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

PreCap Smac Core 700

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1. Product Description

Smac Core 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 $M_r = 690000$.

PreCap Smac Core 700 is a prepacked ready to use column for purification. **PreCap Smac Core 700** 1ml and 5ml columns are packed with 1ml and 5ml of **Smac Core 700**. **PreCap Smac Core 700** can be operated with a peristaltic pump or liquid chromatography systems, such as ÄKTA. It is fast, simple and easy operation.

Table 1. Characteristics of **Smac Core 700**

Item	Description
Matrix Spherical	rigid agarose matrix
Ligand	octylamine
Static binding capacity/ml medium	＞13 mg ovalbumin/ml medium
Ionic capacity（mmol/ml）	0.09-0.12mmol/ml
Particle size	90μm
Maximum Pressure	0.3MPa
pH	1-14
Chemical stability	All commonly used aqueous buffers, 1M sodium hydroxide, 6M guanidine hydrochloride, 30%isoppropanol and 70%ethanol
Storage Solution	20% ethanol
Storage Temperature	4-30℃

2. Purification Procedure

2.1 Buffer Preparation

Smac Core 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 to filter 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 against Binding Buffer.

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

2.4 Sample Purification

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 snap-off end at the column outlet.

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

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

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

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

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 **Smac Core 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
Smac Core 700	SEC0281	25ml
	SEC0282	100ml
	SEC0283	500ml
	SEC0284	1L
PreCap Smac Core 700	SEC028C11	1x1ml
	SEC028C51	5x1ml
	SEC028C15	1x5ml
	SEC028C55	5x5ml