at a 90° angle using scissors.
2. Briefly dip (< 5 seconds) 2-3 inches of one end of the tubing into water or dialysis buffer. Securely tie a knot in the wetted end of the tubing and pull tightly.
3. Add sample into the open end, being careful to properly support and secure tubing.
4. Securely tie a knot in open end of tubing.
5. Using an appropriately sized container, float or securely suspend the filled dialysis tubing in the desired dialysis buffer.
6. Dialyze the sample for the appropriate time to reach equilibrium (typically 4-8 hours). Exchange the external dialysis buffer two or more times. Use a total dialysis buffer of at least 300 times the volume of the sample during the course of the dialysis procedure. If desired, the dialysis buffer can be stirred or temperature-controlled throughout the process.

## Additional Information

**Table 1. Dialysis tubing specifications and sample capacity.**

<u>Membrane</u> <sup>†</sup>		<u>Tubing</u>	<u>Volume</u>
<u>MWCO</u>	<u>Membrane</u>	<u>Diameter</u>	<u>(mL/cm of tubing)*</u>
<u>(Da)</u>	<u>Thickness</u>	<u>(mm)</u>	
<b>3.5K</b>	1.0mil (25µm)	<b>16</b>	~2.0
<b>7K</b>	1.2mils (30µm)	<b>22</b>	~3.8
<b>10K</b>	0.9mils (23µm)	<b>35</b>	~9.6

<sup>†</sup>Membrane type: Regenerated cellulose

\*Excludes membrane length used for tube closure

## Related Thermo Scientific Products

Many	<b>Slide-A-Lyzer Cassettes, Mini Devices and Flasks</b> <a href="http://www.thermoscientific.com/DialysisProducts">www.thermoscientific.com/DialysisProducts</a>
Many	<b>Zeba™ Desalting Spin Columns</b> <a href="http://www.thermoscientific.com/DesaltingProducts">www.thermoscientific.com/DesaltingProducts</a>
Many	<b>Pierce™ Protein Concentrators</b> <a href="http://www.thermoscientific.com/Concentrators">www.thermoscientific.com/Concentrators</a>
Many	<b>Pierce Detergent Removal Spin Columns and Kits</b> <a href="http://www.thermoscientific.com/DetergentRemoval">www.thermoscientific.com/DetergentRemoval</a>
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**000 «Диаэм»**

 Москва  
 ул. Магаданская, д. 7, к. 3 ■ тел./факс: (495) 745-0508 ■ [sales@dia-m.ru](mailto:sales@dia-m.ru)
[www.dia-m.ru](http://www.dia-m.ru)
**С.-Петербург**  
 +7 (812) 372-6040  
[spb@dia-m.ru](mailto:spb@dia-m.ru)
**Новосибирск**  
 +7 (383) 328-0048  
[nsk@dia-m.ru](mailto:nsk@dia-m.ru)
**Воронеж**  
 +7 (473) 232-4412  
[vrn@dia-m.ru](mailto:vrn@dia-m.ru)
**Йошкар-Ола**  
 +7 (927) 880-3676  
[nba@dia-m.ru](mailto:nba@dia-m.ru)
**Красноярск**  
 +7 (923) 303-0152  
[krsk@dia-m.ru](mailto:krsk@dia-m.ru)
**Казань**  
 +7 (843) 210-2080  
[kazan@dia-m.ru](mailto:kazan@dia-m.ru)
**Ростов-на-Дону**  
 +7 (863) 303-5500  
[rnd@dia-m.ru](mailto:rnd@dia-m.ru)
**Екатеринбург**  
 +7 (912) 658-7606  
[ekb@dia-m.ru](mailto:ekb@dia-m.ru)
**Кемерово**  
 +7 (923) 158-6753  
[kemerovo@dia-m.ru](mailto:kemerovo@dia-m.ru)
**Армения**  
 +7 (094) 01-0173  
[armenia@dia-m.ru](mailto:armenia@dia-m.ru)
