



## Ni-NTA MagBeads

for purification of His-tagged Proteins

Product	Cat#	Package size
Ni-NTA MagBeads 1mL 25% suspension	S5390.0001	1mL
Ni-NTA MagBeads 5mL 25% suspension	S5390.0005	5mL
Ni-NTA MagBeads 25mL 25% suspension	S5390.0025	25mL

All volume specification relating to the sedimented agarose resin.

### Product Description

Ni-NTA MagBeads were developed for affinity purification of proteins carrying a polyhistidine tag. The affinity matrix is based on spherical magnetic beads, consisting of 6% cross-linked agarose. The material is highly porous to allow for optimal protein interaction. Cross-linked agarose is also physically very stable, making it suitable for purification processes without deformation or destruction. Our Ni-NTA MagBeads are very homogenous in size with a medium particle diameter of 30µm, yielding a high degree of reproducibility between individual purifications.

A Nitrilotriacetic acid (NTA) ligand is coupled to the agarose matrix and carefully loaded with nickel ions to obtain an affinity matrix with highest binding capacity for histidine residues. The metal ion capacity is >12µeqv Ni<sup>2+</sup>/mL. Other possible metal ions are Co<sup>2+</sup>, Zn<sup>2+</sup>, Fe<sup>3+</sup>, Al<sup>3+</sup> and Cu<sup>2+</sup>, resulting in different affinities, e.g. for zinc-finger proteins or phosphorylated proteins. If required, the nickel ions can be removed from the magnetic beads using 5 wash steps with 100mM EDTA, and the magnetic beads can be recharged with a different metal ion.

Alternatively, please contact Genaxxon for unloaded NTA MagBeads.

The polyhistidine tag is the most widely used affinity tag due to its small size, low immunogenicity, and versatility under native and denaturing conditions, as well as in presence of detergents and many other additives. Taking advantage of the affinity of transition metal ions for the imidazole ring of histidine, immobilized metal affinity chromatography (IMAC) is used to purify his-tagged proteins.

Genaxxon Ni-NTA MagBeads are delivered as a 25% (v/v) suspension. Therefore, 1mL suspension will yield a 250µL bed volume. The suspension contains 20% ethanol to prevent microbial growth.

### Protein Binding Capacity

The protein binding capacity is up to 70mg/mL, as determined by purification of 6xHis-tagged GFP protein from *E.coli* cleared lysates, and quantified via spectrophotometry.

### Compatibility

Ni-NTA MagBeads are very stable and can resist the following conditions in most situations:  
pH2-4; 100% methanol; 100% ethanol; 8M urea; 6M guanidinium hydrochloride; 30% (v/v) acetonitrile.

### Specifications

Particle size	30µm
pH-stability	2.0-4.0
formulation	unbuffered suspension in 20% ethanol
binding*/loading capacity Genaxxon Ni-NTA agarose	up to 70mg of the His-tagged protein/mL agarose
antimicrobial agent	20% ethanol
stability	2 years
storage	2°C - 8°C, do not freeze!

\*As determined by purification of 6xHis-tagged GFP protein from *E.coli* cleared lysates and quantified via spectrophotometry.

### Additional Information

For protein purification protocols, including protocols for regenerating of NTA MagBeads, please visit our webpage at: [https://www.genaxxon.com/docs/pdf/manuals/manu\\_s5388\\_s5390\\_ni\\_ida\\_nta\\_beads\\_en.pdf](https://www.genaxxon.com/docs/pdf/manuals/manu_s5388_s5390_ni_ida_nta_beads_en.pdf). For IMAC purification of proteins from dilute solutions, we recommend Genaxxon IDA magnetic Beads. For affinity purification of GST-tagged, rho-tagged or strep-tagged proteins, Genaxxon offers dedicated agarose resins, magnetic beads and prepacked cartridges.

Also available are a range of ultrapure detergents and buffers for extraction and purification of proteins.

### References

Spriestersbach, A., Kubicek, J., Schaefer, F., Block, H., and Maertens, B. 2011. Purification of His-tagged Proteins. Methods Navigator.

### Important Information

Genaxxon Ni-IDA and Ni-NTA agarose is developed, designed and sold for research purposes only. It is not to be used for human, diagnostic or drug purposes or to be administered to humans unless expressly cleared for that purpose by the Food and Drug Administration in the USA or the appropriate regulatory authorities in the country of use. All due care and attention should be exercised in the handling of many of the materials described in this manual.

### 8. Warranty

Genaxxon guarantees only for the described properties of the Ni-IDA and Ni-NTA agarose over a period of 2 years (for Certificate of Analysis Date) if this product is used according to the information given in this publication. However, if you are not satisfied with this product, please contact Genaxxon Bioscience GmbH using given contact form or one of its authorized distributors.