GeloPure DEAE

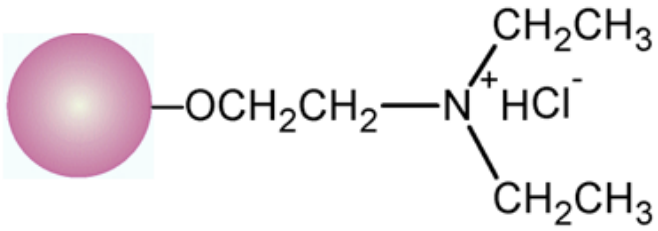
Ion Exchange Chromatography Media

Technical Data Sheet

2464 Norwood street SW,
Lenoir, North Carolina – 28645.USA

GeloPure DEAE

GeloPure DEAE is a weak anion Exchanger chromatography media based on spherical particles manufactured from crosslinked agarose. Each offers excellent flow properties, mechanical stability and chemical resistance. The ion exchange group is diethylaminoethyl, which remains charged and maintains consistently high capacity over the entire working range, pH 2 to 10. These ion exchangers are ideally suited for both laboratory and process scale chromatography of proteins, peptides, and other biomolecules.



GeloPure DEAE base resin

Agarose a natural polysaccharide with a unique structure. This gives agarose special pore structure, which plays an important role in chromatography. GeloPure DEAE, made from crosslinked agarose 4%, benefits from this structure by offering good mechanical strength and efficient flow of large biomolecules. This helps improve performance when purifying large proteins and other biological substances.

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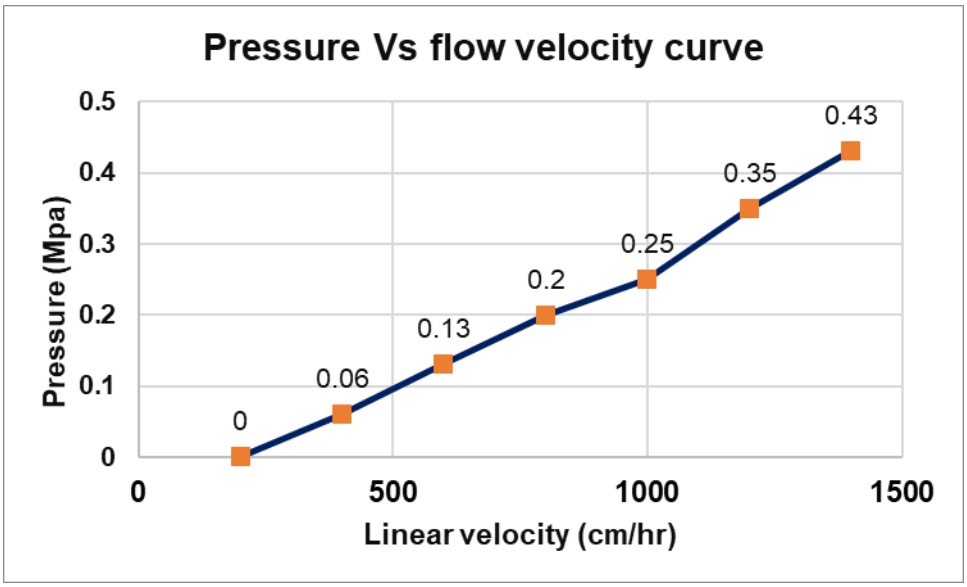

Pressure-flow and Characteristics of GeloPure DEAE

GeloPure DEAE is made from strong, cross-linked spherical agarose with excellent flow characteristics and high binding capacity. It allows flow rates of 300 to 400 cm/h through a 15 cm column at 1 bar (14.5 psi, 0.1 MPa), enabling quick separation steps—especially useful in the early stages of purification 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 DEAE weak anion exchange chromatography media are shown in Table 1.

Ion Exchange Type		Weak anion exchange
Ligand name		DEAE (diethylaminoethyl)
Base Matrix		Cross-linked agarose Beads 4%
Particle Size (µm)		30 µm to 165 µm
pH Working Range		2-12
Ion Exchange Capacity (meq /ml-gel)		0.08 to 0.20
Operating Pressure		Up to 2 bar (0.2 Mpa)
Dynamic Binding Capacity (mg/ml)	HSA	36
	Human Immunoglobulin	18
Supplied		Suspension in 20% Ethanol

Table . Basic characteristics of GeloPure DEAE weak anion exchange chromatography media

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Dynamic Binding Capacities of GeloPure DEAE

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

Because of these special qualities, GeloPure DEAE media can be used in downstream processes in the purification of biopharmaceuticals. With good reliability, protein separation has been scaled up using GeloPure DEAE 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 DEAE, a cross-linked spherical agarose 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 DEAE 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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