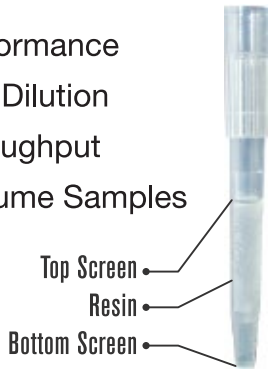
Automated High Throughput
Desalting & Buffer Exchange

PhyNexus

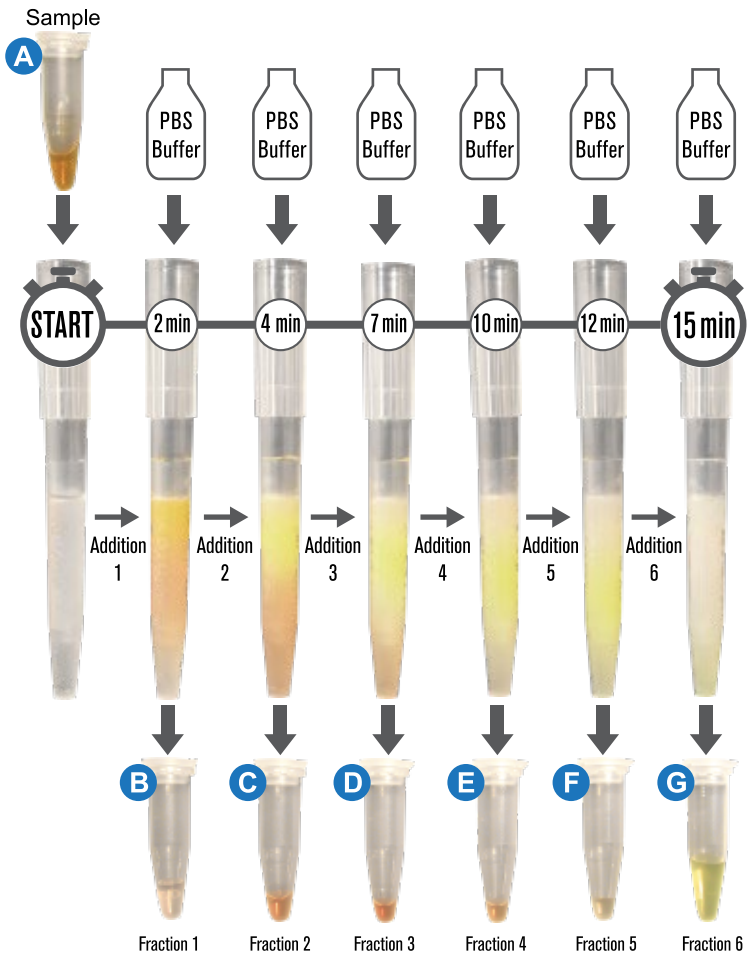
PhyNexus PhyTip® gel filtration columns are unique desalting tools designed for fully automated high throughput micro-volume desalting of purified protein samples. Columns packed with 200 µL and 600 µL columns of 5K or 10K gel filtration resin can accommodate sample volumes from 20 µL to 400 µL.

- 1 to 96 parallel samples desalted/buffer exchanged in about 30 minutes
- Sample is passed uni-directionally through the column by gravity flow
- Remove >95% of salts with >80% yield of protein
- Retain protein functionality
- <10% CV for volume and concentration between final samples
- Ready for downstream assay
- Compatible with most 8, 12, and 96-channel liquid handling robots

✓ High Performance
✓ Minimum Dilution
✓ High Throughput
✓ Small Volume Samples



Separation by a PhyTip Gel Filtration Column (Timelapse)



PhyTip columns can be used with most 8, 12, and 96-channel automation liquid handling robots including Agilent Technologies, Beckman Coulter, Dynamic Devices, Hamilton, Perkin Elmer, and Tecan.

Agilent Technologies
BECKMAN COULTER
dynamicdevices
HAMILTON
PerkinElmer For the Better
TECAN.

(Left) Microfuge tube Sample A containing brown myoglobin protein (16.7kDa) and yellow DNP-glutamate salt (313Da) was loaded onto a 600 µL PhyTip desalting column.
The same PhyTip column is shown at different steps of desalting.
From left:
START Column conditioned by PBS buffer prior to sample loading
2 min Column after 200 µL sample has entered the resin bed
4 min - 12 min Column after 100 µL PBS buffer is applied
15 min Column after final elution volume of 400 µL PBS buffer added

Microfuge tubes from left:
A 200 µL starting sample
B Flow through collected after sample is applied
C-F Fractions collected after each 100 µL PBS buffer
G Fraction collected after final 400 µL PBS buffer

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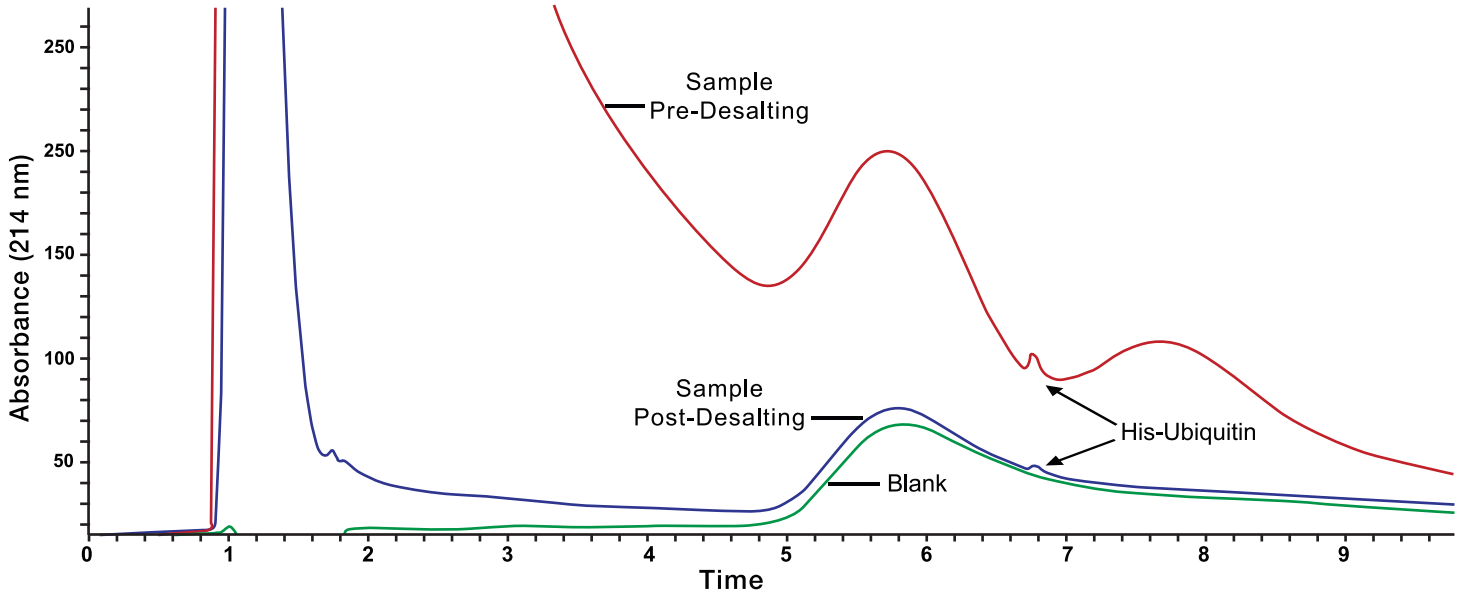

HPLC chromatogram of His-Tagged ubiquitin at 0.05 mg/mL concentration spiked with 250 mM imidazole. 300 µL samples (red) were applied to 600 µL gel PhyTip gel filtration columns. The resulting desalted sample was collected and adjusted to 300 µL with water (blue) to compare with the starting sample. Water was injected as a blank (green). The Post-Desalting sample shows both significant recovery of protein and removal of imidazole.

Product comparisons

- Complete in a fraction of the time of dialysis ~15 minutes compared to overnight.
- Unlike spin columns, PhyTip columns simulate traditional chromatography; can control flow and fractionation.
- PhyTip columns are the only gel filtration system that is reproducible, automated, and high throughput.

5K and 10K Gel Filtration PhyTip® columns

1000 µL column packed with 200 or 600 µL of 5K or 10K resin

5K columns	Description
PDR 91-20-06	96 columns in 1 mL tip format, 200 µL 5K desalting resin
PDR 91-60-06	96 columns in 1 mL tip format, 600 µL 5K desalting resin

10K columns	Description
PDR 91-20-17	96 columns in 1 mL tip format, 200 µL 10K desalting resin
PDR 91-60-17	96 columns in 1 mL tip format, 600 µL 10K desalting resin

To learn more, visit **www.phynexus.com/gelfiltration**

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