

## PROCESS SEPARATIONS

# Foresight Prepacked Plates and Columns

- Prepacked, ready-to-use formats designed to save process development time
- Different experimental conditions can be evaluated to better define an operational window
- High-throughput experiments can be performed with minimal sample requirements
- Available in a variety of chromatography resin modes designed for large-scale bioprocess
- Compatible with robotic liquid handling workstations

## Speed and Convenience for Process Developers

### Product Information

Foresight Plates and Columns are prepacked with a range of Bio-Rad's process chromatography resins (media), offering process scientists convenience and reliability for their high-throughput (HT) experimentation needs. Their robust design allows process scientists to use the prepacked formats through the entire purification development cycle, from HT resin screening to small-scale method development and scale-up optimization.

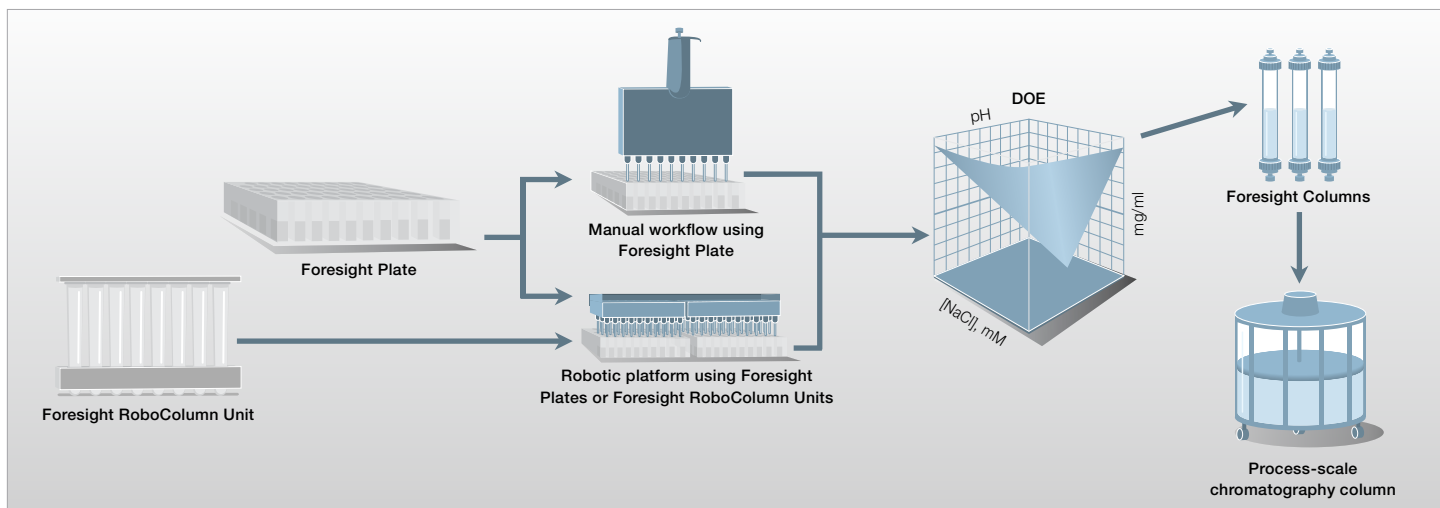
### Foresight Plates

Foresight Plates are 96-well filter plates prepacked with chromatography resin. These plates, with each well prefilled with 20  $\mu\text{l}$  of resin, can be used for HT evaluation of various binding, elution, or wash conditions for different chromatography resins. Foresight Plates can be processed using

manual or automated robotic systems, and sample collection may be achieved through centrifugation or vacuum manifold techniques.

### Foresight RoboColumn Units

Foresight RoboColumn units are prepacked microcolumns used for HT process development. Their design is fully compatible with robotic liquid handling systems, allowing process developers to perform automated HT parallel resin screening and/or small-scale method development. Foresight RoboColumn Units are offered as single rows with each row containing eight columns. They are available in two volumes — 200  $\mu\text{l}$  or 600  $\mu\text{l}$ . Multiple rows up to 12 can be combined to form a 96-column array, allowing users to evaluate various chromatography resins and conditions in parallel.

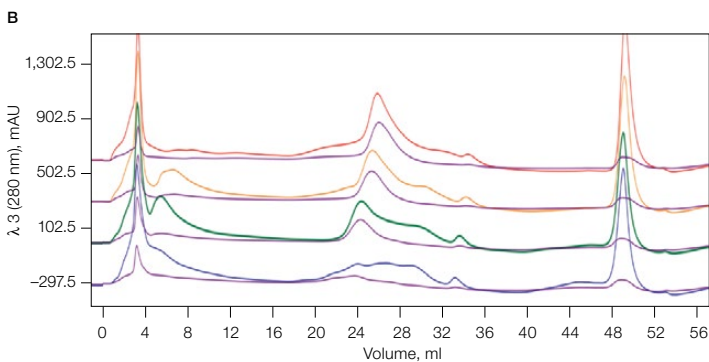
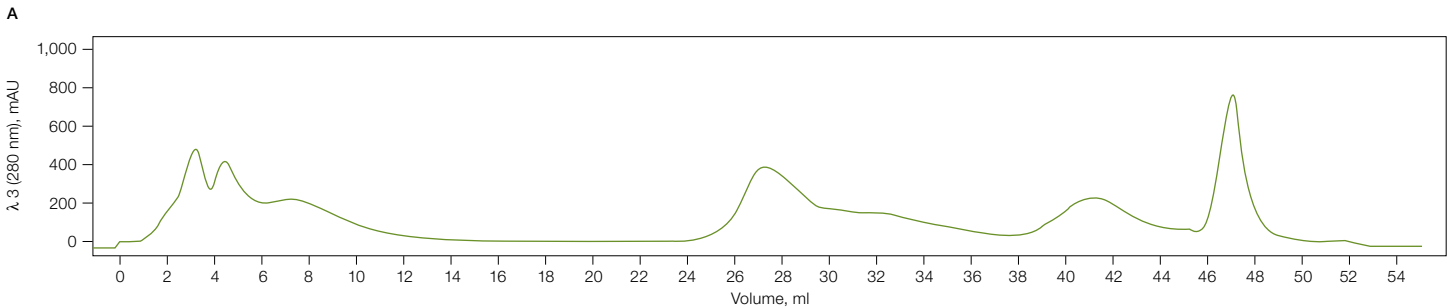


Purification scale-up workflow shows the use of HT screening and design of experiment (DOE) to define an operational window for biomanufacturing.

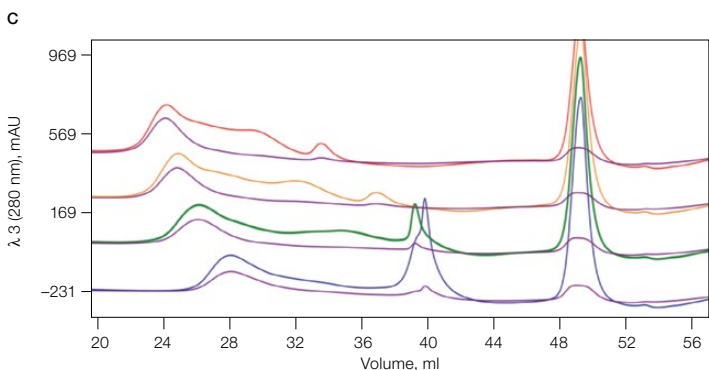


## Foresight Columns

Foresight Columns, available in 1 or 5 ml formats, may be used for qualitative resin screening experiments and/or method development. Foresight Columns have standard HPLC connections, which make them compatible with the NGC Chromatography Systems and other liquid chromatography systems. These columns are ideal for confirming the operational window obtained through DOE in trials with Foresight Plates and/or Foresight RoboColumn Units.



■ λ 3 (280 nm) — pH 7.0      ■ λ 4 (525 nm) — pH 7.0  
■ λ 3 (280 nm) — pH 7.5      ■ λ 4 (525 nm) — pH 7.5  
■ λ 3 (280 nm) — pH 8.0      ■ λ 4 (525 nm) — pH 8.0  
■ λ 3 (280 nm) — pH 8.5      ■ λ 4 (525 nm) — pH 8.5



■ λ 3 (280 nm) — final %B 20      ■ λ 4 (525 nm) — final %B 20  
■ λ 3 (280 nm) — final %B 30      ■ λ 4 (525 nm) — final %B 30  
■ λ 3 (280 nm) — final %B 40      ■ λ 4 (525 nm) — final %B 40  
■ λ 3 (280 nm) — final %B 50      ■ λ 4 (525 nm) — final %B 50

**Foresight Nuvia Q Column scouting.** **A**, chromatogram trace of a recombinant protein (rProtein) on Nuvia Q Resin at 280 nm absorbance. **B**, offset chromatogram overlays of rProtein pH scouting runs. Total protein, 280 nm traces of pH 7.0 (■), 7.5 (■), 8.0 (■), and 8.5 (■) are overlaid with the rProtein absorbance trace at 525 nm (■). **C**, offset chromatogram overlays of rProtein %B scouting runs. Total protein, 280 nm traces of the 20 column volume gradient elution to a final %B of 20% (■), 30% (■), 40% (■), and 50% (■) are overlaid with the rProtein absorbance trace at 525 nm (■).

## Applications and Regulatory Support

Regulatory support files and application notes are available upon request. Bio-Rad Laboratories is an ISO 13485 registered corporation.

## Chromatography Resins Available in Foresight Formats

Chromatography Resin	Mode
UNOsphere Q	Strong anion
UNOsphere S	Strong cation
UNOsphere Rapid S	Strong cation
UNOsphere SUPra	Affinity: recombinant protein A
Nuvia HP-Q	Strong anion
Nuvia Q	Strong anion
Nuvia HR-S	High resolution, strong cation
Nuvia S	Strong cation
Nuvia IMAC	Affinity
Nuvia aPrime 4A	Mixed-mode Hydrophobic: anionic
Nuvia cPrime	Mixed-mode Hydrophobic: cationic
CHT Type I — 40 μm particle size	Mixed-mode Metal affinity: cationic
CHT Type II — 40 μm particle size	Mixed-mode Metal affinity: cationic
CHT XT — 40 μm particle size	Mixed-mode Metal affinity: cationic
MPC Type I — 40 μm particle size	Mixed-mode Metal affinity: cationic

Visit [bio-rad.com/Foresight](http://bio-rad.com/Foresight) for more information about prepacked plates and columns.

## Ordering Information

Catalog # Description

### Foresight Plates\*

732-4714 Foresight UNOsphere Q Plates, 20 µl  
 732-4710 Foresight UNOsphere S Plates, 20 µl  
 732-4712 Foresight UNOsphere Rapid S Plates, 20 µl  
 732-4709 Foresight UNOsphere SUPrA Plates, 20 µl  
 12006908 Foresight Nuvia HP-Q Plates, 20 µl  
 732-4703 Foresight Nuvia Q Plates, 20 µl  
 732-4707 Foresight Nuvia HR-S Plates, 20 µl  
 732-4701 Foresight Nuvia S Plates, 20 µl  
 12004035 Foresight Nuvia IMAC Ni-Charged Plates, 20 µl  
 12007411 Foresight Nuvia aPrime 4A Plates, 20 µl  
 732-4705 Foresight Nuvia cPrime Plates, 20 µl  
 732-4716 Foresight CHT Type I Plates, 40 µm, 20 µl  
 732-4718 Foresight CHT Type II Plates, 40 µm, 20 µl  
 12003151 Foresight CHT XT Plates, 40 µm, 20 µl  
 732-4785 Foresight MPC Type I Plates, 40 µm, 20 µl

### Foresight RoboColumn Units\*\*

732-4819 Foresight UNOsphere Q RoboColumn Unit, 200 µl  
 732-4820 Foresight UNOsphere Q RoboColumn Unit, 600 µl  
 732-4813 Foresight UNOsphere S RoboColumn Unit, 200 µl  
 732-4814 Foresight UNOsphere S RoboColumn Unit, 600 µl  
 732-4816 Foresight UNOsphere Rapid S RoboColumn Unit, 200 µl  
 732-4817 Foresight UNOsphere Rapid S RoboColumn Unit, 600 µl  
 732-4834 Foresight UNOsphere SUPrA RoboColumn Unit, 200 µl  
 732-4835 Foresight UNOsphere SUPrA RoboColumn Unit, 600 µl  
 12007013 Foresight Nuvia HP-Q RoboColumn Unit, 200 µl  
 12007014 Foresight Nuvia HP-Q RoboColumn Unit, 600 µl  
 732-4804 Foresight Nuvia Q RoboColumn Unit, 200 µl  
 732-4805 Foresight Nuvia Q RoboColumn Unit, 600 µl  
 732-4831 Foresight Nuvia HR-S RoboColumn Unit, 200 µl  
 732-4832 Foresight Nuvia HR-S RoboColumn Unit, 600 µl  
 732-4801 Foresight Nuvia S RoboColumn Unit, 200 µl  
 732-4802 Foresight Nuvia S RoboColumn Unit, 600 µl  
 12004051 Foresight Nuvia IMAC Ni-Charged RoboColumn Unit, 200 µl  
 12004052 Foresight Nuvia IMAC Ni-Charged RoboColumn Unit, 600 µl  
 12007394 Foresight Nuvia aPrime 4A RoboColumn Unit, 200 µl  
 12007395 Foresight Nuvia aPrime 4A RoboColumn Unit, 600 µl  
 732-4807 Foresight Nuvia cPrime RoboColumn Unit, 200 µl  
 732-4808 Foresight Nuvia cPrime RoboColumn Unit, 600 µl  
 732-4822 Foresight CHT Type I RoboColumn Unit, 40 µm, 200 µl  
 732-4823 Foresight CHT Type I RoboColumn Unit, 40 µm, 600 µl  
 732-4825 Foresight CHT Type II RoboColumn Unit, 40 µm, 200 µl  
 732-4826 Foresight CHT Type II RoboColumn Unit, 40 µm, 600 µl  
 12003152 Foresight CHT XT RoboColumn Unit, 40 µm, 200 µl  
 12003148 Foresight CHT XT RoboColumn Unit, 40 µm, 600 µl  
 732-4828 Foresight MPC Type I RoboColumn Unit, 40 µm, 200 µl  
 732-4829 Foresight MPC Type I RoboColumn Unit, 40 µm, 600 µl

Catalog # Description

### Foresight Columns

732-4732 Foresight UNOsphere Q Column, 1 ml  
 732-4752 Foresight UNOsphere Q Column, 5 ml  
 732-4730 Foresight UNOsphere S Column, 1 ml  
 732-4750 Foresight UNOsphere S Column, 5 ml  
 732-4731 Foresight UNOsphere Rapid S Column, 1 ml  
 732-4751 Foresight UNOsphere Rapid S Column, 5 ml  
 732-4729 Foresight UNOsphere SUPrA Column, 1 ml  
 732-4749 Foresight UNOsphere SUPrA Column, 5 ml  
 12007020 Foresight Nuvia HP-Q Column, 1 ml  
 12007021 Foresight Nuvia HP-Q Column, 5 ml  
 732-4721 Foresight Nuvia Q Column, 1 ml  
 732-4741 Foresight Nuvia Q Column, 5 ml  
 732-4723 Foresight Nuvia HR-S Column, 1 ml  
 732-4743 Foresight Nuvia HR-S Column, 5 ml  
 732-4720 Foresight Nuvia S Column, 1 ml  
 732-4740 Foresight Nuvia S Column, 5 ml  
 12004038 Foresight Nuvia IMAC Ni-Charged Column, 1 ml  
 12004037 Foresight Nuvia IMAC Ni-Charged Column, 5 ml  
 12007392 Foresight Nuvia aPrime 4A Column, 1 ml  
 12007393 Foresight Nuvia aPrime 4A Column, 5 ml  
 732-4722 Foresight Nuvia cPrime Column, 1 ml  
 732-4742 Foresight Nuvia cPrime Column, 5 ml  
 732-4735 Foresight CHT Type I Column, 40 µm, 1 ml  
 732-4755 Foresight CHT Type I Column, 40 µm, 5 ml  
 732-4736 Foresight CHT Type II Column, 40 µm, 1 ml  
 732-4756 Foresight CHT Type II Column, 40 µm, 5 ml  
 12003150 Foresight CHT XT Column, 40 µm, 1 ml  
 12003149 Foresight CHT XT Column, 40 µm, 5 ml  
 732-4737 Foresight MPC Type I Column, 40 µm, 1 ml  
 732-4757 Foresight MPC Type I Column, 40 µm, 5 ml

### NGC Medium-Pressure Chromatography Systems and Modules

7880001 NGC Quest 10 System  
 7880003 NGC Quest 10 Plus System, 10 ml/min  
 7884004 NGC Sample Pump 100 Module, 100 ml/min  
 7884006 NGC Inlet Valve Module  
 7884012 NGC Column Switching Valve Module, 10 ml  
 7884011 NGC pH Valve Module  
 7884010 NGC Buffer Blending Valve Module  
 7885017 NGC Air Sensor Module  
 7885063 NGC Scout Upgrade Kit  
 7885064 NGC Discover Upgrade Kit

\* Package size: 2 x 96-well plates.

\*\* Package size: one row of eight columns.



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Nuvia aPrime 4A Resin is covered by U.S. Patent Number 9,669,402 and foreign counterparts.  
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**Bio-Rad  
Laboratories, Inc.**

Life Science  
Group

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