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A Geno Technology, Inc. (USA) brand name

Concentrator Solution

(Cat. # 786-143)



INTRODUCTION

Concentrator is a novel liquid polymer for the rapid concentration of dilute protein solutions with zero loss, using dialysis.

Simple transfer your dilute protein solution to a dialysis bag or dialysis device, such as our patented Tube-O-DIALYZER™ and dialyze against the concentrator solution.

The water will be rapidly removed through the dialysis membrane, which also retains your protein of interest and prevents the high molecular weight liquid polymer entering your solution. Once the desired volume of your solution is achieved, quickly rinse the excess concentrator solution from the dialysis bag/ membrane and recover your sample.

Fast, efficient and clean protein concentration with minimal hands-on activity.

ITEM(S) SUPPLIED (Cat. # 786-143)

Description	Size
Concentrator Solution	125ml

STORAGE CONDITIONS

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

ADDITIONAL ITEMS REQUIRED

- Dialysis Membrane or Dialysis Device *(We recommend Tube-O-DIALYZER™, Cat. # 786-610 to 786-624)*
  NOTE: *Ensure that all dialysis membranes used have a MWCO <30kDa.*
- 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.

PROTOCOL

1. Add an appropriate sized magnetic stir bar to a small beaker and pipette in an appropriate volume of Concentrator Solution to cover the dialysis membrane. ***NOTE:*** *If additional additives are used, then prepare beforehand (see preparation before use) and add modified Concentrator Solution to the micro dialysis cup.*
2. Pipette your dilute protein sample directly into the dialysis bag or dialysis device.
3. Place the dialysis bag or dialysis device in to the Concentrator Solution.
4. Place the entire set up on a magnetic stirring plate and gently, stir the Concentrator Solution.
5. *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.
6. Once the desired volume has been reached, remove the dialysis bag or dialysis device, rinse off excess Concentrator Solution and immediately recover your sample to a clean tube.

TROUBLESHOOTING

1. **Reusing Dialysis Bag or Dialysis Device:** It is not recommended to 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. If using our Tube-O-DIALYZER™ device then 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.* If not using, then try and pipette back in small volumes of buffer and mix until sample redissolves.

APPENDIX: PROTOCOL FOR USE WITH TUBE-O-DIALYZER™

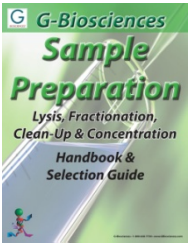
1. Add an appropriate sized magnetic stir bar to a micro dialysis cup (Cat. # 786-145C) or small beaker and pipette in 20ml Concentrator Solution.
   NOTE: *The 20ml is the total volume to be added. If additional additives are used, then prepare before hand (see preparation before use) and add 20ml modified Concentrator Solution to the micro dialysis cup.*
2. 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.
3. Remove the Tube-O-DIALYZER™ dialysis cap from the rinse water/buffer and carefully remove excess liquid with a pipette tip.
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 FOR TUBE-O-DIALYZER™ METHOD

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

Download our Sample Preparation Handbook.



http://info.gbiosciences.com/complete-protein-sample-preparation-handbook/

For other related products, visit our website at www.GBiosciences.com or contact us.

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