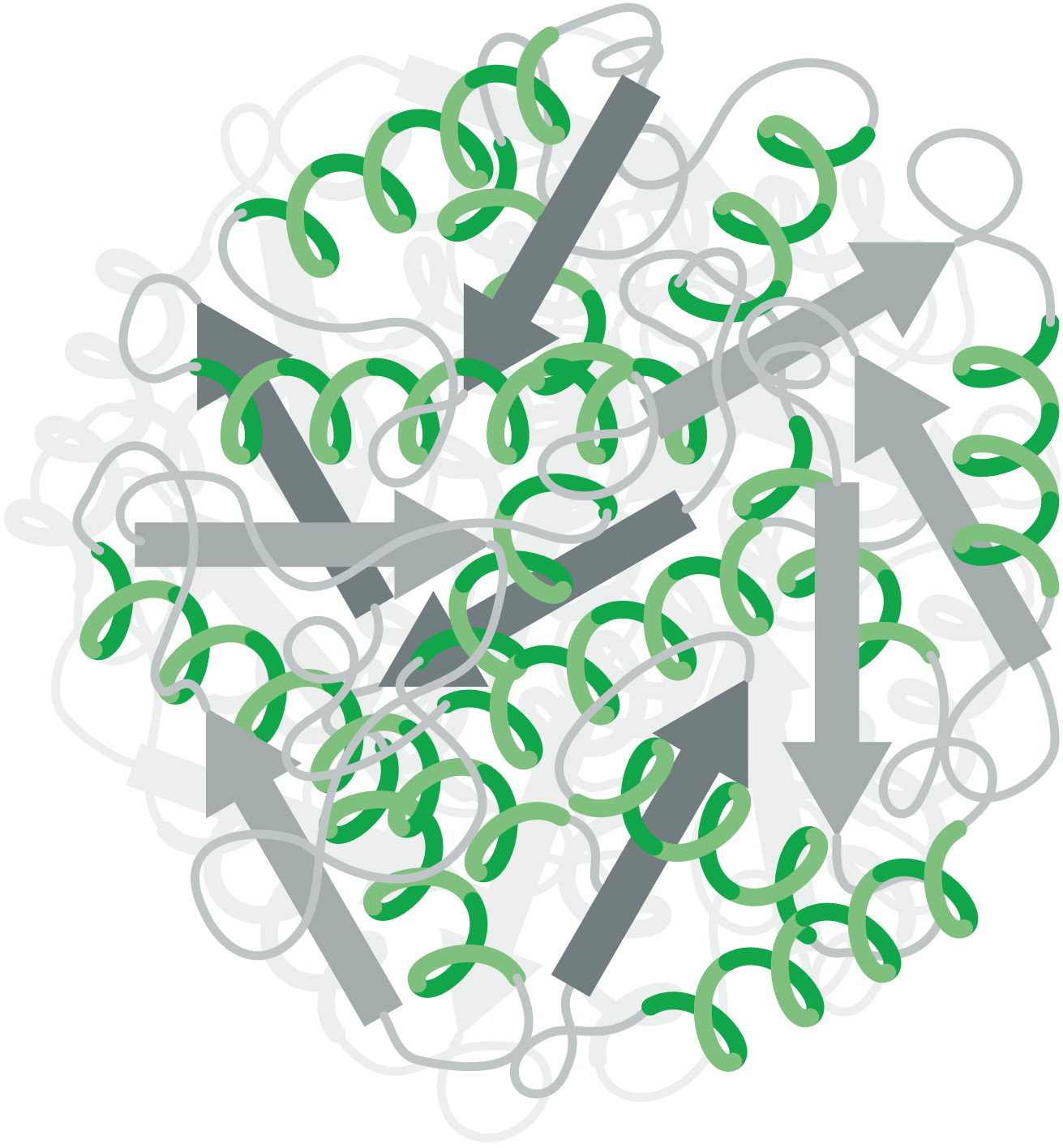
abcam

Proteomic solutions



Contents

Introduction

Our protein research tools are designed to give you accurate and reproducible results. We offer a broad portfolio of reagents for protein electrophoresis, western blot, protein purification and protein quantification.

Affinity resins

Delivering the highest binding capacities and greatest purification yields in the market, our range of affinity resins is built to cater for all your protein purification needs, including:

- Protein A*
- Protein G*
- His–Tag
- GST–Tag
- MBP–Tag
- Streptavidin
- Anti–HA
- Anti–DYKDDDDK
- Heparin
- NHS–Activated

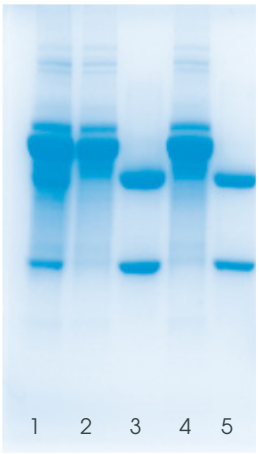
*More information regarding binding characteristics for specific antibody species and subclasses is available via our website.

Amintra® Protein A and Protein G resins

Monoclonal (mAb) and polyclonal antibodies (pAb) are essential tools in life science research, and play vital roles supporting diagnostic and therapeutic development. Their purification from cell supernatants or specific buffers via affinity chromatography.

Amintra Protein A and Protein G are affinity chromatography mediums designed for easy, one–step purification of immunoglobulin classes, subclasses and fragments, from biological fluids and cell culture media. Non–essential domains are removed to reduce non–specific binding.

Amintra Protein G



Well	Product	Protein purification workflow
1	-	Sample
2	Competitor GE Healthcare	Flow–through
3		Eluted fraction
4	Abcam	Flow–through
5		Eluted fraction

Binding capacity (mg/mL)

	Abcam	Competitor GE Healthcare	Competitor Thermo Fisher Scientific
Protein A Resin	> 40 mg/mL	> 30 mg/mL	15–17 mg/mL
Protein G Resin	> 30 mg/mL	> 20 mg/mL	11–15 mg/mL

Our Protein A and Protein G resins offer the ideal solution for all your antibody purification, screening and immunopurification experiments.

– High binding capacities: Protein A >40 mg/mL. Protein G >30 mg/mL
– High yield and selectivity
– Fully scalable supply options
– Competitive price.

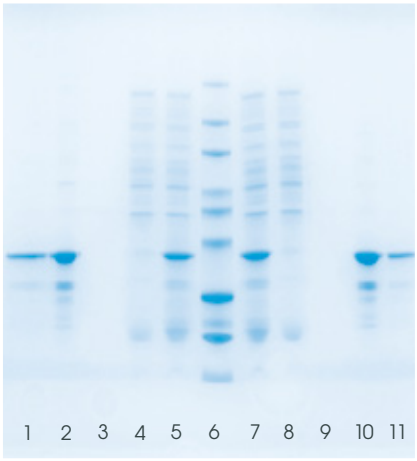
Aminitra resins for the purification of tagged proteins

Protein tags offer a simple and efficient way of purifying non–antibody recombinant proteins. Poly–His, glutathion S-transferase (GST), maltose binding protein (MBP) and Streptavidin are just some of the tags commonly used to simplify the affinity purification of non-antibody proteins.

Aminitra Nickel and Cobalt NTA resins

Amintra Nickel and Cobalt NTA resins are high–performance IMAC mediums for the affinity purification of His–Tagged proteins. These resins combine reliable, reproducible performance, with high binding capacities (Ni-NTA > 40 mg/mL, Co-NTA > 20 mg/mL) and excellent stability over a wide pH range, allowing expansion of operating conditions during target binding and elution, without leaching.

Amintra NI–NTA



Well	Product	Protein purification workflow
1	Competitor GE Healthcare	Eluted fraction (250 mM Imidazole)
2		Eluted fraction (50 mM Imidazole)
3		Wash
4		Flow–through
5		Sample
6	-	Marker
7	Abcam	Sample
8		Flow–through
9		Wash
10		Eluted fraction (50 mM Imidazole)
11		Eluted fraction (250 mM Imidazole)

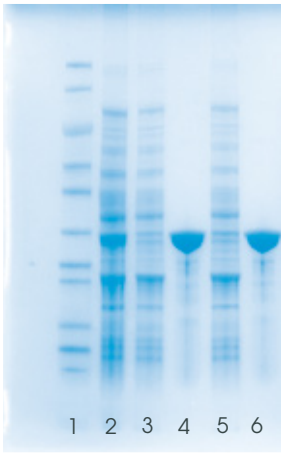
Binding capacity (mg/mL)

	Abcam	Competitor GE Healthcare	Competitor Thermo Fisher Scientific	Competitor Takara Bio
Ni-NTA Resin	> 40 mg/mL	> 40 mg/mL	> 20 mg/mL	-
Co-NTA Resin	> 20 mg/mL	> 20 mg/mL	-	5–15 mg/mL

Amintra GST, MBP and streptavidin resins

Amintra GST resin is an affinity chromatography medium that offers the simple purification of tagged proteins. Using the Amintra GST resin GST-tagged proteins can be purified directly from pre-treated bacterial lysates. The highly cross–linked 4% agarose beads are optimized to provide a binding capacity in excess of 10 mg GST-tagged protein/mL medium.

Amintra GST resin



Well	Product	Protein purification workflow
1	-	Marker
2	-	Sample
3	Abcam	Flow–through
4		Eluted fraction
5	Competitor GE Healthcare	Flow–through
6		Eluted fraction

Binding capacity (mg/mL)

	Abcam	Competitor GE Healthcare	Competitor Thermo Fisher Scientific
GST Resin	>10 mg/mL	>11 mg/mL	>10 mg/mL
Streptavidin Resin	6 mg/mL	6 mg/mL	1–3 mg/mL

Amintra MBP Resin

Addition of an MBP tag to a recombinant protein can increase expression and solubility. Due to its inherent solubility, addition of the MBP–tag is useful for the recovery of recombinant proteins that accumulate in insoluble forms, such as inclusion bodies, and to promote the correct folding of tagged proteins. The Amintra MBP resin is a chromatography medium specifically engineered to purify MBP-tagged proteins. It offers excellent binding capacities resin offers excellent binding capacity and high physical and chemical stabilities to maximize your protein recovery.

Amintra Streptavidin Resin

The Amintra Streptavidin resin provides a simple, rapid and reliable method to purify biotin and biotinylated proteins. It can be used to purify antigen-bound biotinylated antibodies. The highly cross–linked 6% agarose matrix has been optimized to provide good flow properties and high physical and chemical stability, allowing for simple transition to cost–effective, large–scale use.

Amintra Anti–HA Affinity Resin and Anti-DYKDDDK Affinity Beads

The hemagglutinin (HA)–tag is derived from human influenza virus HA protein and corresponds to the YPYDVPDYA sequence. Fusion of the HA–tag to recombinant proteins does not interfere with the bioactivity or biodistribution of the resulting HA–tagged protein. Due to these characteristics the HA–tagged has been used extensively to label proteins at both the N–and C–terminals. The Amintra Anti–HA affinity resin is ideal for the immunopurification and immunoprecipitation of HA–tagged proteins, offering binding capacities in excess of 1 mg/mL.

The amino acid sequence DYKDDDDK is a commonly used tag sequence that is recognized by Sigma's Anti–FLAG®* antibodies. Our Anti–DYKDDDDK Affinity Beads are designed for the simple, one–step purification or immunoprecipitation of proteins tagged with the DYKDDDDK sequence the N–terminus, C–terminus or internal locations. The 4 % agarose bead matrix is stably coupled to a highly specific anti–DYKDDDDK antibody to minimize non–specific binding. This matrix has been engineered for the effective purification of protein from various expression systems, including bacterial, yeast and mammalian cells. The binding capacity for this matrix exceeds 1 mg/mL for DYKDDDDK fusion proteins in media.

* FLAG® is a registered trade mark of Sigma Aldrich Biotechnology LP.

Amintra Affinity Resin	Application	Binding Capacity	Cat # Product Size
Protein A Resin	Antibody purification	> 40 mg Human IgG/mL	ab270308 Sizes: 5 mL/25 mL /100 mL
Protein G Resin	Antibody purification	> 30 mg Human IgG/mL	ab270309 Sizes: 5 mL/25 mL /100 mL
Ni–NTA Resin	His–tagged protein purification	> 40 mg 6x His–tagged /mL	ab270549 Sizes: 10 mL/25 mL /100 mL
Co–NTA Resin	His–tagged protein purification	> 20 mg 6x His–tagged /mL	ab270018 Sizes: 10 mL/25 mL /100 mL
Glutathione Resin	GST-tagged protein purification	> 10 mg GST–tagged protein/mL	ab270237 Sizes: 10 mL/25 mL /100 mL
MBP Resin	MBP-tagged protein purification	> 10 mg MBP tagged protein (80 kDa)/mL	ab270538 Sizes: 15 mL/100 mL
Streptavidin Resin	Purification of biotinylated proteins, antibodies, lectins	Biotin > 120 nmol/mL	ab270530 Sizes: 2 mL/5 mL /10 mL
Anti–HA Affinity Resin	Purification of YPYDVPDYA tagged proteins	> 1 mg HA fusion protein/mL	ab270603 Sizes: 1 mL/5 mL
Anti–DYKDDDDK Affinity Beads	Purification of DYKDDDDK tagged proteins	> 1 mg DYKDDDDK fusion protein/mL	ab270704 Sizes: 1 mL/5 mL /10 mL/25 mL /50 mL
NHS–activated Resin	Immobilization of proteins, peptides and other ligands via primary amines	> 10 mg IgG/mL medium	ab27056 Sizes: 50 mL/200 mL

RunBlue™

RunBlue TEO–Tricine Protein Gels

Developed as an improvement to the current state–of–the–art precast SDS–PAGE gels, RunBlue gels are comb–free, strip–free, tear–proof, rigid and overall 10 times stronger than conventional precast gels. With a neutral buffer and high chemical stability, RunBlue have a shelf–life of up to 2 years, offering a cost–effective, universal alternative, that is compatible with many of the common running and blotting tanks on the market.

– Available in both 10 x 10 cm and 8 x 10 cm casseette formats to fit the most commonly used electrophoresis systems.

RunBlue Precast Protein Gels provide comparable results to NuPAGE® Bis–Tris and Mini–PROTEAN® TGX™.

All RunBlue buffers, reagents and accessories have been specifically designed and formulated for use with RunBlue gels to provide optimum performance and results. Only RunBlue formulated buffers should be used with RunBlue TEO–Tricine gels.

TEO–Tricine Protein Gel Migration Chart 10 x 10cm

Protein migration chart of a molecular weight marker run on each RunBlue TEO–Tricine gel percentage in the range. Running buffer Cat# ab199197 was used.

RunBlue Bis–Tris Protein Gels

Bis–Tris protein gels have been developed to provide a cost–effective alternative to NuPAGE Bis–Tris gels. RunBlue Bis–Tris gels run using the same running conditions, in the same tanks and the same MES/MOPS buffers to NuPAGE Bis–Tris gels, to achieve highly comparable results with exceptional reproducibility. RunBlue Bis–Tris protein gels also benefit from the usability enhancements present in all RunBlue gels, such as comb– and strip–free design and tear–proof composition.

BisTris Protein Gel Migration Chart

Protein migration chart of a molecular weight marker run on each RunBlue Bis–Tris gel percentage in the range. The different migration profiles achieved when using Cat# ab270224 (MES) and ab270225 (MOPS) are shown.

InstantBlue™

InstantBlue is a ready to use Coomassie protein stain for polyacrylamide gels

– Easy to Use: No washing, fixing, heating or destaining steps required!
– Ultra Fast: Visible bands within 15 min or less
– Flexible: No risk of over staining
– Sensitive: As little as 5 ng/band (BSA) f protein can be detected with low background
– Non–Toxic: Methanol and Acetic–Acid Free, safe usage and disposal
– Extended Stability: 2 years shelf life

InstantBlue is formulated as a 1X ready–to–use staining reagent. Gels can remain in the stain for weeks without risk of over–staining. Only proteins are stained, resulting in extremely well defined blue bands on a highly transparent background. The reduction of background interference results in a better signal–to–noise ratio. Protein bands containing as little as 5 ng per band (BSA) can be detected.

The InstantBlue formulation is non–toxic and does not contain any methanol or acetic acid. No methylation or acetylation means that proteins stained using InstantBlue are compatible with mass spectrometry (MS) analysis and silver staining.

InstantBlue Staining Protocol

Comparison with other Coomassie stains

	InstantBlue™	SimplyBlue™ Thermo Fisher Scientific	GelCode Blue™ Thermo Fisher Scientific	Home-made Anyone
No need to wash before staining	✓	3 x 5 mins	3 x 5 mins	Typ. 3 x 5 mins
No need to fix before staining	✓	✓	×	×
No need to heat / microwave	✓	×	✓	✓
No need to destain	✓	×	×	×
No risk of over-staining if left too long	✓	×	×	×
Non–toxic and easily disposed of	✓	✓	×	×

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