

PureCube 40 Compact Cartridge Ni-INDIGO 1 mL & 5 mL

Product	Catalog No.	Package size
PureCube 40 Compact Cartridge Ni-INDIGO (1 x 1 mL)	AN-121903C	1 x 1 mL prepacked column
PureCube 40 Compact Cartridge Ni-INDIGO (5 x 1 mL)		5 x 1 mL prepacked columns
PureCube 40 Compact Cartridge Ni-INDIGO (1 x 5 mL)	AN-121903D	1 x 5 mL prepacked column
PureCube 40 Compact Cartridge Ni-INDIGO (5 x 5 mL)		5 x 5 mL prepacked columns

Product Description

The PureCube 40 Compact Cartridge Ni-INDIGO is a chromatography column prepacked with PureCube 40 INDIGO Ni-Agarose. The column is stored in buffer containing 20% ethanol to prevent microbial growth. The PureCube 40 Compact Cartridge Ni-INDIGO is available in two sizes, 1 mL bed volume and 5 mL bed volume (dimensions given in Product Specifications). Both column sizes exhibit excellent chemical resistance to most commonly used reagents and the End Plugs include standard connections compatible with common chromatography instruments (such as ÄKTA). The 5 mL column has two layers of mesh (coarse and fine) at one end to give excellent flow distribution. The void volume in each End Plug is minimal, because the fluid is introduced through a narrow flow path (i.e. 1 mm hole).

Product Specifications

Parameter	PureCube 40 Compact Cartridge Ni-INDIGO, 1 mL	PureCube 40 Compact Cartridge Ni-INDIGO, 5 mL
Functional Group	Ni-INDIGO	Ni-INDIGO
Dimensions [mm]	8.0 x 35	17 x 35
Column Body Material	Polypropylene	Polypropylene
End Plug Material	Polypropylene	Polypropylene
Inlet/Outlet	10-32 UNF female thread	10-32 UNF female thread
Matrix	7.5% highly cross-linked agarose	7.5% highly cross-linked agarose
Particle Diameter	100 µm	100 µm
Protein Binding Capacity*	Up to 80 mg	Up to 800 mg
Max. Flow Rate	6 mL/min	6 mL/min
Recommended Flow Rate**	0.5-2.0 mL/min	0.5-2.0 mL/min
Recommended Operational Pressure	Up to 5 bar (72 psi)	Up to 3 bar (42 psi)
pH Stability	2-13	2-13

* Protein binding capacity can vary for different proteins

** Dynamic binding capacity strongly correlates with the flow rate and other parameters such as protein size and buffer conditions

Affinity Resin

PureCube 40 INDIGO Ni-Agarose was developed for the affinity purification of proteins carrying a polyhistidine tag. This affinity chromatography matrix is based on a highly cross-linked, 7.5% agarose. The material is highly porous to allow for optimal protein interaction. PureCube 40 Agarose is also physically very stable, making it suitable for purification processes under low pressure with variable flow rates.

The diameter of the beads is 30-60 μm , providing excellent flow behavior and a high degree of reproducibility between individual purification runs.

A polychelator 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. Purification can be performed using up to 20 mM EDTA and 20 mM DTT with no loss in performance. The metal ion capacity is $>75 \mu\text{eq Ni}_{2+}/\text{mL}$.

Protein Binding Capacity

PureCube 40 Compact Cartridges Ni-INDIGO have a binding capacity of up to 80 mg/mL as determined by purification of 6xHis-tagged GFP protein from *E.coli* cleared lysates, and quantified via spectrophotometry. It should be considered that the dynamic binding capacity strongly correlates with flow rate and other parameters such as protein size and buffer conditions. It is recommended to use the lowest flow rate possible to achieve highest binding capacity.

Compatibility

For cleaning purposes, PureCube 40 INDIGO Ni-Agarose is very stable and can resist the following conditions in most situations:
buffers at pH 2-13, 100% methanol, 100% ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30% (v/v) acetonitrile, 20 mM DTT, 20 mM EDTA, 0.5M NaOH.

Shipping and Storage

Parameter	PureCube 40 Compact Cartridge Ni-INDIGO, 1 mL	PureCube 40 Compact Cartridge Ni-INDIGO, 5 mL
Shipment Temperature	Ambient temperature	Ambient temperature
Storage Buffer	20% ethanol, pH 6.5	20% ethanol, pH 6.5
Storage Temperature	2-8 °C	2-8 °C

Additional Information

For protein purification and cleaning protocols, including protocols for packing chromatography columns, please visit our webpage at www.cube-biotech.com/protocols. For purification of his-tagged proteins from dilute solutions, we recommend using PureCube INDIGO Ni-MagBeads. For affinity purification of GST-tagged, Rho1D4-tagged or strep[®]-tagged proteins, Cube Biotech offers dedicated agarose resins, magnetic beads and pre-packed cartridges. Also available are a range of ultrapure detergents and buffers for the extraction and purification of proteins. See www.cube-biotech.com/products for details.

Disclaimer: Our products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.

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