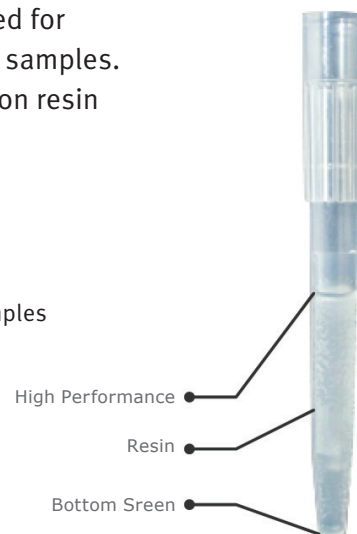


Automated High Throughput Desalting and Buffer Exchange PhyTip® Columns

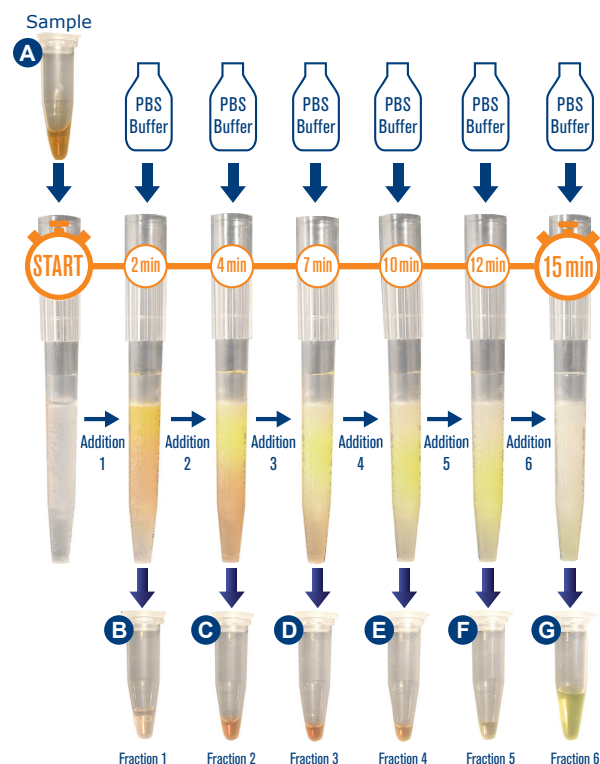
Biotage® PhyTip® gel filtration columns are unique desalting tools designed for fully automated high throughput micro-volume desalting of purified protein samples. Columns packed with 200 μ L and 600 μ L columns of 5K or 30K gel filtration resin can accommodate sample volumes from 20 μ L to 400 μ L.

- » 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

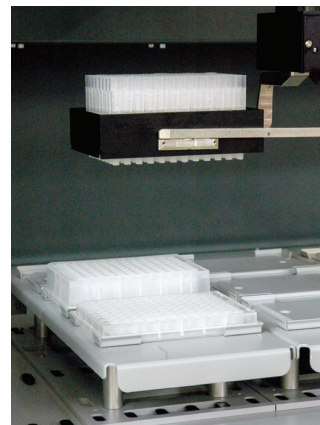


Separation by a PhyTip® Gel Filtration Column (Timelapse)



PhyTip® columns can be used with all major 8, 12, and 96-channel automation liquid handling robots including:

- » Agilent Technologies
- » Beckman Coulter
- » Dynamic Devices
- » Hamilton
- » Opentrons
- » Perkin Elmer
- » Tecan



(Left) Microfuge tube Sample A containing brown myoglobin protein (16.7kDa) and yellow DNP-glutamate salt (313Da) was loaded onto a 600 μ L 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 μ L sample has entered the resin bed
- 4 min - 12 min** Column after 100 μ L PBS buffer is applied
- 15 min** Column after final elution volume of 400 μ L PBS buffer added

Microfuge tubes from left:

- A** 200 μ L starting sample
- B** Flow through collected after sample is applied
- C-F** Fractions collected after each 100 μ L PBS buffer
- G** Fraction collected after final 400 μ L PBS buffer

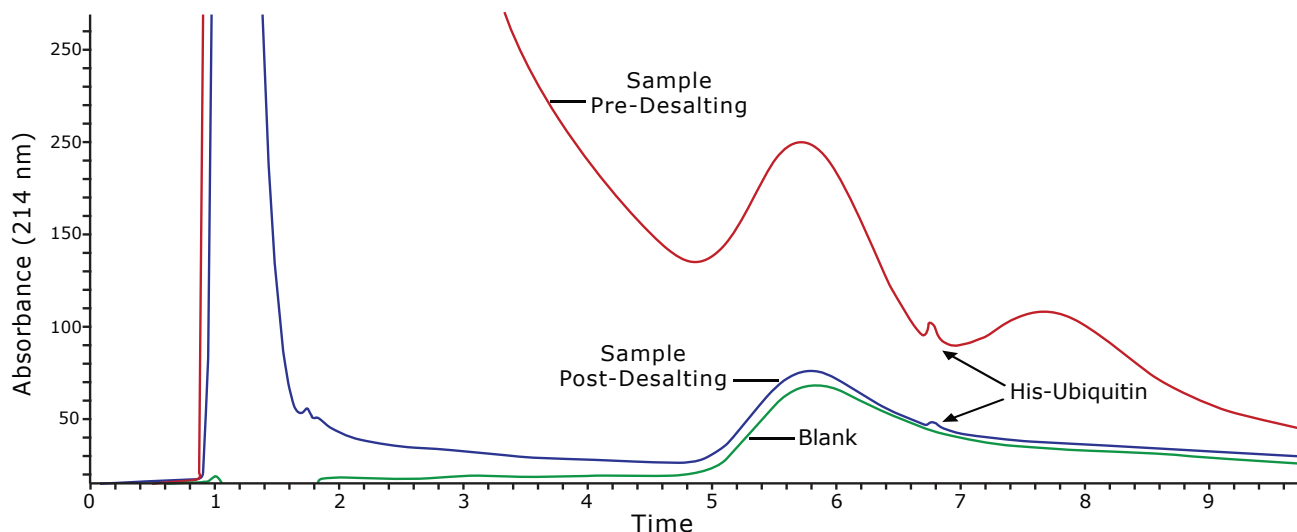


Figure 1. HPLC chromatogram of His-Tagged ubiquitin at 0.05 mg/mL concentration spiked with 250 mM imidazole. 300 μ L samples (red) were applied to 600 μ L gel PhyTip gel filtration columns. The resulting desalted sample was collected and adjusted to 300 μ L with water (blue) to compare with the starting 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
~ minutes compared to overnight
- » Unlike spin columns, PhyTip columns simulate traditional chromatography; can control flow and fractionation
- » PhyTip columns are the only gel

Ordering Information

Part Number	Description
1000 μL column packed with 200 μL or 600 μL of 5K resin	
PDR 91-20-06	96 columns in 1 mL tip format, 200 μ L 5K desalting resin
PDR 91-60-06	96 columns in 1 mL tip format, 600 μ L 5K desalting resin
1000 μL column packed with 200 μL or 600 μL of 30K resin	
PDR 91-20-17	96 columns in 1 mL tip format, 200 μ L 30K desalting resin
PDR 91-60-17	96 columns in 1 mL tip format, 600 μ L 30K desalting resin

To learn more visit:
www.biotage.com/gel-filtration-phytip-columns

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