

PureCube Compact Cartridge IDA 1 mL & 5 mL

| Product | Catalog No. | Package size |
|---|-------------|----------------------------|
| PureCube Compact Cartridge IDA (1 x 1 mL) | 30902 | 1 x 1 mL prepacked column |
| PureCube Compact Cartridge IDA (5 x 1 mL) | 30904 | 5 x 1 mL prepacked columns |
| PureCube Compact Cartridge IDA (1 x 5 mL) | 30906 | 1 x 5 mL prepacked column |
| PureCube Compact Cartridge IDA (5 x 5 mL) | 30908 | 5 x 5 mL prepacked columns |

Product Description

The PureCube Compact Cartridge IDA is a chromatography column prepacked with PureCube IDA Agarose. The column is stored in buffer containing 20% ethanol to prevent microbial growth. The PureCube Compact Cartridge IDA 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 Compact Cartridge IDA, 1 mL | PureCube Compact Cartridge IDA, 5 mL |
|----------------------------------|--------------------------------------|--------------------------------------|
| Functional Group | Iminodiacetic Acid | Iminodiacetic Acid |
| 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 | 40 µm | 40 µm |
| Protein Binding Capacity* | Up to 50 mg | Up to 250 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 | 2-14 | 2-14 |

* 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 IDA Agarose was developed for the affinity purification of proteins carrying a polyhistidine tag. This affinity chromatography matrix is based on BioWorks Workbeads, consisting of 7.5% crosslinked 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 variable flow rates. Our agarose is very homogeneous in size with a medium particle diameter of 40 µm, yielding a high degree of reproducibility between individual purification runs.

An IDA ligand is coupled to the agarose resin to obtain a matrix with highest binding capacity for histidine residues. The metal ion capacity is higher than 15 µeqv Ni²⁺/mL. Other possible metal ions are Co²⁺, Zn²⁺, Fe³⁺, Cu²⁺, Al³⁺, resulting in different affinities, e.g., for zinc-finger proteins or phosphorylated proteins. If required, the metal ions can be removed from the agarose matrix using five wash steps with 100 mM EDTA, and the matrix can be recharged with a different metal ion. IDA matrices charged with metals are available upon request.

Protein Binding Capacity

PureCube Compact Cartridges IDA have a binding capacity of up to 50 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

IDA Agarose resin is very stable and can resist the following conditions in most situations: pH 2-14, 100% methanol, 100% ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30% (v/v) acetonitrile.

Shipping and Storage

| Parameter | PureCube Compact Cartridge IDA, 1 mL | PureCube Compact Cartridge IDA, 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 IDA 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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