

Thermo Scientific Pierce FPLC Purification



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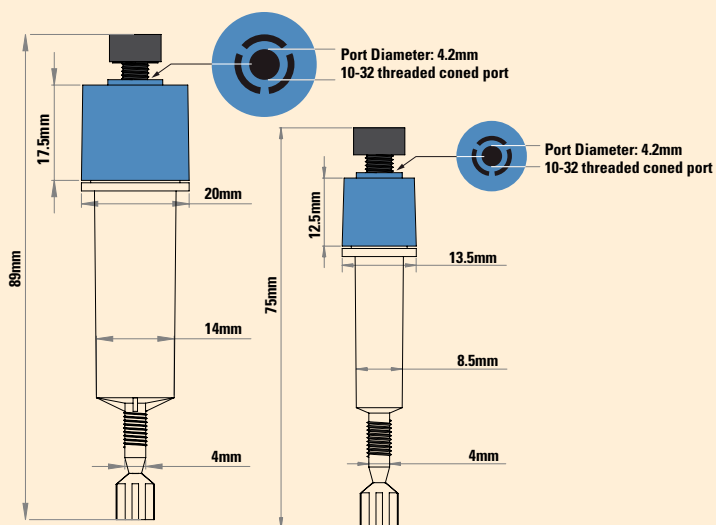
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FPLC Cartridge Overview



Thermo Scientific Pierce Chromatography Cartridges are convenient, reliable, ready-to-use, pre-packed 1mL and 5mL columns of sample-prep and affinity purification resins for manual or automated liquid chromatography (LC).

The cartridge fittings are compatible with the popular automated liquid-chromatography systems or for manual syringe processing. The cartridges attach directly to ÄKTA® or FPLC Systems without additional connectors. Cartridges can be used individually or connected in a series to obtain even higher column capacity. Each product supplied in the Pierce® Chromatography Cartridge format includes an accessory pack that readily adapts cartridges for use using Luer-Lok® Syringe Fittings or tubing. The cartridges provide fast, easy and reproducible chromatographic separations and can be regenerated for multiple uses.



Thermo Scientific Pierce FPLC Cartridges schematic.

Chromatography Cartridge Highlights:

- **Two sizes** – 1mL and 5mL, convenient for typical research scales
- **Compatible** – fittings allow connection with popular LC systems or a standard syringe
- **Versatile** – use singly or connected in series to service different capacity requirements
- **Validated** – available cartridges have been tested to ensure performance in the format
- **Reusable** – accessory pack includes caps for convenient storage between uses
- **Economical** – comparable performance at lower cost than other commercially available cartridges

Thermo Scientific Pierce Chromatography Cartridge properties.

	1mL Cartridge	5mL Cartridge
Dimensions	0.7 x 2.7cm	1.3 x 3.8cm
Recommended Flow Rate	1-4mL/min	1-7mL/min
Maximum Pressure	0.3mPa (43 psi or 3 bar)	0.3mPa (43 psi or 3 bar)
Cartridge Material	Polypropylene	Polypropylene
Frit Material	Polyethylene	Polyethylene

Applications for Pierce Chromatography Cartridges:

- His-tagged protein purification
- GST-tagged protein purification
- Antibody purification
- Biotin binding
- Phosphoprotein enrichment
- Protein desalting

FPLC Cartridges

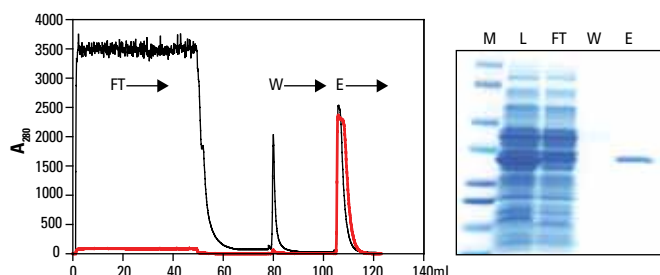
His-tagged Protein FPLC Purification

Thermo Scientific HisPur Nickel-NTA Cartridges

Delivers the highest yield of His-tagged protein with a reusable resin.

Highlights:

- Bind up to 60mg of 6xHis-tagged protein per milliliter of resin
- Purify proteins using native or denaturing conditions
- Use with Pierce Cell Lysis Reagents and a variety of buffer additives
- Reuse cartridges several times



Purification of 6xHis-GFP from *E. coli* lysate using a Thermo Scientific HisPur Nickel-NTA Cartridge. Bacterial lysate (130mg total protein) containing over-expressed 6xHis-GFP (green fluorescent protein) was diluted 1:1 with equilibration buffer and applied to a HisPur[®] Ni-NTA Chromatography Cartridge at a flow rate of 1mL/min. The cartridge was washed with PBS, 68mM imidazole until the baseline absorbance was reached. The 6xHis-GFP was eluted with PBS, 300mM imidazole. **Left panel:** 6xHis-GFP elution was monitored at 280nm (black line) and 485nm (red line; GFP-specific). **Right panel:** Selected fractions were analyzed by SDS-PAGE. Gel lanes were normalized to equivalent volume. **M** = MW marker, **L** = lysate load, **FT** = flow-through and **E** = elution.

Ordering Information

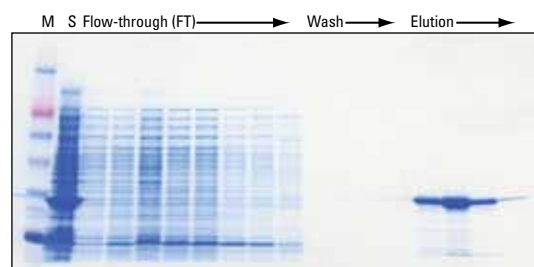
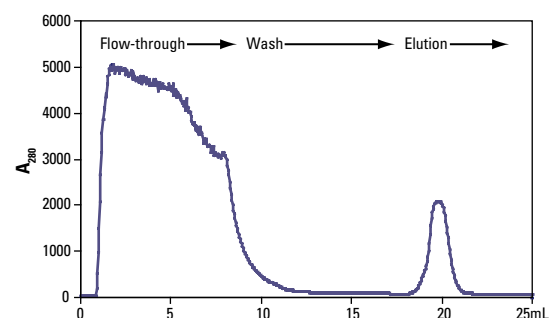
Product #	Description	Pkg. Size
90098	HisPur Ni-NTA Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Binding up to 60mg of His-tagged protein per cartridge.</i>	5 cartridges
90099	HisPur Ni-NTA Chromatography Cartridges, 5mL Formulation: 5mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Binding up to 300mg of His-tagged protein per cartridge.</i>	2 cartridges

Thermo Scientific HisPur Cobalt Cartridges

Highly selective binding for the highest purity His-tagged protein purification.

Highlights:

- Obtain more than 10mg of pure His-tagged protein per milliliter of resin without optimizing imidazole washing conditions
- Cobalt-chelate coordination core binds fewer host protein contaminants, resulting in lower background than nickel resins
- No metal contamination in eluted histidine-tagged protein sample
- Purify proteins under native or denaturing conditions; compatible with Pierce Cell Lysis Reagents and a variety of buffer additives
- Reuse cartridges several times



Purification of 6xHis-GFP from *E. coli* lysate using a Thermo Scientific HisPur Cobalt Cartridge. His-tagged green fluorescent protein (GFP) was extracted from *E. coli* using Thermo Scientific B-PER Bacterial Protein Extraction Reagent in Phosphate Buffer (Product # 78266) containing Thermo Scientific Halt Protease Inhibitor Cocktail, EDTA-Free (Product # 78415). The lysate was diluted 1:1 with equilibration/wash buffer (50mM sodium phosphate, 300mM sodium chloride, 10mM imidazole, pH 7.4) and applied to a HisPur Cobalt Chromatography Cartridge at a flow rate of 0.3mL/min. The cartridge was washed with equilibration/wash buffer until the baseline absorbance at 280nm was reached. His-tagged GFP was eluted (50mM sodium phosphate, 300mM sodium chloride, 150mM imidazole, pH 7.4) and selected fractions were analyzed by SDS-PAGE and Thermo Scientific GelCode Blue Stain Reagent (Product # 24592). **M** = MW Marker; **S** = non-fractionated lysate; **FT** = flow-through.

Ordering Information

Product #	Description	Pkg. Size
90093	HisPur Cobalt Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Binding >10mg of His-tagged protein per cartridge.</i>	5 cartridges
90094	HisPur Cobalt Chromatography Cartridges, 5mL Formulation: 5mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Binding >50mg of His-tagged protein per cartridge.</i>	2 cartridges

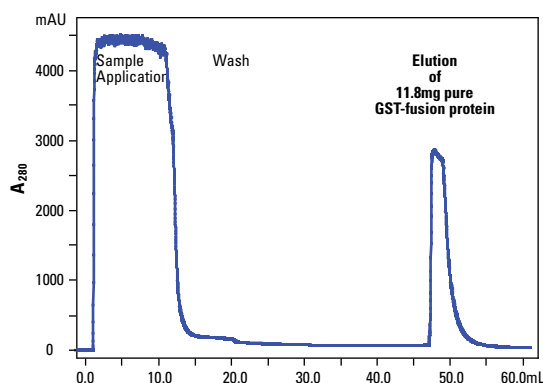
GST-tagged Protein FPLC Purification

Thermo Scientific Pierce Glutathione Agarose Cartridges

Cost-effective and high-performance GSH resins for purification of recombinant GST fusion proteins.

Highlights:

- Binds at least 25mg of recombinant GST protein per milliliter of resin
- Consistently purifies at least 10mg of GST-tagged protein per milliliter of resin with greater than 90% purity
- Economically priced and can be reused several times without reduction in binding capacity and purification performance
- Works well to purify GST-fusion proteins from bacterial lysates or use with pre-purified GST-tagged proteins to pull down protein interactions
- Validated and effective for use with Pierce Cell Lysis Reagents to extract and purify from bacterial or mammalian cell cultures



Purification of Pak 1-GST fusion protein on Thermo Scientific Pierce Glutathione Chromatography Cartridge, 1mL.

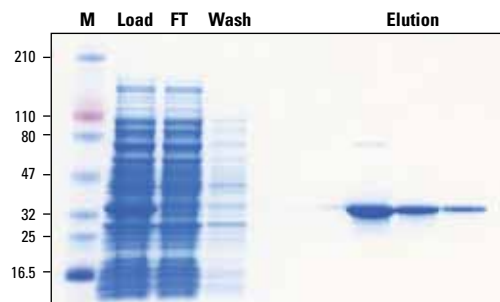
Sample: 50mg (10mL) clarified *E. coli* lysate containing expressed GST-Pak 1, M 34,000

Binding Buffer: 5mM Tris, 150mM sodium chloride, pH 8.0

Elution Buffer: 50mM Tris, 150mM sodium chloride, 10mM Glutathione, pH 8.0

Flow Rate: Load at 0.5mL/min, Wash, Elute 1mL/min

Instrument: ÄKTApurifier™



Purification of Pak 1-GST fusion protein using the Pierce GST Spin Purification Kit (Product # 16106). Pak 1-GST lysate (2.4mg total protein) was applied in Glutathione Binding Buffer to a 0.2mL Pierce Glutathione Spin Column and eluted with 10mM Glutathione Elution Buffer, pH 8.0. Fractions were resolved by SDS-PAGE using a 4-20% Tris-Glycine gel. Gel was stained with GelCode® Blue Stain Reagent (Product #24590). Pierce 3-Color Protein Molecular Weight Marker Mix (Product # 26691) was used.

Ordering Information

Product #	Description	Pkg. Size
16109	Pierce Glutathione Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Binding approx. 10mg of GST-tagged protein per cartridge.</i>	5 cartridges
16110	Pierce Glutathione Chromatography Cartridges, 5mL Formulation: 5mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Binding approx. 50mg of GST-tagged protein per cartridge.</i>	2 cartridges

FPLC Cartridges

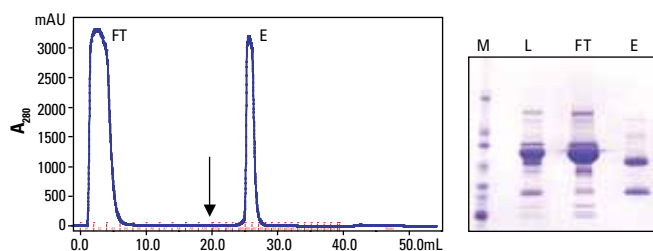
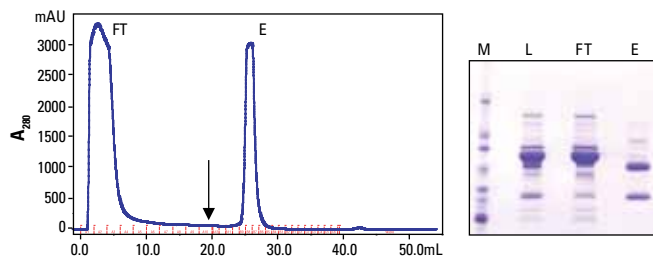
Antibody FPLC Purification

Thermo Scientific Pierce Protein A Agarose Cartridges

Ideal for purification of IgG from serum and other fluids.

Highlights:

- Binds to a wide range of antibodies – especially good for purification of rabbit IgG
- Less expensive than Protein G agarose



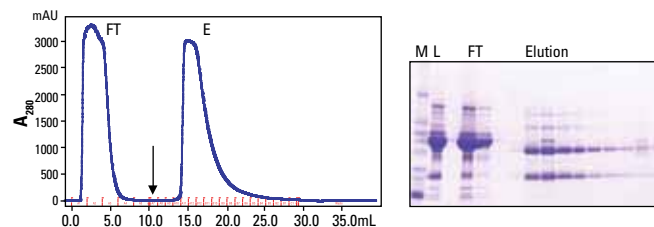
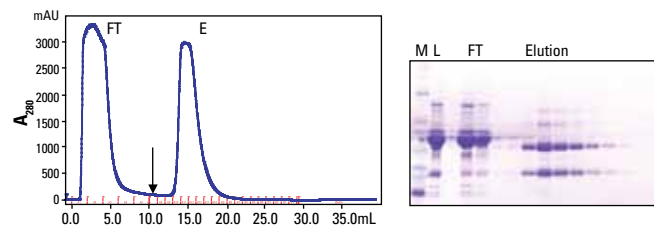
Comparable antibody yield and purity achieved with Thermo Scientific Pierce Protein A Chromatography Cartridge. Normal human serum (60mg) was applied in PBS to a 1mL Thermo Scientific Pierce Protein A Cartridge (top) and a HiTrap™ Column (bottom) and eluted with 0.1M glycine, pH 2.8, using a flow rate of 1mL/minute. The arrow denotes the start of the low-pH elution. The yield of human IgG was 6.85mg and 6.88mg, respectively. Fractions were separated by SDS-PAGE and the gels were stained with Thermo Scientific Imperial Protein Stain (Product # 24615). **M** = MW marker, **L** = sample load, **FT** = flow-through and **E** = elution.

Thermo Scientific Pierce Protein G Agarose Cartridges

Especially suited for purification of monoclonal antibodies from mouse and the broadest spectrum of species and IgG subclasses from human, goat and sheep samples.

Highlights:

- Albumin and cell surface binding site have been removed from Protein G to provide higher antibody purity
- Binds to a wider range of antibodies than Protein A beads



Comparable antibody yield and purity achieved with Thermo Scientific Pierce Protein G Chromatography Cartridge. Normal human serum (60mg) was applied in PBS to a 1mL Thermo Scientific Pierce Protein G Cartridge (top) and a 1mL HiTrap Column (bottom) and eluted with 0.1M glycine, pH 2.8, using a flow rate of 1mL/minute. The arrow denotes the start of the low pH elution. Fractions were separated by SDS-PAGE and the gels were stained with Imperial® Protein Stain (Product # 24615). **M** = MW marker, **L** = sample load, **FT** = flow-through and **E** = elution fractions.

Ordering Information

Ordering Information

Product #	Description	Pkg. Size
89924	Pierce Protein A Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. Sufficient for: Binding 35mg human IgG per cartridge.	2 cartridges
89925	Pierce Protein A Chromatography Cartridge, 5mL Formulation: 5mL resin cartridge with LC and Luer-Lok fittings. Sufficient for: Binding 175mg human IgG per cartridge.	1 cartridge

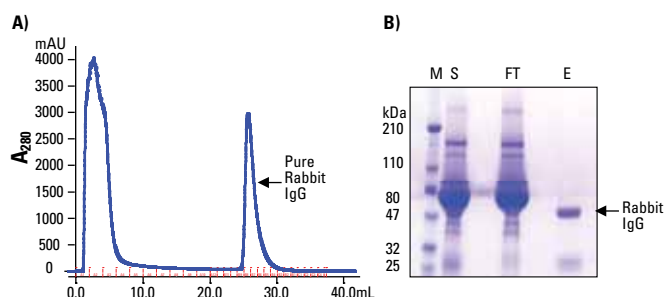
Product #	Description	Pkg. Size
89926	Pierce Protein G Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok Fittings. Sufficient for: Binding 11 to 15mg human IgG per cartridge.	2 cartridges
89927	Pierce Protein G Chromatography Cartridge, 5mL Formulation: 5mL resin cartridge with LC and Luer-Lok Fittings. Sufficient for: Binding 55 to 75mg human IgG per cartridge.	1 cartridge

Thermo Scientific Pierce Protein A/G Agarose Cartridges

Genetically-engineered protein that combines the IgG binding domains of both Protein A and Protein G.

Highlights:

- Single support provides all benefits of Protein A and Protein G
- Binds a wider range of antibodies than Protein A and Protein G beads



Thermo Scientific Pierce Protein A/G Chromatography Cartridges are effective for affinity purification of immunoglobins from serum. **A)** 2mL of rabbit serum was applied to the cartridge and the resulting chromatogram recorded. **B)** Fractions were analyzed by SDS-PAGE on a 4-20% Tris-Glycine gel stained with Imperial Protein Stain (Product # 24615). **M** = Marker proteins, **S** = Sample applied, **FT** = Flow-through during sample load and wash, **E** = Eluted rabbit IgG. The arrow indicates the location of the isolated IgG.

Ordering Information

Product #	Description	Pkg. Size
89930	Pierce Protein A/G Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok Fittings. Sufficient for: Binding 7mg human IgG per cartridge.	2 cartridges
89931	Pierce Protein A/G Chromatography Cartridge, 5mL Formulation: 5mL resin cartridge with LC and Luer-Lok Fittings. Sufficient for: Binding 35mg human IgG per cartridge.	1 cartridge

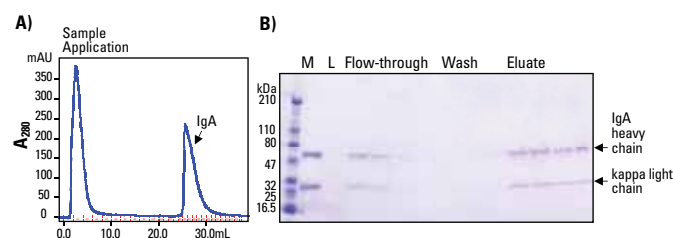
Thermo Scientific Pierce Protein L Agarose Cartridges

Great for purifying ScFv or Fab fragments and monoclonal antibodies containing kappa light chains.

Highlights:

- Binds kappa light chains from a wide range of species without interfering with antigen-binding sites[†]
- Binds to all classes of Ig (e.g., IgG, IgM, IgA, IgE and IgD)[†]
- Binds single-chain variable fragments (ScFv)[†]
- Does not bind bovine, goat or sheep Igs
- Does not bind to bovine antibodies, making it ideal for purification of mouse IgG[†] from cell culture supplemented with bovine serum

[†]Note: Lambda light chains and some kappa light chains will not bind. Binding will only occur if the appropriate kappa light chains are present.



Thermo Scientific Pierce Protein L Chromatography Cartridges isolate and purify immunoglobulin classes IgG, IgM, IgA, IgE and IgD via their kappa light chains.

A) Human IgA Serum (2mg) was applied in 100mM sodium phosphate, 150mM sodium chloride, pH 7.2 to a 1mL Pierce Protein L Chromatography Cartridge and purified at a flow rate of 1mL/minute. Target was eluted in 0.1M glycine, pH 2.8. **B)** Fractions were analyzed by SDS-PAGE on a 4-20% Tris-Glycine gel stained with GelCode[®] Blue Stain Reagent (Product # 24590).

Ordering Information

Product #	Description	Pkg. Size
89928	Pierce Protein L Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. Sufficient for: Binding 5 to 10mg human IgG per cartridge.	2 cartridges
89929	Pierce Protein L Chromatography Cartridge, 5mL Formulation: 5mL resin cartridge with LC and Luer-Lok Fittings. Sufficient for: Binding 25 to 50mg human IgG per cartridge.	1 cartridge

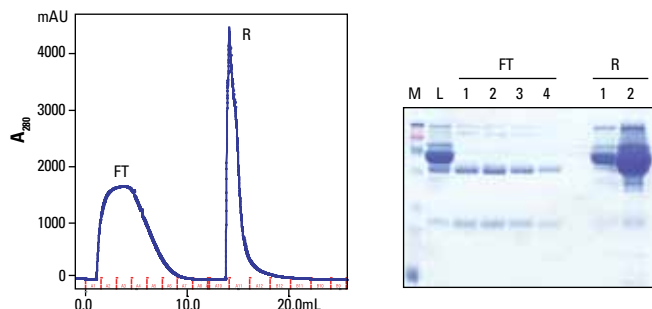
FPLC Cartridges

Thermo Scientific Melon Gel IgG Purification Resins

Easily purify IgG from serum in 15 minutes.

Highlights:

- No tedious binding, washing and multiple elution steps
- Purifies antibodies from serum four to six times faster than Protein A or G methods
- Recover antibodies from many species with >80% purity
- No harsh elution conditions means antibodies retain more activity
- Reusable support



Effective reverse-affinity purification of antibody with Thermo Scientific Melon Gel Cartridges. Normal human serum (1mL) was applied to a 1mL Melon™ Gel Cartridge at a flow rate of 1mL/minute. Protein contaminants bind to the resin while the antibodies flow through (FT). Volume of recovered antibody = 4 to 5mL. Regeneration (R) solution strips the bound protein contaminants so that the cartridge can be reused multiple times. The purity of the isolated antibody was evaluated by SDS-PAGE (right panel) and stained with Thermo Scientific GelCode Blue Stain Reagent (Product # 24590). **M** = MW Marker, **L** = sample loaded, **FT** = flow-through and **R** = regeneration fractions.

Ordering Information

Product #	Description	Pkg. Size
89932	Melon Gel Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok Fittings. Sufficient for: IgG purification from 1 to 2mL serum per cartridge.	2 cartridges
89933	Melon Gel Chromatography Cartridge, 5mL Formulation: 5mL resin cartridge with LC and Luer-Lok Fittings. Sufficient for: IgG purification from 5 to 10mL serum per cartridge.	1 cartridge

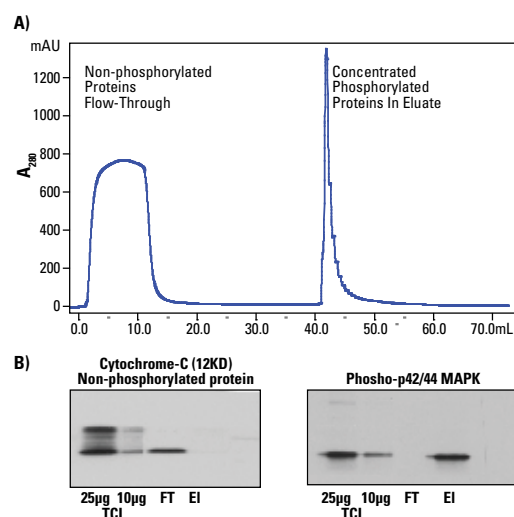
Phosphoprotein FPLC Purification

Thermo Scientific Pierce Phosphoprotein Enrichment Kit

Purify and isolate phosphoproteins for analysis by Western blotting or mass spectrometry.

Highlights:

- Low nonspecific protein contamination from complex biological samples, such as cell culture lysate and mouse tissue extract
- Easy spin format enables enrichment of phosphorylated proteins in less than 2 hours
- Achieves higher yields than other commercially available kits



Panel A. Enrichment of phosphorylated proteins from K562 cell lysate, 4mg (10mL), processed using a Thermo Scientific Pierce Phosphoprotein Enrichment Chromatography Cartridge, 1mL. Binding/Wash Buffer: 50mM MES 2-(N-morpholino) ethanesulfonic acid, monohydrate), 250mM sodium chloride, 25mM adipic acid, 0.25% CHAPS; pH 5.0; Elution Buffer: 100mM sodium phosphate, 500mM sodium chloride, 0.25% CHAPS; pH 7.5; Flow rate during sample application 0.3mL/min; 1mL/min during wash and elution.

Panel B. Thermo Scientific Pierce Phosphoprotein Enrichment Chromatography Cartridge, 1mL, provides high specificity for the enrichment of phosphoproteins from complex biological samples. Concentrated Flow-through and Elution fractions were resolved on SDS-PAGE. Gel lanes were normalized by protein concentration, 10µg/lane. Western blot analysis was performed using phospho-specific antibodies. Cytochrome C is a negative control for nonspecific binding of non-phosphorylated proteins. High specificity of binding affinity for the phosphorylated target was demonstrated by the presence of Phospho-p42/44 MAPK in the Eluate and absence, thereof, in the Flow-through.

Ordering Information

Product #	Description	Pkg. Size
87743	Pierce Phosphoprotein Enrichment Chromatography Cartridges, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. Sufficient for: Purifying samples containing 4mg total protein (400µg phosphoprotein) per cartridge.	2 cartridges
87744	Pierce Phosphoprotein Enrichment Chromatography Cartridge, 5mL Formulation: 5mL resin cartridge with LC and Luer-Lok fittings. Sufficient for: Purifying samples containing 20mg total protein (2mg phosphoprotein) per cartridge.	1 cartridge

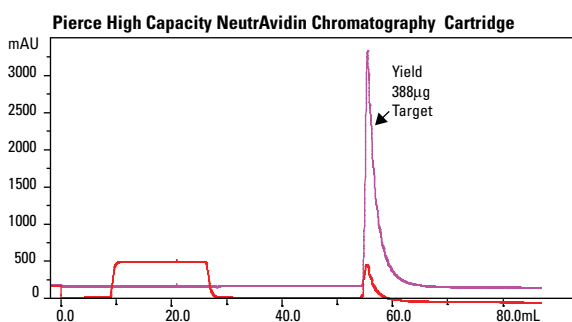
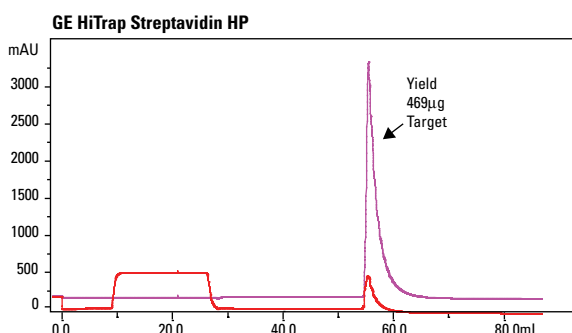
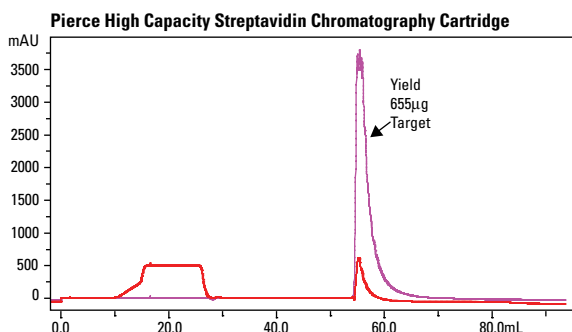
Biotinylated Protein FPLC Purification

Thermo Scientific Streptavidin Agarose and Neutravidin Agarose Cartridges

Resins with high biotin affinity and low nonspecific binding.

Highlights:

- Exhibit high binding affinity towards the vitamin Biotin (vitamin H)
- Captures biotinylated proteins
- Derivatives of the protein avidin from chicken egg whites that differ by their source and glycosylation level



Thermo Scientific High Capacity Streptavidin Chromatography Cartridge achieves comparable yield and performance in binding of small biotinylated molecule, Biotin 4 Nitrophenyl ester (BpNPE), as compared to HiTrap.

Sample: 4.8mg BpNPE (in 24mL)
 Column Size: 1mL
 Binding Buffer: 0.5M Sodium Acetate, pH 5.0
 Elution Buffer: 0.5M NaOH Streptavidin cartridges; 0.1M NaOH NeutrAvidin cartridge
 Flow Rate: Sample Application 0.3mL/minute; Wash and Elution 1mL/minute
 Monitored 2 wavelengths: Flow through/ Wash in Na Acetate A 270nm (red); Elution in NaOH A 410nm (pink)
 Instrument: ÄKTApurifier™
 Yield determined by optical density at A 410nm (Extinction Coefficient for BpNPE 18.3 A410nm)

Supplier	Cartridge Size	Biotinylated BSA Bound
Pierce High Capacity Streptavidin Chromatography Cartridge	1mL	12.9mg
	5mL	75.9mg
GE HiTrap Streptavidin HP	1mL	10.7mg
	5mL	(Not offered in 5mL size)
Pierce High Capacity NeutrAvidin Chromatography Cartridge	1mL	12.8mg
	5mL	70mg

Binding capacity of Thermo Scientific High Capacity Streptavidin Chromatography Cartridges is comparable to that of HiTrap. Columns were overloaded with Biotinylated BSA and purified per manufacturer's instructions. Binding capacity was determined using the Thermo Scientific Pierce BCA Protein Assay Kit (Product # 23225).

Note: Capacity for the avidin resins was determined indirectly by subtracting the unbound biotinylated BSA present in the flow-through fractions from the total amount applied to the column.

Comparison of biotin-binding proteins.

	Biotin-Binding Protein		
	Avidin	Streptavidin	NeutrAvidin
Molecular Weight	67K	53K	60K
Biotin-binding Sites	4	4	4
Isoelectric Point (pI)	10	6.8-7.5	6.3
Specificity	Low	High	Highest
Affinity for Biotin (K_d)	10 ⁻¹⁵ M	10 ⁻¹⁵ M	10 ⁻¹⁵ M
Nonspecific Binding	High	Low	Lowest

Ordering Information

Product #	Description	Pkg. Size
87739	High Capacity Streptavidin Chromatography Cartridges, 1mL Formulation: 1mL crosslinked 6% beaded agarose cartridges with LC and Luer-Lok fittings. Sufficient for: Binding >100µg biotin per cartridge (>10mg biotinylated BSA per cartridge).	2 cartridges
87740	High Capacity Streptavidin Chromatography Cartridge, 5mL Formulation: 5mL crosslinked 6% beaded agarose cartridge with LC and Luer-Lok fittings. Sufficient for: Binding >500µg biotin per cartridge (>50mg biotinylated BSA per cartridge).	1 cartridge
87741	High Capacity NeutrAvidin Chromatography Cartridges, 1mL Formulation: 1mL crosslinked 6% beaded agarose cartridges with LC and Luer-Lok fittings. Sufficient for: Binding >75µg biotin per cartridge (>8mg biotinylated BSA per cartridge).	2 cartridges
87742	High Capacity NeutrAvidin Chromatography Cartridge, 5mL Formulation: 5mL crosslinked 6% beaded agarose cartridge with LC and Luer-Lok fittings. Sufficient for: Binding >375µg biotin per cartridge (>40mg biotinylated BSA per cartridge).	1 cartridge

Protein Desalting

Thermo Scientific Zeba Desalting Chromatography Cartridges

The best protein desalting resin in cartridge format.

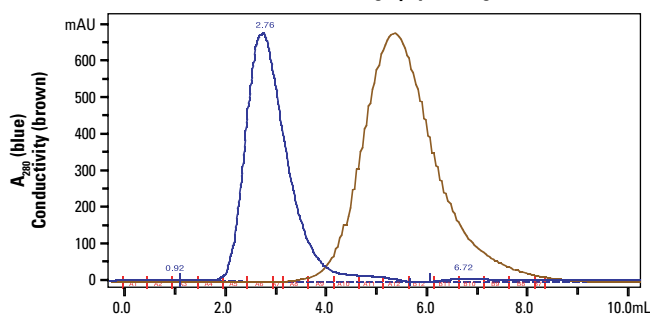
Highlights:

- Exceptional desalting and protein-recovery characteristics compared to other commercially available resins
- Successful with very dilute (25µg/mL) protein samples
- Greater than 95% retention (removal) of salts and other small molecules and good recovery of proteins and other macromolecules

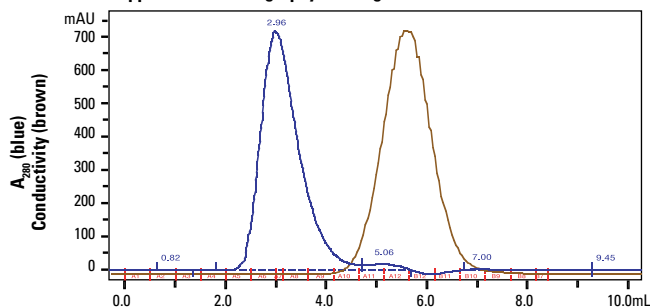
Ordering Information

Product #	Description	Pkg. Size
89934	Zeba Desalting Chromatography Cartridges, 7K MWCO, 1mL Formulation: 1mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Desalting 50 to 250µL samples per use.</i>	5 cartridges
89935	Zeba Desalting Chromatography Cartridges, 7K MWCO, 5mL Formulation: 5mL resin cartridges with LC and Luer-Lok fittings. <i>Sufficient for: Desalting 100 to 1500µL samples per use.</i>	5 cartridges

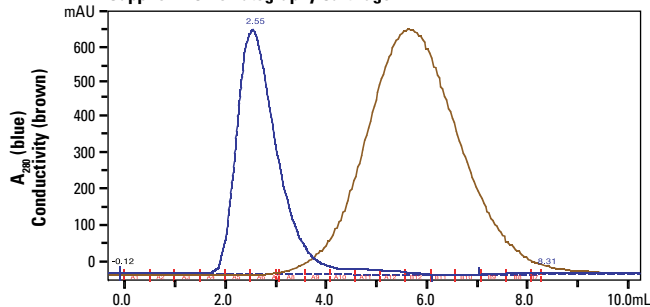
Thermo Scientific Pierce Chromatography Cartridge



Supplier G Chromatography Cartridge



Supplier B Chromatography Cartridge



Efficient salt removal and protein recovery with desalting chromatography cartridge. Bovine serum albumin (1mg) in 1M NaCl was applied to 5mL Thermo Scientific Zeba Desalting Cartridge (top) at a flow rate of 5mL/minute. Cartridge profile shows isocratic elution of BSA (blue) and NaCl detected by conductivity (brown). Greater than 95% of the BSA was recovered and more than 95% of the salt was removed. Results were comparable to those obtained with desalting cartridges from other suppliers (results for the Zeba Cartridge were essentially identical to that obtained with more expensive GE Healthcare and Bio-Rad Products (suppliers G and B, respectively).



Protein Purification Technical Handbook

This 80-page handbook provides protocols and technical and product information to help maximize results for protein purification. It also includes background and troubleshooting advice for covalent coupling of affinity ligands to chromatography supports, avidin:biotin-binding, affinity purification of antibodies, IP and co-IP, affinity procedures for contaminant removal, and related procedures.



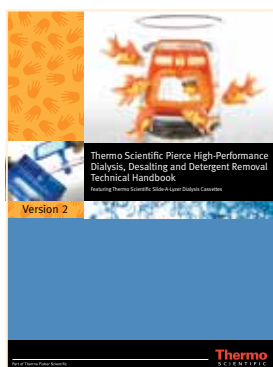
Antibody Production and Purification Technical Handbook

This 78-page handbook helps you choose the best methods to produce, purify, fragment and label antibodies. Topics include basic immunology, carrier proteins, adjuvants, antibody purification methods, antibody fragmentation with proteases, and labeling antibodies with a variety of tags (e.g., biotin, fluorophores, enzymes, iodine) for purification or detection.



Mass Spec Sample Preparation Handbook

The improved version of the Mass Spec Sample Prep provides background, helpful hints and troubleshooting advice for cell lysis, sample prep, detection, mass spec sample prep and downstream applications. The handbook features new products for protein concentration, purification and enrichment, plus the latest labeling techniques including SILAC, TMT, cysTMT and HeavyPeptides reagents. The book also includes a section on Thermo Scientific Mass Spectrometry Instrumentation and Software. Everything you need to extract, digest, enrich, clean up and quantify proteins and peptides in one volume.



Dialysis, Desalting and Detergent Removal Technical Handbook

Dialysis is a separation technique that gained popularity in life science laboratories during the 1950s. Research papers of that era described dialysis as a new, cutting-edge tool that scientists could use to unravel complex mixtures of biomacromolecules. Many of the dialysis theories established at that time are the cornerstones for contemporary products featured in this brochure. There are, however, two major differences between the dialysis tools of yesterday and today – preparation time and the amount of sample loss due to leaks. Early laboratory dialysis methods involved dedicating a significant amount of time to membrane preparation; Thermo Scientific Pierce Dialysis Products are essentially ready to use and resist sample leakage.



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