

# Got Purification Troubles?

## Improve Large Biomolecule Purification Productivity and Speed



### The Challenge

Are you purifying large biomolecules such as IgMs and viruses, but unable to get good purification efficiency and productivity with your ion exchange (IEX) resins? Traditional IEX resins have kinetic limitations due to nonoptimized pore sizes for large biomolecules, affecting purification productivity. Resins based on agarose base beads compress under high flow rates, making them nonideal for high-throughput purification (HTP).



### Purification Tip

Choose an IEX resin designed specifically for HTP large molecule purification. The resin should have a pore size optimized for large molecules and a particle size that can ensure higher flow rates without significantly increasing pressure. Be sure to screen multiple resins during your large biomolecule purification process development.



### Our Approach

Productive and efficient large biomolecule purification is possible when resin pore size accommodates increased biomolecule size. Internal spacer length and ligand density are also critical to the effective binding of larger biomolecules at high flow rates. Bio-Rad's Nuvia HP-Q Resin — a strong anion exchange resin — helps achieve high purification productivity and facilitates the HTP purification demanded by current processes.

IgM obtained from plasma fractionation showed dynamic binding capacity (DBC) in the range of 20–25 mg/ml with Nuvia HP-Q at a flow rate of 300 cm/hr. In contrast, other IEX resins marketed for large biomolecules showed lower DBC (Table 1). Refer to Bio-Rad bulletin 7078 for technical details on Nuvia HP-Q.

**Table 1. Superior DBC of Nuvia HP-Q at a high flow rate relative to other commercially available resins.**

Vendor/Product	Matrix Material	Particle Size, $\mu\text{m}$	Pressure, bar	Recommended Flow Rate, cm/hr <sup>1</sup>	DBC (IgM)
Bio-Rad/Nuvia HP-Q	UNOsphere epoxide	50	<3	300	+++ <sup>2</sup>
Vendor 2	Agarose	75	<3	300	+ <sup>3</sup>
Vendor 3	PS/DVB	50	<3	300	+ <sup>2</sup>
Vendor 4	PMMA	50	<3	300	+ <sup>2</sup>

<sup>1</sup> Recommended flow rate for industrial scale column (d > 30 cm).

<sup>2</sup> Externally tested for Bio-Rad Laboratories.

<sup>3</sup> Data obtained from vendor presentation.

Go to [bio-rad.com/Nuvia-HP-Q](https://www.bio-rad.com/Nuvia-HP-Q) and explore Nuvia HP-Q.



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# Innovative Products. Customized Solutions.

## Nuvia HP-Q Resin

Nuvia HP-Q will put you on your path to:

- More productive large biomolecule purification
- High-throughput purification processes
- Better reproducibility between processes

Go to [bio-rad.com/Nuvia-HP-Q](http://bio-rad.com/Nuvia-HP-Q) and explore the various features of Nuvia HP-Q.

### Ordering Information

Catalog #	Description
12006693	Nuvia HP-Q Media, 25 ml
12006691	Nuvia HP-Q Media, 100 ml
12006660	Nuvia HP-Q Media, 500 ml
12006659	Nuvia HP-Q Media, 5 L
12007023	Nuvia HP-Q Media, 10 L
12007022	Nuvia HP-Q Media, B.A., 25 ml
12007018	Nuvia HP-Q Media, B.A., 100 ml
12007019	Nuvia HP-Q Media, B.A., 500 ml
12007033	Nuvia HP-Q Media, B.A., 5 L
12006994	Nuvia HP-Q Media, B.A., 10 L
12007020	Foresight Nuvia HP-Q Column, 1 ml
12007021	Foresight Nuvia HP-Q Column, 5 ml
12007013	Foresight Nuvia HP-Q RoboColumn Unit, 200 µl
12007014	Foresight Nuvia HP-Q RoboColumn Unit, 600 µl
12006908	Foresight Nuvia HP-Q Plates, 20 µl

## Services and Support

We offer multiple service and support levels to deliver solutions tailored to your needs.

- Method development
- Process development
- Custom resins
- Column packing support
- Global technical support



Process purification bottles, columns, and plates.

## Global Supplier

We are a global supplier of process resins with more than 30 support sites across six continents. Contact your regional Bio-Rad Process Chromatography Specialist at [process@bio-rad.com](mailto:process@bio-rad.com) or call our customer service at 1-800-4-BIORAD (1-800-424-6723). Connect with us for the latest product information.



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## Screen Our Process Resins Today



Go to [bio-rad.com/ResinSample](http://bio-rad.com/ResinSample) and request a sample today.

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**Sweden** 46 08 555 127 00 **Switzerland** 41 0617 17 9555 **Taiwan** 886 2 2578 7189 **Thailand** 66 2 651 8311 **United Arab Emirates** 971 4 8187300  
**United Kingdom** 44 01923 47 1301

