Optima PRO Ni-Advance 24-Well Screen
Instructions for Use

The Protein Ark Optima PRO 24-well Screens are designed for high throughput protein purification in batch mode. For the first time, you can batch control up to 24 different clarified samples with any purification resin, in parallel and with no mess, hands-free and with no cross-talk between wells.

Key Benefits:

- **High Throughput:** Purify up-to 24 samples simultaneously in 25 minutes
- **Versatile**: Compatible with centrifugation, positive pressure, and negative pressure system. Can be used in conjunction with automated liquid handling systems
- **Customizable:** Our standard offering is using our Super Protein A resin. Can be customized using any commercial (e.g., MabSelect Sure™ / MabSelect Sure LX ™) or in-house affinity resin

Optima PRO Ni-Advance 24-well Screen Specifications

Dried Resin Volume	0.2 ml – 2 ml
Recommended Sample Volume Per Load	2-7 ml
Recommended Elution Volume	2 x 1ml
Max Well Volume	8 ml
Max Sample Volume Per Load	8 ml
Min Sample Volume	2 ml
Min Elution Volume	300 µl
Resin Matrix	6% cross-linked Agarose
Coupled Ligand	Chelating ligand
Mean Resin Bead Size	90 µm
Buffer Compatibility	Common aqueous buffers from pH 2.5-10
Lysis Buffer Example	50 mM HEPES, pH 8, 300 mM NaCl, 10 mM Imidazole
Wash Buffer Example	50 mM HEPES, pH 8, 300 mM NaCl, 25 mM Imidazole
Elution Buffer Example	50 mM HEPES, pH 8, 300 mM NaCl, 500 mM Imidazole
System Compatibility	Positive / Negative Pressure Centrifugation
Recommended Positive Pressure Profile	30% pressure for 60 sec (all steps)
Recommended Centrifugation Speed	300 x g for 2-5 mins
Recommended Shaker Speed (2mm Orbit)	400 rpm
Max Shaker Speed (2mm Orbit)	400 – 500 rpm
Membrane Material	PES

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Membrane Size	0.22 µm
Plastic Material	Polypropylene
Empty Plate Chemical Resistance	< 8M Urea, < 6M GuHCL, < 20mM DTT, DTE, 2-ME, < 50% Glycerol, < 20% Ethanol, < 2% non-ionic detergents (e.g., Tween, Triton)
Shipping Temperature	Ambient
Storage	2-8°C

Optima PRO Screen Protocol - Purification using 5-step 25 min Centrifugation Protocol

1. **Setting Up**
   a. Tap the Optima PRO screen plate to ensure all resin is at the bottom of each well.
   b. Carefully remove the sealing mat from the top of the Optima PRO screen plate.
   c. Pre-equilibrate the resin by adding up-to 7ml of Binding buffer to each well. Incubate with shaking at 400 rpm for 1-2 minutes (2mm orbit shaker).
   d. Transfer the Optima PRO screen plate on to a 10 ml collection plate, centrifuge for 2-5 mins. at 300 g (30% pressure for 60s on a ResolveX A200) and discard flow through.

2. **Sample Loading**
   a. Load up to 7 ml of clarified sample in each well and incubate for 10 mins, shaking at 400 rpm (2mm orbit). Slowly increase the shaking speed until reaching 400 rpm.
   b. To avoid cross-contamination between wells, do not use the sealing mat during the incubation step

3. **Sample Flow through**
   a. Transfer the Optima PRO screen plate on to a 10 ml collection plate and centrifuge for 2-5 mins. at 300 x g. (30% pressure for 60s on a ResolveX A200)

Note:

- If the starting volume is greater than 7ml, please load fresh sample onto the same well to increase antibody capture.
- The flow through can be re-loaded onto the same well to improve antibody capture.
- Incubate each subsequent sample load for 10minutes at 400 rpm shaking.

4. **Washing**
   a. Add up to 7 ml of binding/wash buffer to each well and centrifuge for 2-5 mins. at 300 x g. Repeat the wash step twice. (30% pressure for 60s on a ResolveX A200)

5. **Elution:**
   a. Transfer the Optima PRO screen plate on to a fresh collection plate. Add 1ml (or optimised volume) elution buffer to each well and centrifuge for 2-5 mins. at 300 x g. Repeat the elution step at least twice. (30% pressure for 60s on a ResolveX A200)
   b. Store the eluted protein at 2-8 °C until further analyses.

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Notes

- If the sample is slightly viscous or aggregates are present, filter the sample prior to loading using a 0.22µm filter membrane to prevent clogging.
- If all of the sample does not pass through within the above centrifugation time, increase the centrifugation time or centrifugation speed to max 1000 x g
- For ResolveX A200 users, if all the sample does not pass through using the above pressure conditions, either increase the pressure (30-50%) slightly or time (60-120s).
- Ensure full mixing of the sample and resin is achieved during the incubation step. Shaking speed can be increased if the sample volume is 5ml or less.
- Increase incubation time to increase resident time between sample and resin for improved binding and purification.
- Number of wash and elution steps should be optimized for each protein purification.
- If the antibody recovery level is lower than expected, increase the number of elution steps or reload the flow through onto the same well

Ordering Information

Product Description	Product Codes		
	1 kit	2 kits	10 kits
Optima PRO Ni-Advance (0.2ml)	PAL-0.2ml-24-NIADV-1	PAL-0.2ml-24-NIADV-2	PAL-0.2ml-24-NIADV-10
Optima PRO Ni-Advance (0.4ml)	PAL-0.4ml-24-NIADV-1	PAL-0.4ml-24-NIADV-2	PAL-0.4ml-24-NIADV-10
Optima PRO Ni-Advance (0.6ml)	PAL-0.6ml-24-NIADV-1	PAL-0.6ml-24-NIADV-2	PAL-0.6ml-24-NIADV-10
Optima PRO Ni-Advance (0.8ml)	PAL-0.8ml-24-NIADV-1	PAL-0.8ml-24-NIADV-2	PAL-0.8ml-24-NIADV-10
Optima PRO Ni-Advance (1ml)	PAL-1ml-24-NIADV-1	PAL-1ml-24-NIADV-2	PAL-1ml-24-NIADV-10
Optima PRO Ni-Advance (1.5ml)	PAL-1.5ml-24-NIADV-1	PAL-1.5ml-24-NIADV-2	PAL-1.5ml-24-NIADV-10
Optima PRO Ni-Advance (2ml)	PAL-2ml-24-NIADV-1	PAL-2ml-24-NIADV-2	PAL-2ml-24-NIADV-10
Optima PRO Customized*	PAL-HT-24-CUST-1	PAL- HT-24-CUST-2	PAL- HT-24-CUST-10

* Please contact info@proteinark.com to speak to one of our expert team to discuss customization of our Optima PRO 24-well screens.

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