

PureCube Cartridges, 1 mL

| Product | Catalog No. | Package size |
|-------------------------------|-------------|------------------|
| PureCube Cartridge (1 x 1 mL) | 16911 | 1 x 1 mL column |
| PureCube Cartridge (5 x 1 mL) | 16913 | 5 x 1 mL columns |

Product Description

The PureCube Cartridge is an empty chromatography column that can be packed with FPLC-compatible chromatography matrices. The PureCube Cartridge is available in two sizes, 1 mL bed volume and 5 mL bed volume. 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 void volume in each end plug is minimal, because the fluid is introduced through a narrow flow path (i.e. 1 mm hole).

Description of the Column Parts

Parts provided

| | |
|-------------------------|--|
| 1 x Column body (white) | Internal diameter of 6.2 mm, and locking mechanisms at both ends |
| 2 x End Plug (white) | 10-32 UNF female thread on one end, O-ring and frit disc on the other. |
| 2 x Stop Plug (black) | 10-32 UNF female thread; used for fingertight seal of the packed column. |

To be supplied by user

| |
|--|
| 10-32 male/luer female connector |
| Luer syringe (e.g. 10 mL volume) |
| Holder to fix column while packing (optional) |
| Chromatography resin (e.g. PureCube Agarose matrices) |
| Resin storage buffer: 20 mM sodium acetate, pH 6.5 with 20% (v/v) ethanol or similar |

Product Specifications

| Parameter | PureCube Cartridge, 1 mL | PureCube Cartridge, 5 mL |
|----------------------------------|--------------------------|--------------------------|
| Format | 1 mL | 5 mL |
| Dimensions | 6.2 x 50 | 11 x 80 |
| Column Body Material | Polypropylene | Acrylate |
| End Plug Material | Polypropylene | Polypropylene |
| Inlet/Outlet | 10-32 UNF female thread | 10-32 UNF female thread |
| pH Stability | 2-14 | 2-14 |
| 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) |

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

Shipping and Storage

| Parameter | PureCube Cartridge, 1 mL | PureCube Cartridge, 5 mL |
|--------------------------------|---------------------------|---------------------------|
| Long-term Stability | 3 years after shipment | 3 years after shipment |
| Shipment & Storage Temperature | Ambient temperature | Ambient temperature |
| Storage after packing | Dependent on packed resin | Dependent on packed resin |

Protocol: Packing of 1 mL PureCube Cartridges

1. Prepare storage buffer (min. 10 mL) and degas the buffer. Note: It is important to use degassed buffer instead of water to avoid trapping of air bubbles in the packed column.
2. Insert one end plug into one end of the column body. Push the end plug until it is fully engaged with the shoulder of the column body.
3. Fix the column in a holder (not supplied) with the end plug facing downwards. Note: Using a holder makes packing easier and also allows packing of several columns in parallel.
4. Use a 10-32 male/luer female connector (not supplied) and connect it to the end plug. Fill a luer outlet syringe with storage buffer (ca. 3-5 mL) and connect it to the connector from the bottom of the column. Push the buffer back and forth a few times into the column from below, making sure to remove air bubbles. Leave a liquid level of about 1 cm height in the column.
5. Resuspend the resin suspension by shaking, and pipet a suitable volume into the column from the top. E.g. PureCube Agaroses are provided as 50% suspension, so for 1 mL bed volume, a total volume of 2 mL needs to be pipetted.
6. Suck the liquid out of the column from below into the syringe to make room for the resin. Note: Be careful not to dry the bed during the packing process.
7. Ensure that the liquid level stays high enough so that air bubbles are not trapped inside the column. If necessary, fill the liquid level up with storage buffer.
8. Keep the syringe in place. Make sure there is at least 1 mL space not filled in the syringe. Insert the top end plug carefully and push it down slowly until the liquid level reaches the thread. Then push the top end plug down until it is fully engaged in the locking mechanism. Close the end plug with a stop plug.
9. Remove the syringe and connector from the bottom end of the column and close it with the second stop plug.
10. When connecting the column to a chromatography system (e.g. Äkta or BioLogic) pump liquid through the column at high speed (e.g. 3-5 ml/min) to ensure that the particles are well settled in the bed and no air bubbles are trapped within.

Additional Information

For best results in purification of proteins carrying a His-, GST, Strep- or Rho tag, we recommend PureCube affinity chromatography matrices. Protein purification protocols, can be found on our webpage at www.cube-biotech.com/protocols. Also available are a range of ultrapure detergents and buffers for 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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