GeloPure Q

Ion Exchange Chromatography Media

Technical Datasheet

2464 Norwood street SW,
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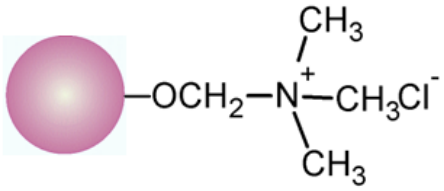
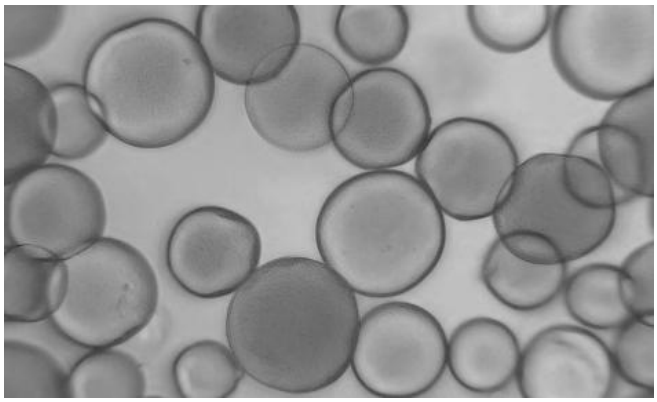
GeloPure Q

GeloPure Q strong anion exchanger is a surface-modified, highly cross-linked medium with dextran scaffold structure. It delivers high dynamic binding capabilities and maintains stability even at elevated flow rates. The optimized media's excellent performance presents a substantial chance to boost the throughput of downstream purification. In this ion exchange resin, the Quaternary amine functional group is attached to the Cross-linked agarose beads, which remains charged and maintains consistently high capacity over the entire working range, pH 2 to 12.





GeloPure Q base resin

Cross-linked spherical agarose beads are prepared by unique process from natural polysaccharides. Primarily composed of agarobiose repeating units (alternating D-galactose and 3,6-anhydro-L-galactose), finally beads are highly hydrophilic, minimize the non-specific binding. GeloPure Q, made from cross-linked agarose 4% beads, benefits from this structure by offering efficient flow velocity for large biomolecules. This helps improve performance when purifying large proteins and other biological substances.

Pressure-flow and Characteristics of GeloPure Q

GeloPure Q media consist of highly cross-linked agarose beads. It gives high binding capacities even in high flowrates. It allows flow rates of 600 cm/h through at 1 bar (14.5 psi, 0.1 MPa), enabling quick separation steps—especially useful in the early stages of purification

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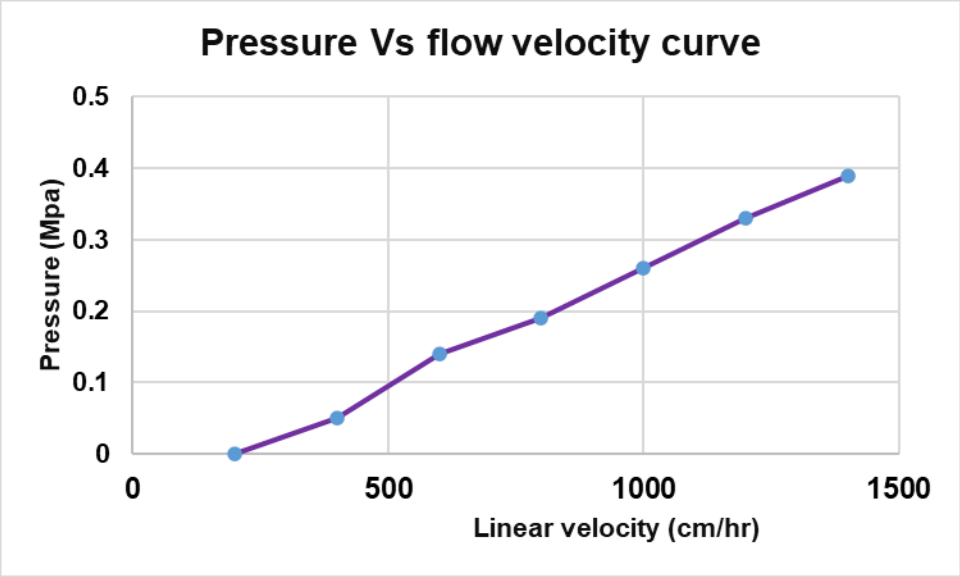
when fast processing is important. During washing and equilibration, the flow rate can be increased up to 750 cm/h for even faster operation**.** The basic characteristics of GeloPure Q weak anion exchange chromatography media are shown in Table 1.



Ion Exchange Type		Strong anion exchange
Ligand name		$-N^{+}(CH_3)_3$
Base Matrix		Highly Cross-linked agarose 4%
Particle Size (µm)		40 µm to 165 µm
pH Working Range		2 to 12
Operating Pressure		Up to 2 Bar (0.2 Mpa)
Ion Exchange Capacity (meq / ml-gel)		0.10-0.24
Chemical Stability		0.5N NaOH
Dynamic Binding Capacity (mg/ml)	HSA	>100
	human-γ-globulin	35
Supplied		Suspension in 20% Ethanol

Table 1. Basic characteristics of GeloPure Q strong anion exchange chromatography media

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Dynamic Binding Capacities of GeloPure Q

GeloPure Q have high efficiency in mass transfer and excellent Dynamic Binding Capacities, particularly for HSA (Human Normal Albumin) and large biomolecules like Immunoglobulins (IgG).

Because of these special qualities, GeloPure Q media can be used in downstream processes in the purification of biopharmaceuticals. With good reliability, protein separation has been scaled up using GeloPure Q from laboratory size and no discernible variations were seen in the purity of single peak at the time of protein separation.

Column: HiScale 16/20, 5 cm bed height, 10 ml bed volume

Flow rate: 1ml/min

Sample: 20mg/ml

Start Buffer: 30mM Phosphate buffer (pH 7.8-8.2) for HNA

50mM Tris-HCL (pH 9.5) for IgG

Elution Buffer: 30mM Sodium Acetate (pH 4.6) for HNA

50mM Tris-HCL+1M Nacl (pH 9.5) for IgG

Chemical Stability and Cleaning-In-Place

GeloPure Q, a cross-linked spherical GeloPure beads, offer strong chemical and physical stability, enabling effective clean-in-place (CIP) and sanitization protocols. This ensures high protein recovery over multiple cycles, prevents microbial growth, and supports hygienic, cost-effective purification which is the key considerations for preparative applications.

Cleaning-In-Place of GeloPure Q done with 0.5N NaOH and sometimes with Orthophosphoric acid. Most of the contaminated material should be removed from CIP with routine washing with 5 CV of 0.25N to 0.5N sodium hydroxide; however, extremely hydrophobic molecules may bind so firmly that they must be eluted using powerful detergents or organic solvents, such as 70% ethanol or 30% isopropyl alcohol.

After use of chromatographic media, it should be stored in 20% ethanol at room temperature.

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