Instructions

ViralPolish 8000-10000 Selection Kit

Six different ViralPolish chromatography resins are prepacked to 1 ml ready to use columns for screening purpose. The column design provides fast, simple and easy separations in a convenient format.

The columns can be operated with a syringe, peristaltic pump or common liquid chromatography system such as ÄKTA™ when suitable tubing adaptors are used.

Please read these instructions carefully before using the columns.

Intended use

The columns are intended for research use only, and shall not be used in any clinical or *in vitro* procedures for diagnostic purposes.

Safety

For use and handling of the product in a safe way. The resin is stored in 20% ethanol to prevent microorganisms from growing. Proper PPE (e.g. gloves and goggles) must be used to handle the columns.

Product description

Column characteristics

The columns are made of biocompatible polypropylene and polyethylene that does not interact with biomolecules.

The columns are delivered in sealed plastic bags with identical stop plug to each end.

Table 1. Characteristics of column hardware

Column volume (CV)	1 ml
Column dimensions	6.2 × 33 mm
Column hardware pressure limit	6 bar (0.6 MPa)

Note: *The pressure over the packed bed varies depending on a range of parameters such as the characteristics of the chromatography medium, sample/liquid viscosity and the column tubing used.*

Properties of ViralPolish resins

Table 2. ViralPolish resins included in the kit

Resin name	Applications
ViralPolish 8000A ViralPolish 8000B ViralPolish 9000A ViralPolish 9000B ViralPolish 10000A ViralPolish 10000B	8000 range: Good for large viruses, large exosomes, clearance of large nucleic acids (1kb). 9000 to 10000 range: Good for very large nanoparticles that ViralPolish 7000 to 8000 don't give big enough pore size; good for clearance of >1kb nucleic acids.

The general properties of the resins see resin data sheet.

Operation

The column can be operated with a syringe, peristaltic pump or a chromatography system. Suitable tubing adaptors are required (contact Us for further information).

We recommend scouting the parameters among loading capacity, flow velocity, binding pH, binding ionic strength, regeneration procedures etc.

In general, balancing the degree of component separation against process throughput is the major consideration when optimizing a method. Besides, for the purification of instable or shearing-force sensitive molecules, the operational condition needs be optimised to balance the throughput and the possible damage to the target molecule.

Purification

General guidance

The recommended flow rate is 0.2 to 1 ml/min.

1. Fill the syringe or pump tubing with binding buffer. Follow the flow direction. Remove the top stop plug and connect the column to the syringe (with the provided connector), or pump tubing, "drop to drop" to avoid introducing air into the column.
2. Remove the stop plug at the column outlet.
3. Wash out the preservative and equilibrate the column with 5 - 10 column volumes of binding buffer.
4. Apply the sample, using a syringe fitted to the luer connector or by pumping it onto the column. Meanwhile, collect the product in flow through in suitable fraction size. The breakthrough or loading capacity depends on the property of samples as well as the loading speed.
5. Wash with 3 column volumes of binding buffer and collect as product fractions.
6. Regenerate the column by running through 5 column volumes (CV) of 1M NaOH at 0.5 ml/min, then 5 CV 2M NaCl, then 5-10 CV equilibration buffer.
7. The column can be re-used.

Storage

Wash the column with 5 column volumes of 20% ethanol at reduced flowrates such as 0.2 ml/min. Store the column in 20% ethanol at 2ºC to 8ºC. Regular check of the column performance is recommended.

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