FastPure™ Spin Columns (Mini and Midi)

(Cat. # 786-1088, 786-1089, 786-1090, 786-1091)

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INTRODUCTION

G-Bioscience's FastPure™ Spin Columns (Mini and Midi) are designed for easy and efficient small scale protein purification. These versatile spin columns are made of biocompatible polypropylene and are compatible with all chromatography resins. They incorporate a specialized membrane that retains the sample and resin in the column and prevents leakage. When the column is centrifuged (Mini: 12-14,000 x g, Midi: 750 x g) the pores of the membrane dilate (0.1-0.2 µm) and allow the sample to be purified and collected for subsequent downstream analyses. The spin columns conveniently fit in to common centrifuge tubes for easy washing and collection (Mini: 2 ml centrifuge tubes, Midi: 50 ml centrifuge tubes).

ITEM(S) SUPPLIED

Cat. #	Description	Size
786-1088	FastPure™ Mini Spin Column pack, 600 µl	10 Columns
786-1089	FastPure™ Mini Spin Column pack, 600 µl	50 Columns
786-1090	FastPure™ Mini Spin Column pack, 600 µl	100 Columns
786-1091	FastPure™ Midi Spin Column pack, 20 ml	8 Columns

SPECIFICATIONS

- **Sinter Type:** Ultra High Density Polyethylene
- **Construction:** Polypropylene
- **Pore Size:** 0.1-0.2 µm low protein binding PVDF
- **Maximum Vol:**
  - Mini: 600µl
  - Midi: 20 ml
- **Maximum g force:**
  - Mini: 12-14,000 x g
  - Midi: 1,500 x g
- **Typical Spin Times:**
  - Mini: 30 seconds – 1 minute for up to 0.6 ml sample at 12-14,000 x g
  - Midi: 5 min for up to 20 ml sample at 750 x g

STORAGE CONDITIONS

Columns are shipped under ambient temperature. Store at room temperature when not packed with resin.

ADDITIONAL ITEMS REQUIRED

- 0.2 µm syringe filter
- 2 ml microcentrifuge/collection tubes for use with Mini spin columns
- 50 ml centrifuge/collection tubes for use with Midi spin columns
- Microfuge with a fixed angle rotor capable of handling 2 ml centrifuge tubes (diameter 11mm)
- Centrifuge with a swing bucket rotor capable of handling 50 ml centrifuge tubes
- Appropriate buffers (binding, wash, elution)
- Assay cuvettes for UV absorbance measurements
- UV/VIS spectrophotometer

FASTPURE™ MINI SPIN COLUMN PROTEIN PURIFICATION PROTOCOL

The centrifugation speeds and durations in this protocol are optimized for 100 µl resin bed volume. If larger resin volume is required, then spin duration may increase.
NOTE: *Ensure centrifuge is properly balanced if only one spin column is used.*

Pre-Equilibration

1. Pipette the desired resin slurry into the FastPure™ Mini spin column (maximum capacity 600 µl). Spin the resin at 12-14,000 x g for 20 sec to remove all storage buffer.
   NOTE: *Many resins are stored in 20-30% ethanol. Ethanol interferes with the sealing properties of the column.*
2. Pre-equilibrate the Mini spin column by adding 600 µl of appropriate equilibration buffer and centrifuge the spin column at 12-14,000 x g for 20 sec. Repeat this step with fresh equilibration buffer.

Sample Filtering

3. Filter the sample with a 0.2 µm syringe filter.
   NOTE: *It is critical that the sample is filtered through a 0.2 µm syringe filter before loading into the spin column for optimal performance.*

Sample Loading

4. Pipette the filtered sample into the Mini spin column with the equilibrated resin (maximum capacity 600 µl). Mix the sample and resin by vortexing for 15 sec.
5. Let the batch incubate for 1 hour.
   NOTE: *Resins and samples may require incubation for longer than 1 hour. Refer to resin instruction manual for suitable incubation time, temperature and mixing instructions.*
6. After batch incubation, collect the eluate by centrifuging the column at 12-14,000 x g for 20 sec.

Washing Steps

7. Wash off any unbound protein from the resin by adding 600 µl of wash buffer and centrifuging at 12-14,000 x g for 20 sec. If necessary, repeat this step to ensure that all the unbound protein has been removed.

Purified Sample

8. Elute the target protein by transferring the Mini spin column into a new collection tube. Then add 50-600 µl of elution buffer and centrifuge the spin column at 12-14,000 x g for 20 sec. The eluate contains the target protein and is now ready for further downstream analyses.

FASTPURE™ MIDI SPIN COLUMN PROTEIN PURIFICATION PROTOCOL

The centrifugation speeds and durations in this protocol are optimized for 0.25-1 ml resin bed volume. If larger resin volume is required, then spin duration may increase.
NOTE: *Ensure centrifuge is properly balanced if only one spin column is used.*

Pre-Equilibration

1. Pipette the desired resin slurry into the FastPure™ Midi spin column (maximum capacity 20 ml). Place the cap LOOSELY on the spin column. Spin the resin at 750 x g for 5 min to remove all storage buffer.
   NOTE: *Many resins are stored in 20-30% ethanol. Ethanol interferes with the sealing properties of the column.*
2. Pre-equilibrate the Midi spin column by adding 15 ml of appropriate equilibration buffer. Place the cap LOOSELY on the spin column. Centrifuge the spin column at 750 x g for 5 min. Repeat this step with fresh equilibration buffer.

Sample Filtering

3. Filter the sample with a 0.2 µm syringe filter.
   NOTE: *It is critical that the sample is filtered through a 0.2 µm syringe filter before loading into the spin column for optimal performance.*

Sample Loading

4. Place the Midi spin column into a new 50 ml centrifuge tube. Transfer the filtered sample into the Midi spin column with the equilibrated resin (maximum capacity 20 ml).
5. Screw the cap on TIGHTLY and mix the sample and resin by inverting the tube 2-3 times.
6. Place the column on a standard tube roller or rotator and mix for 1-3 hours.
   NOTE: *Resins and samples may require longer incubation. Refer to resin instruction manual for suitable incubation time, temperature and mixing instructions.*
7. After batch incubation, LOOSEN the cap and centrifuge at 750 x g for 10 min to collect the eluate.

Washing Steps

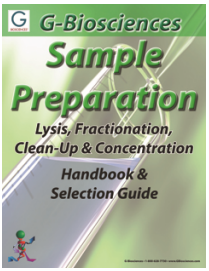
8. Transfer the Midi spin column into a new 50 ml centrifuge tube.
9. Wash off any unbound protein from the resin by adding 20 ml of wash buffer. Place the cap LOOSELY on the spin column. Centrifuge the spin column at 750 x g for 5 min. Remove the filtrate and repeat this step.

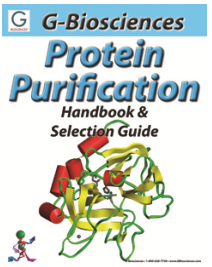
Purified Sample

10. Transfer the Midi spin column into a new 50 ml centrifuge tube.
11. Elute the target protein by adding up to 10 ml of elution buffer. Place the cap LOOSELY on the spin column. Centrifuge the spin column at 750 x g for 5 min. The eluate contains the target protein and is now ready for further downstream analyses.

RELATED PRODUCTS

Download our Sample Preparation and Protein Purification Handbooks.





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