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A Geno Technology, Inc. (USA) brand name

Tube-O-CONCENTRATOR™

INTRODUCTION

Tube-O-CONCENTRATOR™ is a versatile concentration device that utilizes a novel liquid polymer and our patented Tube-O-DIALYZER™ for the rapid concentration of dilute protein solutions with zero loss. The unique tube design of Tube-O-DIALYZER™ ensures that 100% sample is recovered; simply place the entire device in a bench top centrifuge and spin for a few seconds.

The Tube-O-CONCENTRATOR™ solution is a liquid polymer that rapidly absorbs water through the dialysis membrane in the Tube-O-DIALYZER™ cap, which retains all molecules with a molecular weight >1kDa.

Tube-O-CONCENTRATOR™ is available in two sizes for concentrating sample volumes of up to 250µl (Micro) or 2.5ml (Medi).

KIT COMPONENTS

Cat. #	786-625	786-626
Concentrator Solution	125ml	125ml
Tube-O-DIALYZER™, 1,000MWCO, Micro	5	-
Tube-O-DIALYZER™, 1,000MWCO, Medi	-	5
Micro Dialysis Cups	5	5
Floats	5	5
Storage Caps	5	5

STORAGE

The kit is shipped at ambient temperature. Upon arrival, store it at 4°C and is stable for 1 year.

ITEMS NEEDED BUT NOT SUPPLIED

Stir Plate/ Magnetic Stirrer, small magnetic stir bar.

PREPARATION BEFORE USE

- Concentrator Solution is a polymer in deionized water. The Concentrator Solution can be supplemented with additives, including buffering agents, denaturants, salts and detergents, to maintain the integrity of your sample during concentration dialysis. To maintain the high concentration rate, we recommend making 10X or higher concentrated solutions of your additives and using a maximum of 2ml (for 10X) with every 18ml Concentrator Solution.
- Tube-O-DIALYZER™ are supplied in a preservative to maintain quality. Prior to use discard the preservative from the tube and place the dialysis cap upside down in a beaker or other suitable container and add 1-2ml DI water or dialysis buffer to rinse. Keep the Tube-O-DIALYZER™ membrane wet until required

INSTRUCTIONS FOR USE

- Add an appropriate sized magnetic stir bar to a micro dialysis cup and pipette in 20ml Concentrator Solution.
NOTE: The 20ml is the total volume to be added. If additional additives are used, then prepare before hand (see preparation before use) and add 20ml modified Concentrator Solution to the micro dialysis cup.
- Pipette your dilute protein sample directly into the Tube-O-DIALYZER™ tube. For Tube-O-DIALYZER™ Micro use 20-250µl and for Tube-O-DIALYZER™ Medi use 0.2-2.5ml.
- Remove the Tube-O-DIALYZER™ dialysis cap from the rinse water/buffer and carefully remove excess liquid with a pipette tip.



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4. Screw the dialysis cap on to the Tube-O-DIALYZER™ tube until finger tight. Invert the Tube-O-DIALYZER™, ensuring the entire sample rests upon the membrane.
NOTE: If sample is too viscous or the volume too small, centrifuge the Tube-O-DIALYZER™ in an inverted position (i.e. the dialysis membrane facing downward). We recommend inverting the Tube-O-DIALYZER™ in the Tube-O-DIALYZER™ centrifuge adaptor (Cat. # 786-145) or a 50ml centrifuge tube and centrifuging for 5 seconds at 500-1,000g. Do not spin longer as this may cause the membrane to rupture.
5. Keeping the Tube-O-DIALYZER™ in an inverted position, slide the supplied float onto the Tube-O-DIALYZER™ tube. Place the Tube-O-DIALYZER™ in to the Concentrator Solution.
6. Ensure that the dialysis membrane contacts the Concentrator Solution. If there are large air bubbles trapped underneath the dialysis membrane surface, tilt the tube to remove the air bubbles.
7. Place the entire set up on a magnetic stirring plate and gently, stir the Concentrator Solution. For efficient and complete dialysis we recommend inverting or gently tapping the Tube-O-DIALYZER™ 1-2 times during dialysis to mix the sample.
8. *Concentration Time:* Concentration time will depend on the nature of sample, sample volume and concentration. As a guide, the sample should be dialyzed for an hour and the volume of the protein solution monitored throughout dialysis.
9. Once the desired volume has been reached, remove the Tube-O-DIALYZER™ from the float, rinse off excess Concentrator Solution and immediately spin the Tube-O-DIALYZER™ (in up-right position) for 5-6 seconds at 500-1,000xg.
NOTE: Do not spin longer as this may cause the membrane to rupture.
10. Discard the dialysis cap and replace with the supplied Storage Cap.

TROUBLESHOOTING

1. **Reusing Tube-O-DIALYZER™:** Tube-O-DIALYZER™ is not recommended for re-use because of obvious reason of cross contamination.
2. **Precipitate Forms In Sample:** As with all dialysis and concentration methods, precipitation may occur in your sample. The unique tube format means the entire Tube-O-DIALYZER™ can be centrifuged to collect the precipitate, which can be redissolved by addition of a buffer of choice. We recommend centrifuging for 5-6 seconds at 500-1,000xg. Check the sample and if necessary repeat the centrifugation. *Do not spin longer as this may cause the membrane to rupture.*
3. **Mishandling Dislodges White Gasket:** In some cases the white gasket inside the Tube-O-DIALYZER™ cap can be dislodged by mishandling. In this event, we recommend using the base of the Tube-O-DIALYZER™ tube to push the gasket back in to position.

RELATED PRODUCTS

1. **Concentrator Solution (Cat. # 786-143):** Additional Concentrator Solution is available. 125ml.
2. **Tube-O-DIALYZER (Cat # 786-610-786-624):** Tube-O-DIALYZER™ is a mini dialysis system for small sample volumes (20µl-2.5ml) that ensures 100% sample recovery, even if precipitation occurs. Tube-O-DIALYZER™ is based on a patented tube design that permits easy sample handling and a dialysis cap. Simply pipette your sample into the Tube-O-DIALYZER™ tube, seal with the Tube-O-DIALYZER™ dialysis cap and invert in your dialysis solution and dialyze. Following dialysis, briefly centrifuge the complete Tube-O-DIALYZER™ for five seconds and collect 100% of your sample. For storage of the dialyzed sample, replace the dialysis cap with the supplied storage caps. Tube-O-DIALYZER™ consists of a regenerated cellulose dialysis membrane, a neutral non binding dialysis membrane, with Molecular Weight Cut Offs (MWCO) of 1,000, 4,000, 8,000, 15,000, or 50,000 Daltons. Available for sample volumes of 20-250µl and 0.2-2.5ml.
3. **Tube-O-Array Dialyzer™ (Cat. # 786-145A):** 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.