ChangZhou Smart-Lifesciences Biotechnology Co., Ltd.
Hotline Service: 0086-519-83820182 **E-mail:**sales@smart-lifesciences.com
West Taihu science and Technology Industrial Park,Wujin District,Changzhou City,Jiangsu Province,China

HiSelect SmartCore 700

Index

1. Product Description

SmartCore 700 is aimed at intermediate purification and polishing of viruses and other large biomolecules in flowthrough mode.Each Bead has a ligand-activated core and an outer layer without ligands.The layer prevents the large targets from enter into the beads whereas smaller proteins and impurities enter into the core where they bind to the hydrophobic and positively charged octylamine ligand.The molecular size cut-off for proteins is approximately M_r = 690000.See table 1.

HiSelect SmartCore 700 is a prepacked ready to use column. It is packed with 4.7 ml **SmartCore 700**.The arrow on the column label indicates the recommended flow direction. **HiSelect SmartCore 700** can be adapted to all kinds of chromatography system, such as ÄKTA. It is easy to operate.

Table 1. Characteristics of **HiSelect SmartCore 700**

Item	Description
Size	4.7 ml
Column size	0.77×10 cm
Matrix	Polymeric microsphere
Ligand	octylamine
Static binding capacity/ml medium	15-20mg BSA
Ionic capacity（mmol/ml）	0.15-0.30
Particle size (μm)	90
Maxi pressure	1.5MPa
pH stability	1-14
Chemical stability	All commonly used aqueous buffers, 1M sodium hydroxide, 6M guanidine hydrochloride, 30%isoppropanol and 70%ethanol
Storage buffer	20% ethanol
Storage	2-8℃

2. Purification Procedure

2.1 Buffer Preparation

SmartCore 700 is compatible with most of the commonly used buffer for gel filtration and ion exchange chromatography,such as phospate or Tris buffer.It is advised to used a pH of 7 to 9 to ensure good binding of the host cell proteins to the ligands.

Water and chemicals used for buffer preparation should be of high purity. It is recommended filtering the buffers by passing them through a 0.22 or 0.45 μm filter before use.

2.2 Sample Preparation

To insure that proper ionic strength and pH are maintained for optimal binding, the sample may be dialyzed overnight against Binding Buffer.

High levels of DNA and RNA can in some cases impair the performance of SmartCore 700.Samples can be treated with benzonase endonuclease to reduce DNA/RNA levels prior to the SmartCore 700 purification step.

2.3 Sample Purification

HiSelect SmartCore 700 is a prepacked, ready to use column for purification. The prepacked column provides fast, simple and easy separations in a convenient format.

1) Fill the syringe or pump tubing with distilled water. Remove the stopper and connect the column to the syringe (with the provided connector), or pump tubing, “drop to drop” to avoid introducing air into the column. Remove the stopper at the column outlet and connect the column to the chromatographic system.

2) Wash the column with 3-5 column volumes of distilled water.

3) Equilibrate the column with at least 5 column volumes Lysis Buffer.

4) Apply the pre-treated sample, using a Loop fitted to the connector or by pumping it onto the column.

5) Wash with Wash Buffer until the absorbance reaches the baseline or no material appears in the effluent (Generally at least 10-15 column volumes).

6) Elution with 5 to 10 column volumes of Elution Buffer or until no material appears in the effluent.

2.4 Analysis

Identify the fractions containing the target protein. Use UV absorbance, SDS-PAGE, or Western Blot.

3. Cleaning-in-Place

CIP should be performed after each purification to ensure consistency of results.Regular CIP prevents the build-up of contaminants in the packed bed and helps to maintain capacity,flow properties and general performance of the medim.

CIP of **SmartCore 700** uses a combination of solvent and sodium hydroxinde:

Wash the column with a solution of 1M NaOH in 30% isopropanol.Ensure that the column and the Buffer are combined for 30-60min.It can be left standing for 15-30min for more effective cleaning.

4. Related Products

Product	Cat. No.	Size
HiSelect SmartCore 700	SEC022C47	4.7 ml
HiPur SmartCore 700	SEC022C20	20 ml