



Tube-O-DIALYZER™

No Loss Dialyzer for Small Samples

INTRODUCTION

Tube-O-DIALYZER™ allows dialysis of small samples without requiring the removal of the sample from the tube and eliminates loss. A simple design converts a sample tube into a dialyzer - a Tube-O-DIALYZER™. The tube cap is adapted with a dialysis membrane. Invert the Tube-O-DIALYZER™ in a dialysis tank and dialyze your samples. Salts and other molecules rapidly exchange across the dialysis membrane mounted on the cap. When dialysis is complete, spin the tube for a brief 5 seconds and collect 100% of your sample.

Sample collection by spinning allows clean and 100% recovery of sample. There is no left over sample in dialysis bag. After dialysis, replace the dialyzing cap with a normal cap supplied with each kit for storage of the sample. Tube-O-DIALYZER™ can be used for many research applications, including concentration of samples, equilibrium dialysis, genomic DNA isolation and other sample preparations.

Tube-O-DIALYZER™ are supplied with dialysis membrane cut off MWCO 1,000, 4,000, 8,000, 15,000, and 50,000. Made with a neutral no binding dialysis membrane.

Concentrate Samples: Tube-O-DIALYZER™ Concentrator is supplied separately for concentrating the samples. To concentrate samples after dialysis, simply invert the Tube-O-DIALYZER™ in the concentrator.

ITEMS SUPPLIED	Cat # 786-141	Cat# 786-142	Cat# 786-143
	Micro Kit	Medi Kit	Mixed Kit
Tube-O-Dialyzer	50 x Micro	50 x Medi	25 Micro & 25 Medi
Floats	6	6	3 Micro & 3 Medi
Caps	50 x Micro	50 x Medi	25 Micro & 25 Medi
Forceps	1	1	1

Storage: Shipped at ambient temperature. Store it at 4°C, upon arrival and is Stable for 1 year.

ITEMS SUPPLIED SEPARATELY

- Centrifuge Tube Adaptor [Cat # 786-145] – Designed to assist centrifugation of Tube-O-DIALYZER in a bench top centrifuge. Centrifuge Tube Adaptor can be used for both Micro and Medi size Tube-O-DIALYZERS.
- Concentrator , Size 150g [Cat # 786-144] – To concentrate sample after dialysis.
- Micro-Dialysis Cup [Cat # 786-145C] – For dialysis of small sample volumes, equilibrium dialysis, dialysis of single use preparations, and other dialysis applications. Dialysis buffer capacity of 2-10ml.
- Tube-O-Tanks [Cat # 786-145D & 786-145E] – A dialysis tank specifically designed for use with Tube-O-DIALYZER™. Allows trouble free dialysis and prevents the risks of the Tube-O-DIALYZER™ from flipping during dialysis. Two sizes are available, small and large tanks - suitable for Micro and Medi size Tube-O-DIALYZER, respectively. Each tank will accommodate 7 Tube-O-DIALYZER each. Supplied with floats.
- Tube-O-Array™ Dialyzer [Cat # 786-145A] – Specifically developed for dialysis-equilibration of samples prior to 2D-gel analysis or other applications. Optimize up to 12 samples at a time. Consists of a tray for holding up to 12 Tube-O-DIALYZER assemblies. Suitable for 20µl to 2.5ml samples each.
- Floats – Additional Tube-O-DIALYZER floats, both Micro [Cat # 786-141F] and Medi [Cat # 786-142F] sizes are also available separately.

Size & Specification: Tube-O-DIALYZER™ molecular weight cut off limits are specified on the labels.

Supplied in two sizes -

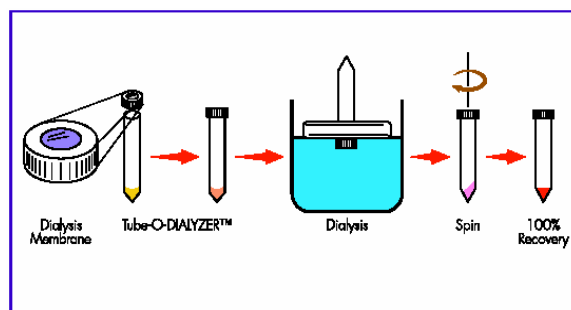
Micro: Suitable for sample sizes 20-250µl

Medi: Suitable for sample sizes 200µl to 2.5ml

INSTRUCTIONS FOR USE

Select an appropriate MWCO Tube-O-DIALYZER™ suitable for your use.

1. **Wash:** Tube-O-DIALYZER™ are supplied in a preserving solution containing azide. A brief rinse of cap and tube is



think proteins! think G-Biosciences!

recommended before use. Place the dialysis cap of the Tube-O-DIALYZER™ on a clean surface or in a clean beaker, with the membrane side facing down ward. Add 1-2ml DI water or a buffer of your choice into the cap (membrane) and let it drain away. DO NOT DISTURB THE MEMBRANE. Keep the Tube-O-DIALYZER™ membrane wet in water until you are ready to use. Do not allow the membrane to dry.

2. Just before use, remove the cap from water. Remove excess water from the cap with a pipette tip. DO NOT DISTURB THE MEMBRANE.
3. Place your sample in the Tube-O-Dialyzer (for 20µl to 250µl samples use Micro and for 200µl to 2.5ml samples use Medi size Tube-O-DIALYZER™). Position the dialysis cap on the tube and tighten it firmly.
4. Invert the Tube-O-DIALYZER™. Make sure the entire sample rests on the dialysis membrane. If sample is viscous, spin the Tube-O-DIALYZER™ in inverted position (i.e. the dialysis membrane facing downward) for 5-6 seconds.

Spinning A Tube-O-DIALYZER™ Inverted: Place the Tube-O-DIALYZER™ in a Centrifuge Tube Adaptor (supplied separately, Cat # 786-145) or in a 50 ml centrifuge tube, cap facing downward. Spin at 500-1000xg for 5-6 seconds. Check the tube to make sure the entire sample has moved down on to the dialysis membrane of the Tube-O-DIALYZER™. Hold the Tube-O-DIALYZER™ in an inverted position when removing from the centrifuge.

WARNING: *Spinning longer than necessary may rupture the membrane.*

5. Secure a float on the Tube-O-DIALYZER™ and float the assembly in an appropriate dialysis buffer. Add the remaining floats supplied with the kit in the dialysis tank to stabilize and prevent the Tube-O-DIALYZER™ from flipping during dialysis.

NOTE: *Tube-O-Tanks [Cat # 786-145D & 786-145E] allow trouble free dialysis and prevent the risks of the Tube-O-DIALYZER™ flipping during dialysis.*

Check that the dialysis membrane contacts the dialysis buffer. If there are large air bubbles trapped underneath the dialysis membrane surface, tilt the tube or squirt buffer to remove the air bubbles. Gently, stir the dialysis buffer.

Dialysis Time: Dialysis time will depend on the nature of sample, MWCO of Tube-O-DIALYZER™, volume of the sample and the dialysis buffer as well as concentration of the sample solution. Higher MWCO will allow faster dialysis. As a guide, the sample should be dialyzed 2-12 h. The content of the Tube-O-DIALYZER™ should be mixed once or twice during dialysis, either by inverting or gently tapping the Tube-O-DIALYZER™. If necessary, repeat step 4. Dialysis buffer should also be replaced at least once during dialysis.

6. After dialysis, remove the Tube-O-DIALYZER™ from the float and immediately spin the Tube-O-DIALYZER™ (in up-right position) for 5-6 seconds at 500-1000xg.
WARNING: *Do not spin any longer than necessary to collect the sample otherwise the membrane may rupture.*
7. Discard the dialysis cap. Replace a normal cap for storage.

APPLICATION NOTES

Concentration of Samples: For rapid concentration of samples using a Tube-O-DIALYZER™, we offer a concentrator preparation (Cat # 786-144, supplied separately). The concentrator is a high molecular weight polymer that will not migrate across the dialysis membrane. When concentrator is placed against the dialysis membrane of the Tube-O-DIALYZER™, it rapidly absorbs water from the sample and reduces the sample volume. The concentrator is supplied separately.

For concentration, transfer 5-8 gm dry concentrator into the container supplied. Using a clean tissue paper, remove all free solution from the cap of the Tube-O-DIALYZER™. Invert and bury the Tube-O-DIALYZER™ cap into the concentrator. Make sure that the concentrator contacts the dialysis membrane. Incubate until desired concentration is reached. The concentration can be accelerated by removing the Tube-O-DIALYZER™ from the concentrator every 40-50 min and then removing the wet concentrator from in front of the dialysis membrane. Squirt water to remove the concentrator, afterward, remove all free water from the Tube-O-DIALYZER™ before inverting and burying the Tube-O-DIALYZER™ back into the concentrator.

Reusing Tube-O-DIALYZER™: Tube-O-DIALYZER™ is not recommended for re-use because of obvious reason of cross contamination. **For dialysis of dilute protein solutions:** Tube-O-DIALYZER™ is made of neutral and no binding membrane; however, any residual binding can be further blocked by washing Tube-O-DIALYZER™ cap, during washing step 1, in 5% BSA solution and washing the cap thoroughly afterward to remove free BSA.

RELATED PRODUCTS

1. **Tube-O-Array Dialyzer™** – A high throughput method for sample preparation and optimization specifically developed for dialysis-equilibration of samples prior to 2D-gel analysis or other applications. Optimize up to 12 samples at a time. Consists of a tray for holding up to 12 Tube-O-DIALYZER™ assemblies. Transfer sample into a Tube-O-DIALYZER™ and position into the micro dialysis cup containing as little as 2ml dialysis or equilibration buffer. Stirring of the dialysis buffer is achieved by placing 5-6 stirring balls in each micro-dialyzer cups.
2. **MegaLong™ DNA Isolation kit (Cat # 786-146/7)** – For isolation of high molecular weight (>100Kb) genomic DNA, involves use of a Tube-O-DIALYZER™ containing 0.45micron pore size membrane. Transfer nuclei into a Tube-O-DIALYZER™. When dialysis is complete, you have a fully hydrated, purified high molecular weight genomic DNA in the Tube-O-DIALYZER™.