

## ElutaTube™ Microdialysis Vials (E30011)

### Quick Facts

- Store at 4°C; DO NOT FREEZE
- Handle with gloves
- Molecular weight cutoff (MWCO) = 6,000–8,000

### Introduction

ElutaTube™ microdialysis vials (Fermentas, Inc., Hanover, Maryland, USA) are easy-to-use devices that contain two panes of dialysis membrane with a molecular weight cutoff (MWCO) of 6,000–8,000. They are designed for sample volumes of 10–200  $\mu$ l. These single-use devices are ideal for general dialysis, buffer exchange, or concentration of protein or other samples. Molecular Probes provides ElutaTube vials in convenient packs of three (E30011), and also includes them in Microscale Protein Labeling Kits, which are designed for three labelings of small amounts (20–100  $\mu$ g) of protein. These kits are available for labeling protein with Alexa Fluor® 488 dye (A30006), Alexa Fluor 555 dye (A30007), Alexa Fluor 594 dye (A30008), Alexa Fluor 647 dye (A30009), or biotin-XX (B30010).

### Materials

#### Contents

ElutaTube microdialysis vials, 3

#### Storage and Handling

Upon receipt, ElutaTube vials should be stored at 4°C. DO NOT FREEZE. Wear gloves while handling ElutaTube vials, and take care not to pierce the dialysis membranes with pipet tips or other sharp objects.

#### Preparation for Use

Remove the screw cap from the vial and hydrate the dialysis membrane by adding 200  $\mu$ l of deionized water. Replace the cap, if desired. Hydrate at room temperature for at least 5 minutes. Before use, check that no water is leaking. Note that hydrating the membrane prior to use is necessary for maximum sample recovery.

**IMPORTANT:** The MWCO of the dialysis membrane is 6,000–8,000. We have not tested these vials with proteins smaller than 12 kDa.

### Protocol

#### Use for Dialysis

Remove the cap and empty the water from the ElutaTube vial. Load the device with 10–200  $\mu$ l of sample, replace and tighten the cap, and immerse the device in a large volume of the dialysis buffer of choice. Stir the dialysis buffer slowly with a stir bar to keep the buffer circulating around the vials. A variety of floating racks to hold the vials upright are commercially available, but as long as the dialysis buffer is stirred, ElutaTube vials do not have to be vertical to work effectively.

- We recommend performing dialysis at 4°C, but your samples may be stable at room temperature. Allow at least 30 minutes of dialysis for each 100  $\mu$ l of sample, and change the dialysis buffer as necessary. Most samples are equilibrated within 3 hours, but this should be determined empirically. Viscous samples such as those containing glycerol or detergents may take longer than 3 hours to dialyze completely.
- Depending on the composition of your starting sample (e.g., high salt concentration, 50% (v/v) glycerol), the volume of your sample may increase significantly during dialysis. Anticipate this by not filling the vial completely if volume expansion is likely.
- If you have dialyzed a protein sample in preparation for labeling it with a reactive dye or biotin, transfer the dialyzed sample from the ElutaTube vial to a separate test tube for the labeling reaction. We have not carefully evaluated the interactions of reactive dyes and biotin with the ElutaTube dialysis membrane, and cannot guarantee that labeling will be successful within the microdialysis vial.

#### Use for Sample Concentration

ElutaTube vials can also be used to concentrate protein or other samples either before or after dialysis. However, remember that low molecular weight buffer components like salts will also be concentrated simultaneously. Concentration by evaporation can be achieved by merely leaving the sample-filled ElutaTube vial on the benchtop. The evaporation rate can be accelerated by blowing air over the vial with, for example, a fan. Monitor the sample volume frequently to avoid evaporating the sample to complete dryness.

Samples in ElutaTube vials can also be concentrated by surrounding the sample-filled vials with an absorbent material such as dry gel filtration beads, polyethylene glycol flakes, dried polyacrylamide gel granules, carboxymethyl cellulose, or even paper towels. Monitor the sample volume frequently to avoid concentrating the sample to complete dryness.

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**Product List** *Current prices may be obtained from our Web site or from our Customer Service Department.*

<b>Cat #</b>	<b>Product Name</b>	<b>Unit Size</b>
E30011	ElutaTube™ Microdialysis Vials *6000-8000 MWCO* *set of 3 vials* .....	each

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**Contact Information**

Further information on Molecular Probes products, including product bibliographies, is available from your local distributor or directly from Molecular Probes. Customers in Europe, Africa and the Middle East should contact our office in Paisley, United Kingdom. All others should contact our Technical Assistance Department in Eugene, Oregon.

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