GENAXXON bioscience
fon: +49(0)731 – 3608 123
fax: +49(0)731 – 3608 962
E-Mail: info@genaxxon.com

Ni-NTA Agarose

for purification of His-tagged Proteins

Product	Cat#	Package size
Ni-NTA Agarose 20mL of a 50% suspension	**S5377.0010**	**10mL**
Ni-NTA Agarose 100mL of a 50% suspension	**S5377.0050**	**50mL**
Ni-NTA Agarose 500mL of a 50% suspension	**S5377.0250**	**250mL**

All volume specifiation relating to the sedimented agarose resin.

Product Description
Ni-NTA Agarose was developed for affinity purification of proteins carrying a polyhistidine tag. This affinity chromatography matrix is based on BioWorks Workbeads, consisting of 7.5% 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 under low pressure with flow rates up to 6mL/min (optimal 0.5 – 2mL/min). Our Ni-NTA agarose is very homogenous in size with a medium particle diameter of 40µm, yielding a high degree of reproducibility between individual purification runs.

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 >15µeqv Ni2+/mL. Other possible metal ions are Co2+, Zn2+, Fe3+ and Al3+, resulting in different affinities, e.g. for zinc-finger proteins or phosphorylated proteins. If required, the nickel ions can be removed from the agarose matrix using 5 wash steps with 100mM EDTA, and the matrix can be recharged with a different metal ion.

Alternatively, please contact Genaxxon for unloaded NTA agarose matrix.

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 offers high-performance IDA Agarose and NTA Agarose, both based on BioWorks Workbeads.

Genaxxon Ni-NTA Agarose is delivered as a 50% (v/v) suspension. Therefore, 2mL suspension will yield a 1mL 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
Genaxxon NTA Agarose is very stable and can resist the following conditions in most situations:
pH2-14; 100% methanol; 100% ethanol; 8M urea; 6M guanidinium hydrochloride; 30% (v/v) acetonitrile.

Specifications

Particle size	32-60µm
pH-stability	3.0-12.0 (long term) / 2.0 – 14.0 (short term)
Recommended flow rate	0.5-2.0mL/min. (6.0mL/min. possible)
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 IDA Agarose resin, please visit our webpage at: http://www.genaxxon.com/docs/pdf/protokolle/prot_s5353_s5377_ni_ida_nta_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.

GENAXXON bioscience GmbH
Söflinger Str. 70 ● 89077 Ulm ● Geschäftsführer: Dr. Norbert Tröndle
Amtsgericht: 89014 Ulm ● HRB 641623
U.St.-Id.Nr. DE 220 603 767 ● Deutsche St.-Nr. 88002/33658

GENAXXON bioscience
fon: +49(0)731 – 3608 123
fax: +49(0)731 – 3608 962
E-Mail: info@genaxxon.com

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 are 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.

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.

Safety information
When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDSs). These are available online as pdf-file or on request (info@genaxxon.com).

Attention: Product contains 20% ethanol and Nickel
H225: Highly flammable liquid and vapour.
EUH208: Contains Nickel. May produce an allergic reaction.

GENAXXON bioscience GmbH
Söflinger Str. 70 ● 89077 Ulm ● Geschäftsführer: Dr. Norbert Tröndle
Amtsgericht: 89014 Ulm ● HRB 641623
U.St.-Id.Nr. DE 220 603 767 ● Deutsche St.-Nr. 88002/33658