D-Tube™ Dialyzer Mega Kits

Table of Contents

USA and Canada
Tel (800) 526-7319
novatech@novagen.com

Europe

France Freephone 0800 126 461
Germany Freecall 0800 100 3496
Ireland Toll Free 1800 409 445
United Kingdom Freephone 0800 622 935
All other European Countries +44 115 943 0840

techservice@merckbio.eu

All Other Countries
Contact Your Local Distributor
www.novagen.com
novatech@novagen.com

www.novagen.com

About the Kits

	MWCO	Volume	Kit Size	Catalog Number
D-Tube™ Dialyzer Mega	3.5 kDa (blue)	3–10 ml	10 tubes	71739-3
D-Tube Dialyzer Mega	3.5 kDa (blue)	3–10 ml	50 tubes	71739-4
D-Tube Dialyzer Mega	6–8 kDa (pink)	3–10 ml	10 tubes	71740-3
D-Tube Dialyzer Mega	6–8 kDa (pink)	3–10 ml	50 tubes	71740-4
D-Tube Dialyzer Mega	3.5 kDa (blue)	10–15 ml	10 tubes	71742-3
D-Tube Dialyzer Mega	3.5 kDa (blue)	10–15 ml	50 tubes	71742-4
D-Tube Dialyzer Mega	6–8 kDa (pink)	10–15 ml	10 tubes	71743-3
D-Tube Dialyzer Mega	6–8 kDa (pink)	10–15 ml	50 tubes	71743-4
D-Tube Dialyzer Mega	3.5 kDa (blue)	15–20 ml	10 tubes	71745-3
D-Tube Dialyzer Mega	3.5 kDa (blue)	15–20 ml	50 tubes	71745-4
D-Tube Dialyzer Mega	6–8 kDa (pink)	15–20 ml	10 tubes	71746-3
D-Tube Dialyzer Mega	6–8 kDa (pink)	15–20 ml	50 tubes	71746-4
Floating Racks, Mega	–	–	10 racks	71748-3

Description

D-Tube™ Dialyzers Mega* provide an extremely convenient system for dialysis of larger-volume (3–20 ml) biological samples, enabling efficient buffer exchange in a single-tube format over a wide range of conditions. Dialysis and concentration in one device reduces sample loss. There is no need for a syringe, centrifuge, or laborious steps during sample manipulations. Samples are added and removed using a standard laboratory pipet. D-Tube Dialyzers are ideally suited for sample concentration by evaporation because of their dual membranes (which enable easy monitoring of evaporation progress) and large surface area.

D-Tube Dialyzers Mega are available in three volume ranges to facilitate convenient dialysis of samples ranging in volume from 3–10 mL, 10–15 mL, or 15–20 mL. Color coding enables easy identification of the membrane molecular weight cutoff (MWCO): 3.5 kDa (Blue) or 6–8 kDa (Pink). The cap portion of the device determines the maximum volume capacity; bottom tubes of the same color and MWCO are interchangeable (see Figure 1 on p 3). D-Tube Dialyzer membrane is ultra-clean, EDTA-treated regenerated cellulose and is free of sulfur and heavy metals. Nonspecific protein binding by the membrane is negligible, as tested using proteins of acidic, neutral, or basic pI in concentrations ranging from 35–70 µg/ml.

Note: *D-Tube Dialyzers Mega are not recommended for electroelution or DNA and RNA extraction.*

Components

D-Tube™ Dialyzer Kits, 10 units

- 10 D-Tube Dialyzers Mega
- 1 Floating Rack Mega

D-Tube Dialyzer Kit, 50 units

- 50 D-Tube Dialyzers, Mega
- 5 Floating Racks, Mega

Storage

Store all components at room temperature.

*U.S. Patent No. 7,074,313

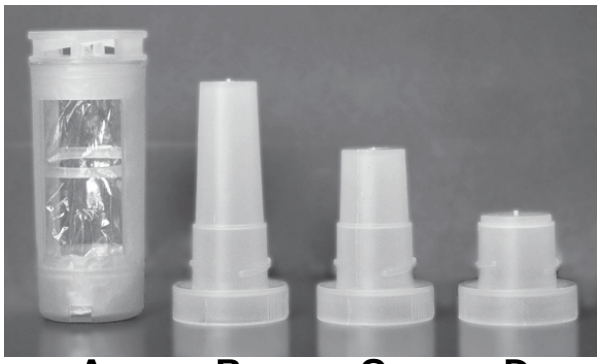

Figure 1. D-Tube™ Mega cap determines maximum volume capacity.
A, universal D-Tube Mega bottom tube; **B,** 3–10 ml cap; **C,** 10–15 ml cap; **D,** 15–20 ml cap.

Dialysis and Sample Concentration

Use the following protocol for dialysis and/or sample concentration using the D-Tube™ Dialyzers Mega.

The D-Tube Dialyzer Mega tubes are color-coded to indicate dialysis membrane MWCO (see Table 1 below). **Note that tube color is only indicative of membrane MWCO, not volume capacity.**

Table 1. D-Tube™ Dialyzer Mega

Tube Color	MWCO
Blue	3.5 kDa
Pink	6–8 kDa

1. Remove cap from D-Tube Dialyzer and add amount of deionized water indicated in Table 2. Screw cap on gently. Incubate upright for at least 5 min.

Table 2.

D-Tube Dialyzer	Volume of deionized water	Sample volumes
Mega (3–10 ml)	10 ml	3–10 ml
Mega (10–15 ml)	15 ml	10–15 ml
Mega (15–20 ml)	20 ml	15–20 ml

Note: *It is critical to pre-hydrate membranes prior to adding sample. Do not skip Step 1 above. The water level will decrease as the dry membranes absorb some of the water. Do not touch the surface of the dialysis membrane or squeeze the membranes, as this can result in breakage. Carefully check that there is no water leaking from the tube. We do not recommend re-using membranes that have been allowed to dry.*

2. Remove cap and pipet water from tube. Add sample and screw cap on gently.

Note: *Do not fill device to capacity if dialyzing a sample of high osmolarity against a buffer of low osmolarity. Under this condition, significant sample volume increase will occur during dialysis. If inadequate space is available for volume expansion, membranes can burst.*

3. Place the D-Tube™ Dialyzer in the Floating Rack provided. Place the assembly in a beaker containing desired dialysis buffer and a stir bar at a volume 100- to 1000-fold greater than the sample volume. When working with samples <5 ml in volume, ensure that any air bubbles trapped between the membrane and bottom of the D-Tube Dialyzer have been released. To do this, place device in the Floating Rack with the rack positioned at the top of the D-Tube Dialyzer Mega, near the junction of the tube and cap. Submerge the bottom 5 cm of the device in buffer at a 45° angle, tapping gently against the side of the beaker to release trapped air bubbles. Removal of all air is necessary to keep the D-Tube Dialyzer upright when working with smaller volumes. The entire surface of the membranes must be submerged in buffer.
4. Stir gently but thoroughly for at least 3 h.

Note: *The user must determine optimum equilibration times for dialysis. Low molecular weight salts and buffers (e.g., Tris-HCl or potassium phosphate) generally equilibrate within 3 h. To ensure that samples reach equilibrium, dialysis may be conducted overnight. Equilibration times for viscous samples will be longer.*

5. Change dialysis buffer as needed. The number of buffer changes required will depend on the specific application.
6. **Optional:** If sample volume increased during dialysis, place D-Tube Dialyzer in microtube rack. Let sample evaporate on a bench top (increasing airflow across membrane will speed up the process). Check volume at least every 10 min to prevent excess evaporation.

Note: *Because no diffusion occurs during evaporation, small molecules in the sample (buffers, salts, reducing agents, etc.) will also be concentrated.*

Remove cap from D-Tube Dialyzer. Carefully remove sample with a pipet from D-Tube Dialyzer. Transfer sample to clean tube.

Related Products

D-Tube™ Dialyzer Mini, MWCO 6–8 kDa	10 tubes	71504-3
D-Tube Dialyzer Mini, MWCO 12–14 kDa	10 tubes	71505-3
D-Tube Dialyzer Midi, MWCO 3.5 kDa	10 tubes	71506-3
D-Tube Dialyzer Midi, MWCO 6–8 kDa	10 tubes	71507-3
D-Tube Dialyzer Maxi, MWCO 3.5 kDa	10 tubes	71508-3
D-Tube Dialyzer Maxi, MWCO 6–8 kDa	10 tubes	71509-3
D-Tube Dialyzer Maxi, MWCO 12–14 kDa	10 tubes	71510-3
D-Tube96™ Dialyzer, 6-8 kDa	1 kit	71712-3
D-Tube96 Dialyzer, 12-14 kDa	1 kit	71713-3
D-Tube Electroelution Accessory Kit*	1 kit	71511-3

* For use with D-Tube Dialyzer Mini, Midi, or Maxi devices only. Not for use with D-Tube Dialyzer Mega devices.