

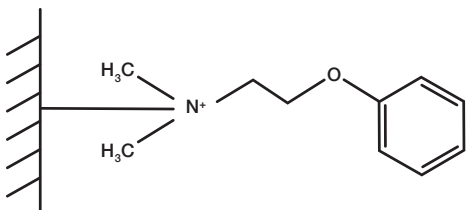
Mixed-Mode Chromatography: Hydrophobic Ion Exchange Resins

Introduction to Nuvia aPrime 4A and Nuvia cPrime Resins

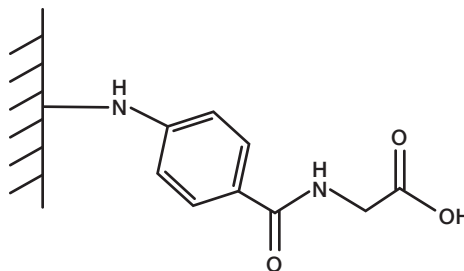
Nuvia aPrime 4A and Nuvia cPrime are mixed-mode chromatography resins that allow both hydrophobic and electrostatic interactions to be utilized for the purification of a variety of biomolecules.

	Nuvia aPrime 4A Resin	Nuvia cPrime Resin
Matrix material	<ul style="list-style-type: none"> Macroporous highly crosslinked polymer Particle size: 50 µm 	<ul style="list-style-type: none"> Macroporous highly crosslinked polymer Particle size: 70 µm
Functional group	<ul style="list-style-type: none"> Aromatic hydrophobic anion exchanger 	<ul style="list-style-type: none"> Aromatic hydrophobic cation exchanger
Benefits	<ul style="list-style-type: none"> Straightforward method development Effective across a wide range of salt concentrations and pH; suitable for easy integration into multistep processes Effective purification of salt- and pH-sensitive proteins Mechanical and chemical stability 	
Most popular applications	<ul style="list-style-type: none"> Monoclonal antibody purification Recombinant protein purification Aggregate/host cell protein/process impurities removal Variant separation 	

Nuvia aPrime 4A and Nuvia cPrime Resin Ligands



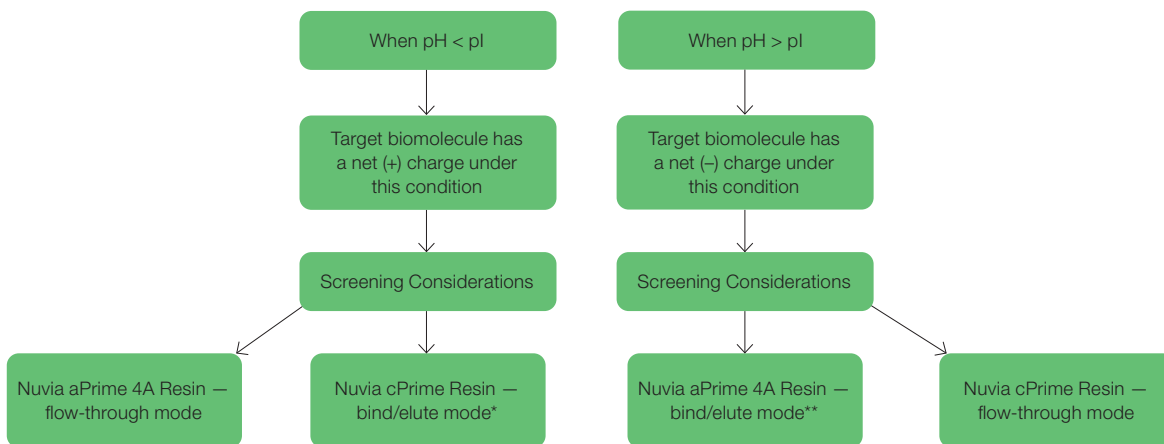
Ligand for Nuvia aPrime 4A Hydrophobic Anion Exchange Resin.



Ligand for Nuvia cPrime Hydrophobic Cation Exchange Resin.

Method Development — Bind/Elute or Flow-Through Mode

This schematic illustrates how Nuvia aPrime 4A and Nuvia cPrime Resins can be used under either bind/elute or flow-through mode, depending on the buffer pH and the target biomolecule pI.



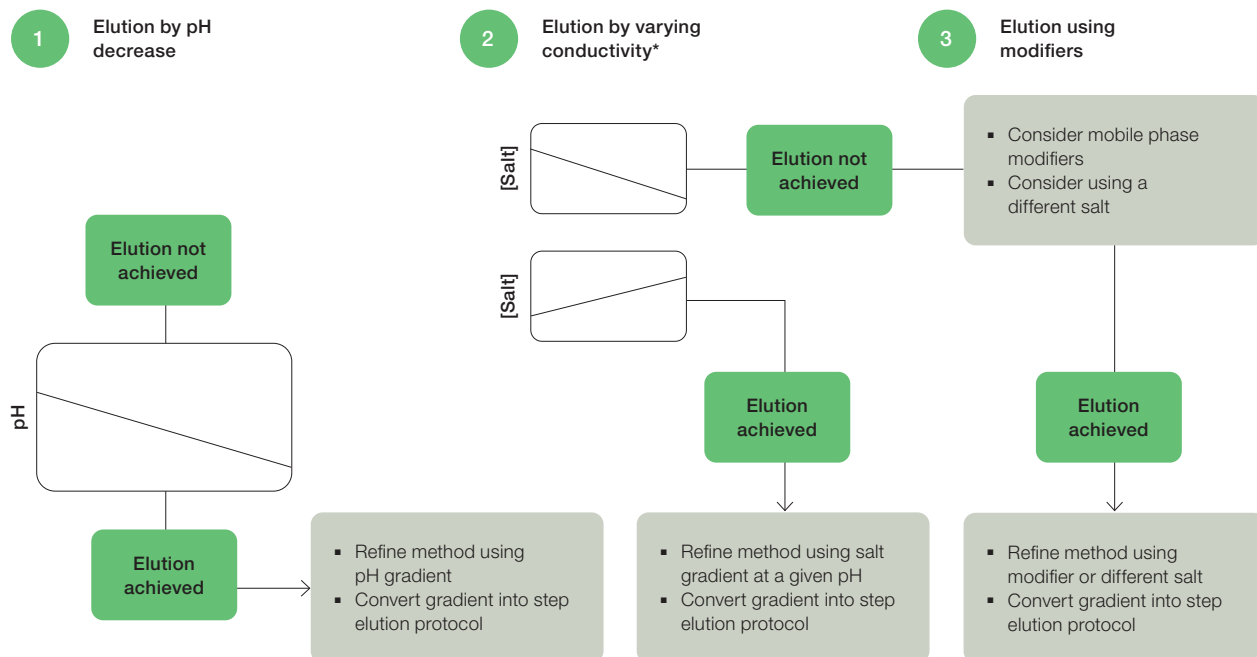
* See Elution Strategies with Nuvia cPrime Resin.

** See Elution Strategies with Nuvia aPrime 4A Resin.

Method Development — Elution

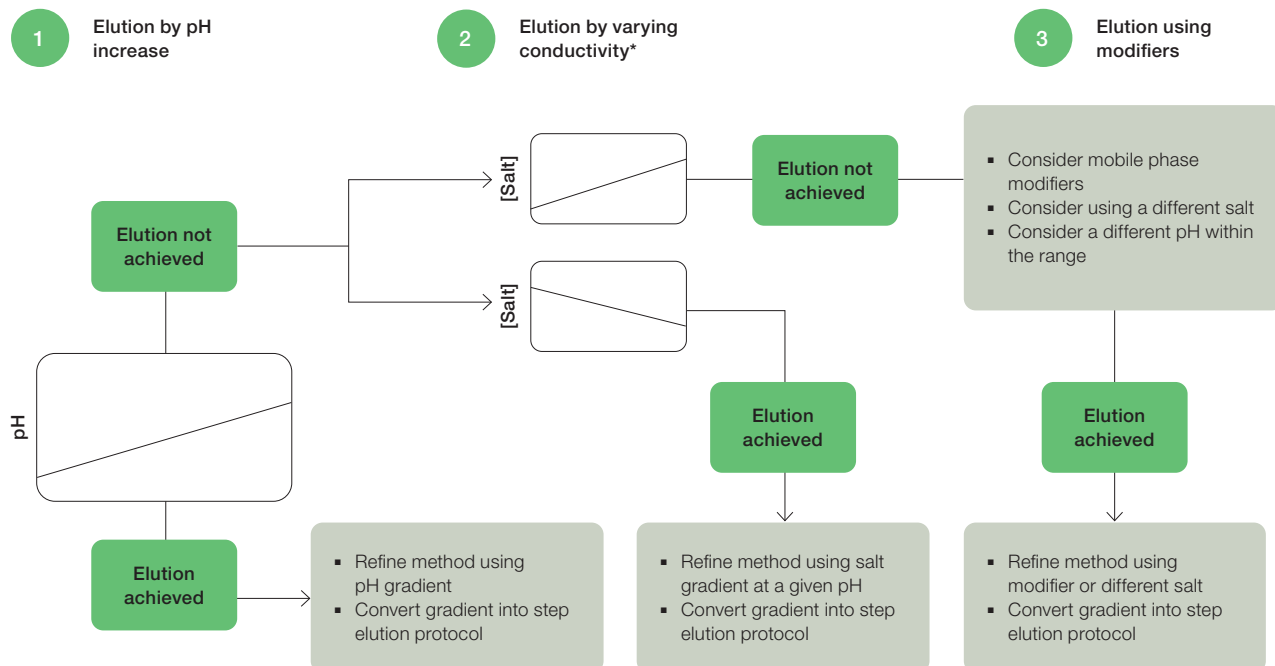
Developing an effective and robust method with Nuvia aPrime 4A and Nuvia cPrime Resins is straightforward. In most cases, conducting a few simple design of experiments protocols to identify optimal elution conditions will yield an effective, robust, and scalable method.

Elution Strategies with Nuvia aPrime 4A Resin



* At optimum pH, determined from step 1.

Elution Strategies with Nuvia cPrime Resin



* At optimum pH as determined in step 1.

Bio-Rad Mixed-Mode Offering in Prepacked EconoFit Columns

Prepacked and disposable EconoFit Columns offer a convenient way to incorporate mixed-mode chromatography in your purification workflow, either at laboratory scale or just for early method development. In addition to Nuvia aPrime 4A and Nuvia cPrime Resins, EconoFit Columns are also available prepacked with ceramic apatite mixed-mode media.

Catalog numbers by column size and configuration are shown.

Media	Catalog Numbers by Column Size		
	1 x 1 ml	1 x 5 ml	5 x 5 ml
Nuvia aPrime 4A	12009280	–	–
Nuvia cPrime	12009281	–	–
CHT Type I, 40 µm	12009255	12009253	12009254
CHT Type II, 40 µm	12009259	12009257	12009258
CHT Type I, 80 µm	12009256	–	–
CHT Type II, 80 µm	12009260	–	–
CHT XT, 40 µm	12009261	–	–
CFT Type II, 40 µm	12009252	12009240	12009251
MPC Type I, 40 µm	12009279	–	–

Additional Information

Visit bio-rad.com/NuviaaPrime4A and bio-rad.com/NuviaPrime for more details about these resins.

Visit bio-rad.com/CHTGuide to download our ceramic hydroxyapatite application guide.

Visit bio-rad.com/EconoFit to view the complete EconoFit product line offering.

Visit bio-rad.com/MixedMode to view other prepacked formats and bulk media offerings.

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EconoFit Columns: Prepacked, disposable, low-pressure columns that are compatible with commonly used chromatography systems.

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Laboratories, Inc.**Life Science
Group

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