CREATIVE BIOMART®
Chromatography

PreDictor Capto adhere

Product Information

Cat#No#	Pr-295P

Product Overview

PreDictor plates are disposable, 96-well filter plates for parallel screening of resins and chromatographic conditions such as binding, wash, and elution conditions. Screen different chromatography resins simultaneously using dedicated screening plates, or more thoroughly using plates containing a single resin. Different applications require different amounts of resins in the wells, and we offer a wide range of PreDictor plates containing different chromatography resins at different volumes. Data generated using PreDictor plates show good correlation with data from chromatography columns, making the plates an excellent tool for initial screening of process conditions.

Characteristic

Supports high-throughput process development (HTPD) by allowing parallel screening of chromatographic conditions using a 96-well plate format.
Allows fast and efficient evaluation of parameters for binding/wash/elution conditions, and resin benchmarking.
Results show good correlation with data obtained by column chromatography.
Each well is prefilled with defined amounts of BioProcess chromatography resins.
Can be used with centrifugation or vacuum, manually or in automated robotic systems.
Assist software supports the PreDictor workflow from set-up of experimental design to data evaluation.

Maximum operating pressure

☐ 600 cm/h at ☐ 0.3 MPa in a 1 m diameter column and 20 cm bed height (at 20°C using process buffers with the same viscosity as water

Metal ion capacity

0.09 to 0.12 mmol Cl- /mL resin

Matrix

Highly cross-linked agarose, spherical

Average particle size

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~ 75 µm
Chemical stability
Stable to commonly used aqueous buffers, 1 M acetic acid, 1.0 M NaOH.
pH working range
3 to 12
CIP stability
2 to 14
Autoclavable
17 min at 121°C in 0.05 M phosphate buffer, pH 7, 10 cycles.
Storage
4 to 30°C, 20% Ethanol
Evaluation of Packing
The best method of expressing the efficiency of a packed column is in terms of the height equivalent to a theoretical plate (HETP) and the asymmetry factor (As). These values are easily determined by applying a sample such as 1% acetone solution to the column. Sodium chloride can also be used as a test substance. Use a concentration of 0.8 M NaCl in water with 0.4 M NaCl in water as eluent.
Equilibration
After packing, and before a chromatographic run, equilibrate with loading buffer by washing with at least 5 bed volumes, or until the column effluent shows stable conductivity and pH values.
Regeneration
After each step, elute any reversibly bound material with low pH (e.g., 0.1 M acetate pH 3.0). Regenerate the resin by washing until the column effluent shows stable conductivity and pH values.
Cleaning-in-place
Precipitated hydrophobically bound proteins or lipoproteins: Wash with 1.0 M NaOH at 150 cm/h with reversed flow direction. Contact time 15 to 30 minutes.

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Ionically bound proteins: Wash with 0.5 to 2 column volumes of 2 M NaCl with reversed flow direction.
Lipids and very hydrophobic proteins: Wash with 1-propanol 1 to 5% or isopropanol 5 to 30%. 1-propanol has a higher flash point and might be preferred in an industrial environment.
Nucleic acids: Wash with 0.1 M acetate pH 3 for 2 to 5 column volumes followed by equilibration buffer at neutral pH for 1 to 2 column volumes and wash 1.0 M NaOH at 150 cm/h with reversed flow direction.
Contact time 15 to 30 minutes.

Sanitization

To reduce microbial contamination in the packed column, sanitization using 0.5 to 1.0 M NaOH with a contact time of 1 hour is recommended. The CIP protocol for precipitated, hydrophobic bound proteins or lipoproteins removes bound contaminants and sanitizes the resin effectively.

Purification procedures

Adjust pH and conductivity of the Protein A pool to loading conditions for flow-through mode.
Equilibrate the column with loading buffer of the same pH and conductivity as the sample.
Apply sample onto the column.
Collect the flowthrough fraction.
Wash out unbound material with loading buffer and collect together with the flowthrough fraction.
Regenerate column to elute bound material.
Clean-In-Place. • Re-equilibrate.

Pack size

6 µl

Dimensions

127.8 x 85.5 x 30.6 mm

Functional group

Multimodal strong anion exchanger

Number of wells

96

Material

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Polypropylene (PP) and Polyethylene (PE)
Resin suspensions in total volumes
200 µl for 2 µl sedimented medium/well 500 µl for 6, 20, and 50 µl sedimented medium/well For PreDictor isotherm plates: – 500 µl for 50 µl sedimented medium/well – 200 µl for 20 µl sedimented medium/well – 500 µl for 8 µl sedimented medium/well – 375 µl for 6 µl sedimented medium/well – 250 µl for 4 µl sedimented medium/well – 125 µl for 2 µl sedimented medium/well.
Centrifugation force recommended
100 x g (Sample Dependent)-500 x g (Sample Dependent)
Centrifugation force max.
700 x g
Operating temp. max.
30°C
Operating temp. min.
4°C

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