



## MEA 2 PERSONAL PURIFICATION SYSTEM FOR AUTOMATED PHYTIP® COLUMN SAMPLE PROCESSING

To meet industry demands and customer requests, PhyNexus has developed the next generation MEA Personal Purification System. Designed to process PhyTip® columns for automated and unattended protein purification and gel filtration buffer exchange/desalting, the MEA 2 has been upgraded for additional functionality. The MEA 2 is a customizable system that can benefit a vast variety of applications:

- Automated purification of **antibodies** and **recombinant proteins**
- Purify **membrane proteins** and other difficult proteins in the cold room to ensure quality
- Prepare **plasmid DNA** on the mini, midi and maxi-scale
- ÄKTA replacement system: purify **12 parallel, large-volume, preparative-scale proteins**
- Highly reproducible with CV values well under 10
- Elute in as little as 10  $\mu\text{L}$ , for high concentrations of ultra-pure samples



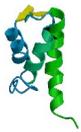
**MEA 2 Personal Purification.** Configured here for Cold-Room protein purification. System includes two 12-channel MEA heads, computer, software, power supplies and associated cables.



**PhyTip Columns.** Pictured from Left to Right. PhyTip columns packed with 5, 20, 10, 20, 40, 80, 160 and 320  $\mu\text{L}$  resin.

### The MEA II system offers the following:

- **Automated 12-channel system:** Full incorporation of the latest features in liquid management. The re-designed 12-channel head result from advanced engineering combined with customer-driven feedback. Complete purification of 96 samples in as little as two hours. Process sample volumes of 100  $\mu\text{L}$  to 60 mL. Interchangeable between 1000+ and 200+  $\mu\text{L}$  heads.
- **Software Update:** The PhyNexus software package update for seamless interface with Windows versions 7 and 8, more intuitive user interface, easier support and faster installation.
- **Streamlined and Configurable system:** Streamlined computer and power connections, configurable for protein or nucleic acid needs.
- **Cold Room Operation:** Upgraded 12-channel head compatible with cold room operation and surfactant-rich samples.
- **Turnkey Applications:** Validated procedures for antibody purification, tagged and native protein purification, and buffer exchange.
- **Method development and transfer:** Develop methods and transfer to robots from Tecan, Caliper/Perkin Elmer, Beckman, Dynamic Devices, Agilent and Hamilton.



## MEA 2 PERSONAL PURIFICATION INSTRUMENT (CONT'D)

### PHYTIP COLUMNS

PhyNexus' unique technology for the small scale purification of engineered proteins, antibodies and nucleic acids enables researchers to routinely purify and enrich their samples by processing sample volumes from the 100 microliters to 60 milliliters. The exclusive design of the PhyTip columns allows for elution volumes as low as 10  $\mu$ L, thus producing enrichment factors as high as 50X, with concentrations of purified protein of up to 5 mg/mL, at a purity of greater than 95%. Plasmid DNA can be purified to 200 ng/ $\mu$ L at transfection-grade purity.

The process to purify and enrich is a simple three step technique where the protein of interest is first captured, then purified and finally enriched. The entire process can take less than 15 minutes for 12 samples in parallel to produce high concentrations of fully functional protein ready for further analysis.



Fluorescently labeled IgG before purification (200  $\mu$ L)



Fluorescently labeled IgG captured on the affinity resin of a PhyTip 200+ column



Purified and enriched IgG (10  $\mu$ L)

### Flexible User-friendly Transferrable

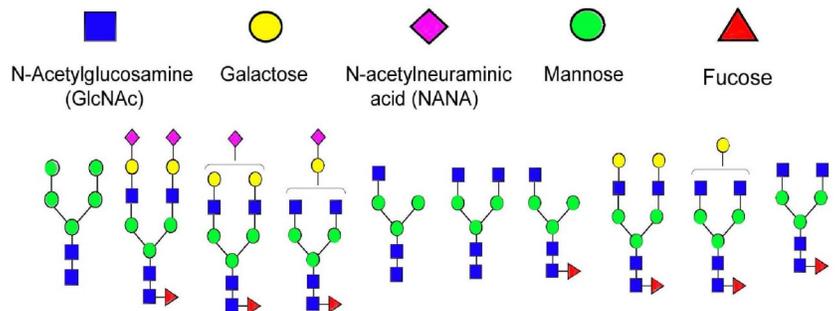
The MEA 2 can handle most laboratory requirements for Protein Purification and Protein Analytics. Users can develop methods and transfer to 96-channel liquid handling systems.

### GLYCANS

Purify labeled glycans for HPLC and CE-LIF analysis

Monosaccharide derivatives of glucose

N-linked glycans



### PROTEIN

Replace complicated FPLC systems with validated PhyTip column procedures for parallel, small volume, analytical-scale protein preps.

Image from Ralph Hopkins, Dominic Esposito and William Gillette, "Widening the bottleneck: Increasing success in protein expression and purification," *Journal of Structural Biology*, 172 (2010): 14-20.

### ORDERING INFORMATION

#### PHR 96-000-10

MEA II Personal Purification System: Includes computer, 200+ pipette head, 1000+ pipette head, associated power supplies

Contact your representative for non-US electrical configurations and part numbers