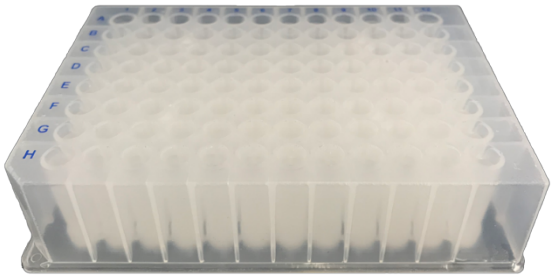
Optima PRO De-salting Kit
General Instructions for Use

The Optima PRO de-salting plate is designed for small-scale de-salting, buffer exchange and removal of low molecular weight materials (e.g. imidazole) from larger biomolecules, or macromolecules such as proteins. Optima PRO de-salting plates are gel filtration plates consisting of 800 µL bed volume in a standardized array for processing Protein samples >5kDa. Optima PRO de-salting plate can be used for the removal of DNA primers and fragments (up to 20 bases), nucleotides labelled with biotin, isotopes, and other assorted markers.

The Optima PRO de-salting plate provides convenient small-scale preparation of protein samples post affinity purification, or prior to analysis techniques such as gel electrophoresis, liquid chromatography and LC-MS. Designed for imidazole removal, desalting and buffer exchange.



Product Name	**Optima PRO De-salting Kit**
Protein Application	Removal of salts, low molecular weight impurities (e.g. imidazole) and buffer exchange
DNA Application	Removal of DNA primers and fragments (up to 20 bases), buffers, nucleotides labelled with biotin, isotopes and other markers
Plate format	96 well
Mode of operation	Centrifugation (bench-top or floor model) Positive pressure e.g. Tecan Resolvex A200
Total processing time	Centrifugation – 8mins Tecan ResolveX A200 – 2mins
Optimal Centrifugation Conditions	900 x g
Gel Matrix	Zetadex G50 resin
Gel bed volume	800 µl
Removal of Salt: (200 µl 1M NaCl)	Up-to 99%
For processing proteins*	> 5 kDa
Protein Recovery	> 90%
Maximum sample volume	300 µl
Minimum sample volume	50 µl
Plastic	Polypropylene
Storage buffer	20 % Ethanol
Working pH	2 – 13
Storage conditions	4°C
Expiry	2 – 3 years
Catalogue Number	PRO96
Pack sizes	2, 10 and 50 de-salting plates

*** Smaller proteins may need to be centrifuged longer in order to elute**

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Performance Data

Conductivity and Absorption (A280)

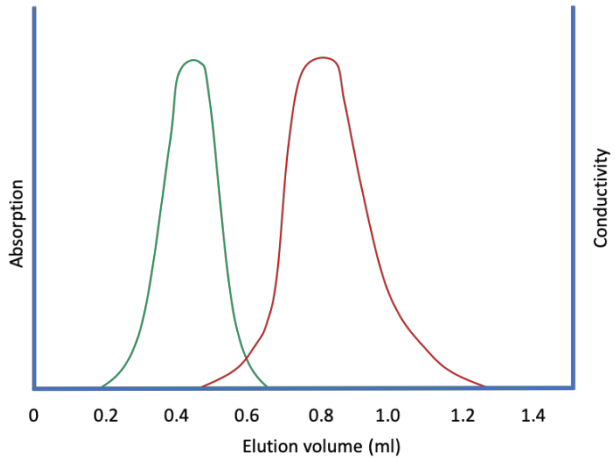

Fig 1. De-salting of 200 µl 1mg/ml BSA and 0.7M NaCl using the Optima PRO De-salting plate.

Green line = BSA (A280)
Red line = Salt (Conductivity)

De-salting capacity

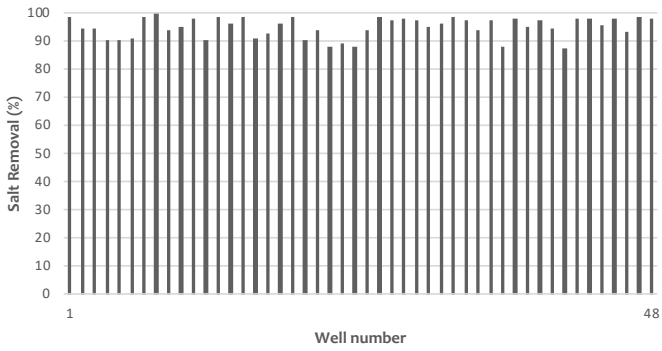

Fig 2. Removal of 1M NaCl from 1 mg/ml of BSA. 200 µl sample added to each of the 48 wells.

Protein Recovery

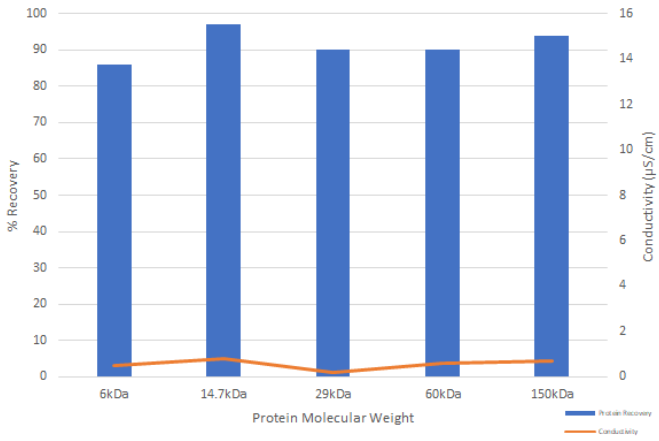

Fig 3. Protein recovery and salt removal. Post affinity purification, proteins ranging from 6kDa to 150 kDa were tested. Initial conductivity = 16 µS

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6-step 10 min. De-salting Protocol

1. **Setting Up:** Remove the bottom and top plate seals from the Optima PRO de-salting plate. Cover with lid. Remove the bottom adhesive seal first. Ensure that the plate remains horizontal to avoid losing any gel
2. Stack the Optima PRO plate on top of a 96-well waste plate. Place assembly in a centrifuge.
3. **Spin:** Centrifuge for 3 min. at 900 x *g*. Discard eluate. For determination of RPM from RCF, visit our website at www.edgebio.com and click on Technical Support.
4. **Sample loading:** Transfer the reaction samples (recommended max volume 300 µl) to the center of each well in the Optima PRO de-salting plate. Pipette slowly. Do not touch the sides of the wells. Cover with lid.
5. Stack the Optima PRO De-salting plate on top of a 96-well semi-skirted capillary plate. Place the assembly in a centrifuge
6. **Spin:** Centrifuge for 5 min. at 900 x *g*. Retain eluate. The eluate contains de-salted protein and is ready for downstream application.

4-step 10 min. Buffer Exchange Protocol

1. **Equilibration:** Stack the Optima PRO plate on top of a 96-well waste plate. Equilibrate the gel matrix with 300 µl destination buffer. Centrifuge 600 x g for 1-2 min. ensuring that the gel matrix is hydrated. Repeat the equilibration step twice.
2. Place the Optima PRO Plate on to a 0.35 ml capillary collection plate.
3. **Sample loading:** Transfer up to 200 µl of sample to the centre of the hydrated pre-equilibrated gel matrix in each well.
4. **Spin:** Centrifuge for 5 min. at 900 x g.
5. Buffer exchanged samples are now ready for all downstream applications.

Ordering information

Product	Description
PRO96-2	Optima PRO De-salting kit (2 plates)
PRO96-10	Optima PRO De-salting kit (10 plates)
PRO96-10x	Optima PRO De-salting Plates (10 plates only)
PRO96-50x	Optima PRO De-salting Plates (50 plates only)

Component	Pack Size	Pack Size
Optima PRO De-salting plate	2 pc	10 pc
0.35 ml Capillary (collection) plate	2 pc	10 pc
2 ml waste plate	2 pc	10 pc
Plate lid	2 pc	10 pc

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