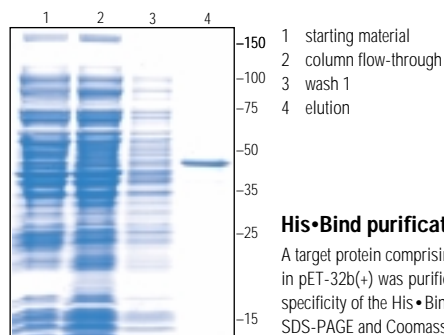


His•Bind® Purification Kits

His•Bind Matrix Selection Guide

Product	Cat. No.	Form	Capacity	Features	Applications
Ni-NTA His•Bind Resin	70666	Ni-charged NTA agarose	5-10 mg/ml	Minimal Ni ²⁺ leaching Compatible with 20 mM β-ME Recommended for eukaryotic extracts	Small to medium scale Gravity flow column
Ni-NTA His•Bind Superflow	70691	Ni-charged NTA Superflow agarose	5-10 mg/ml	Minimal Ni ²⁺ leaching Compatible with 20 mM β-ME High flow rates and pressures	Small to production scale FPLC or gravity flow column Recommended for eukaryotic extracts
His•Bind Resin	69670	Uncharged IDA agarose	8 mg/ml Buffer Kit	Reusable many times Compatible with His•Bind mode	Small to medium scale Gravity flow column or batch
His•Bind Column	70971	Ni-charged IDA agarose, 1.25 packed column	10 mg/run	Pre-packed column Compatible with His•Bind Quick Buffer Kit	Convenient purification Gravity flow column
His•Bind Fractogel (S)	70692	Uncharged Tentacle IDA methacrylate	> 10 mg/ml	20-40 μM particle size High flow rates and pressures	Small to production scale FPLC or gravity flow column High resolution separations
His•Bind Fractogel (M)	70693	Uncharged Tentacle IDA methacrylate	> 10 mg/ml	40-90 μM particle size High flow rates and pressures	Small to production scale FPLC or gravity flow column
His•Bind Quick 300 Cartridge	70155	Ni-charged IDA cellulose packed cartridge	0.5 mg/run	Luer fitting on both ends Compatible with His•Bind Quick Buffer Kit	Syringe-driven processing Vacuum Manifold processing Rapid purification
His•Bind Quick 900 Cartridge	70156	Ni-charged IDA cellulose packed cartridge	2 mg/run	Luer fitting on both ends Compatible with His•Bind Quick Buffer Kit	Syringe-driven processing Vacuum Manifold processing Rapid purification
His•Bind Quick Column	70159	Ni-charged IDA cellulose packed column	5 mg/run	Luer fitting on one end Compatible with His•Bind Quick Buffer Kit	Vacuum Manifold processing Rapid purification of multiple samples
His•Bind Magnetic Agarose Beads	71022	Ni-charged IDA magnetic agarose	5 mg/ml	3 μ magnetic agarose beads	Rapid small scale purification Magnetic separation HT-compatible

Note: as with any purification matrix, the cleanest separations are achieved when a His•Bind resin is used near its binding capacity



His•Bind purification of a poorly expressed protein

A target protein comprising less than 5% of the total protein prepared from a recombinant in pET-32b(+) was purified using the His•Bind Resin and His•Bind Buffer Kit. The high specificity of the His•Bind Resin is demonstrated by analysis of the indicated fractions by SDS-PAGE and Coomassie blue staining.

* manufactured by QIAGEN

His•Bind® Purification Kits

Purification of His•Tag fusion proteins by metal chelation chromatography

The His•Bind® family of products offers a wide selection of supports designed for rapid one-step purification of proteins containing the His•Tag® sequence by immobilized metal affinity chromatography (IMAC). The His•Tag sequence (6, 8 or 10 consecutive histidine residues) binds to divalent cations (Ni^{2+}) immobilized on NTA*- and IDA-based His•Bind resins. After unbound proteins are washed away, the target protein is recovered by elution with either imidazole or slight reduction in pH. This versatile system enables proteins to be purified under gentle, non-denaturing conditions, or in the presence of either 6 M guanidine or urea.

The various His•Bind supports listed in the table below cover many applications for fusion protein purification. Choices include small scale cellulose-based columns and cartridges for convenient handling of multiple samples, bulk easy-to-handle agaroses for batch and gravity flow columns, His•Bind Magnetic Agarose Beads for rapid purification of multiple samples with minimum handling time, and high flow rate Superflow™ and Fractogel® resins suitable for production scale purification. Several supports are provided pre-charged with Ni^{2+} , and either NTA or IDA chemistries are available.

NTA and IDA Chemistries

With the His•Tag®/His•Bind® technology, purification is based on the affinity between the neighboring histidines of the His•Tag sequence and an immobilized metal ion (usually Ni^{2+}). The metal is held by chelation with reactive groups covalently attached to a solid support. The most commonly used chelators include nitriloacetic acid (NTA) and iminodiacetic acid (IDA), which have four and three sites available for interaction with metal ions, respectively. The two chemistries confer different properties to the affinity support and conditions used for binding, washing and elution of target proteins for both native and denaturing conditions. In practice, the additional chelation site available with NTA minimizes leaching of the metal during the purification and is compatible with up to 20 mM β -mercaptoethanol for reduction of disulfide bonds. The higher metal leaching rates of IDA-based resins in the presence of other chelating or reducing components can produce poor purification results. However, IDA supports can be recycled many times with no loss in performance. For both types of support the conditions can be modified to optimize the purification of individual target proteins expressed in specific systems. Most often, the imidazole concentrations of the wash and elution buffers under native conditions are adjusted to minimize co-purification of non-specifically bound proteins.

His•Bind Columns

Designed for convenience, the His•Bind Columns are pre-packed with 1.25 ml bed volume of Ni^{2+} -charged His•Bind Resin. Top and bottom frits ensure even buffer flow and minimal disturbance when loading and running the column. Optimal performance is achieved with bacterial lysates prepared using BugBuster plus Benzonase® Nuclease.

His•Bind and His•Bind Quick Buffer Kits

The His•Bind Buffer Kit is a set of pre-tested buffers designed for use with IDA-based His•Bind Resin for convenient, rapid one-step purification of proteins by metal chelation chromatography. Solutions are included for Ni^{2+} charging, binding, washing and elution of up to ten 2.5 ml columns. The His•Bind Quick Buffer Kit contains the same components except that the 8X Charge Buffer is not included (the resin is provided pre-charged with Ni^{2+}).



Ni-NTA Buffer Kit

The Ni-NTA Buffer Kit provides a convenient set of buffers optimized for purification of His•Tag fusion proteins on Ni-NTA His•Bind Resin. These phosphate-buffered solutions differ from the Tris-based solutions used in the His•Bind Buffer Kit. Carefully prepared 4X concentrates are included for binding, washing and elution according to recommended protocols.

BugBuster™ Ni-NTA His•Bind and His•Bind Purification Kits

BugBuster Protein Extraction Reagent is a ready-to-use solution that efficiently extracts soluble protein from *E. coli* without the need for mechanical disruption. The BugBuster Ni-NTA His•Bind and His•Bind Purification Kits combine BugBuster reagent with the respective resins for convenient preparation of soluble cell extracts and affinity purification of His•Tag fusion proteins. Both kits include Benzonase Nuclease for viscosity reduction and/or removal of nucleic acids from protein preparations. The BugBuster His•Bind Purification Kit also includes buffers for chromatography.