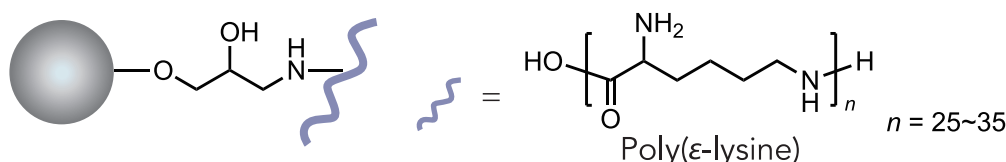


Affinity Chromatography

Cellufine™ ET clean L/S

Cellufine ET Clean is an affinity chromatography resin designed for the selective removal of endotoxins (lipopolysaccharides, LPS) from protein solutions.

It features immobilized poly(ϵ -lysine), a microbial poly(amino acid) composed of 30–35 lysine residues produced by *Streptomyces albulus*.



► Ligand and Adsorption Characteristics

Ligand:	Poly(ϵ -lysine)
Matrix:	Spherical cellulose beads
Particle Size:	Approx. 40–130 μm
Exclusion Limit:	ET Clean S: $\sim 2,000$ Da ET Clean L: $\geq 2 \times 10^6$ Da
Pressure Limit:	0.4 MPa (4 bar)
Operating Conditions:	pH 7.0, 0.02–1.0 mol/L NaCl, 0–25°C
CIP Stability:	Stable in 0.2 mol/L NaOH, suitable for repeated use

► Key Benefits

- Selective endotoxin removal without significant protein loss,
 - Compatible with physiological conditions,
 - Stable in cleaning solutions (0.2 M NaOH, 2 M NaCl);
- Ideal for biopharmaceutical purification and endotoxin control.

► Performance

ET Clean S

Removes endotoxin to 10–80 pg/mL
Protein recovery: $\sim 99\%$

ET Clean L

Removes endotoxin to < 10 pg/mL
Low adsorption of acidic proteins under low salt conditions

