PhyNexus

www.phynexus.com

PHYTIP™ COLUMNS WITH PROTEIN A AFFINITY RESIN

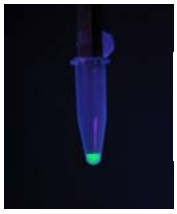
CAPTURE-PURIFY-ENRICH™

PhyNexus has developed a unique technology for the micro scale purification of engineered proteins and antibodies which allow researchers to routinely purify and enrich sample volumes up to 1 mL. The exclusive design of the PhyTip™ columns allow for elution volumes as low as 10 µL, thus producing enrichment factors as high as 50 x, with concentrations of purified protein of up to 5 mg/ml.

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 min to produce high concentrations of fully functional protein ready for further analysis.

Fluorescently labeled IgG before purification (200 µL)

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



Purified and enriched IgG (10 µL)

PhyTip columns are available as either Starter Kits, or to specifically fit a liquid handling platform, in two volume sizes and with a range of standard affinity resins. Simply choose the option that best fits your application.

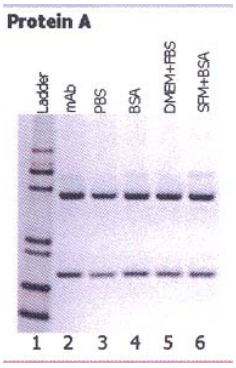
PhyTip columns with Protein A routinely produce purity of greater than 90% with recoveries between 60 and 70%. They are available in two formats:

200+ Maximum solution volume of 200 µL, Protein A resin volume 5 µL, with routine maximal protein mass recovery of 40 µg.

1000+ Maximum solution volume of 1000 µL, Protein A resin volume 10 µL, with routine maximal protein mass recovery of 100 µg.

High Performance

Reducing SDS-PAGE gel of a murine mAb IgG_{2a} enriched from varying levels of background proteins. The heavy and light chain bands of the pure IgG are shown in lane 2. Lane 3 contains mAb after enrichment from PBS. The remaining lanes show the purified mAb after enrichment from 5 mg/ml BSA (lane 4), DMEM+10% FBS (lane 5), serum-free media with 5 mg/ml BSA. No background proteins are detected in the enriched samples.



Maximal Binding Capacity

The PhyTip columns were characterized with respect to their maximum binding capacity. A titration of monoclonal murine IgG2a in 500 µL PBS was processed, demonstrating IgG binding capacities exceeding 100 µg. It was determined at low levels of IgG (10 µg) that recoveries on the order of 70% of initial antibody is possible in final volumes of 20 µL (15 µL low pH elution buffer + 5 µL 200 mM phosphate neutralization buffer).

Initial IgG (µg)	Breakthrough IgG (µg)	Bound IgG (µg)	% Bound
10	<2	>8	>80
50	4	46	92
100	16.5	83.5	84
150	47.5	102.5	68
200	71	129	65

PROTEIN A STARTER KITS

Starter Kits are simple to use systems for manual purification and enrichment of protein samples.

Starter Kits are designed to allow the researcher to quickly access PhyTip™ column technology for simple, one-at-a-time experiments. Each kit ships with 48 PhyTip columns, 10 syringes, 2 syringe adaptors, associated buffers for the optimized capture, purification and enrichment technique plus simple to use instructions.

PhyTip 200+ Starter Kit with Protein A

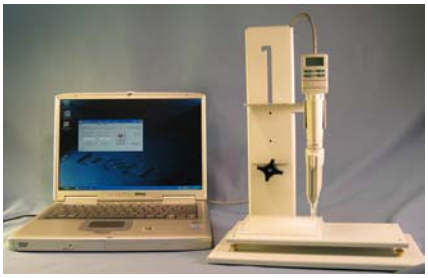
Part Number: PTS 42-05-01

PhyTip 1000+ Starter Kit with Protein A

Part Number: PTS 41-10-01

PHYTIP COLUMNS FOR USE WITH THE PHYNEXUS PURIFICATION SYSTEMS

PhyTip columns are specifically manufactured for the PhyTip ME 200 and ME 1000 Purification Systems. Packs of 200 + PhyTip columns are available either as 96 or 48, and each pack ships with associated reagents for the optimized capture, purification and enrichment technique. Packs of 1000+ PhyTip columns are available in packs of 48 and include the associated reagents for the optimized capture, purification and enrichment process.



PhyTip 200+ with Protein A for use with PhyTip ME 200 Purification System

Pack of 96 PhyTip columns	Part Number PTR 92-05-01
Pack of 48 PhyTip columns	Part Number PTR 42-05-01

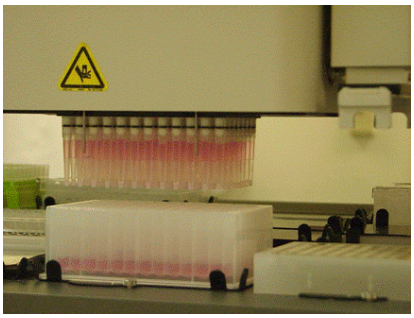
PhyTip 1000+ with Protein A for use with PhyTip ME 1000 Purification System

Pack of 48 PhyTip columns	Part Number PTR 41-10-01

PHYTIP COLUMNS FOR USE WITH OTHER ROBOTIC PLATFORMS

PhyTip columns are also available for a number of major robotic liquid handling systems. These are only available in the 96-well, 200+ format and include associated reagents for the optimized capture, purification and enrichment process.

For Beckman X series	Part Number PTB 92-05-01
For Tecan Temo	Part Number PTT 92-05-01
For Tecan Genesis	Part Number PTG 91-10-01
For Packard P235 Tips	Part Number PTP 92-05-01
For Caliper Sciclone	Part Number PTZ 92-05-01



PhyTip columns for high throughput purification and enrichment. 96 PhyTip columns used in an automated robotics platform.