Product Data Sheet

Product Name: Poly-L-lysine (M.W 70000~150000)
Cat. No.: GC19601

Chemical Properties

Cas. No.	25988-63-0	
Formula	M.Wt	70000~150000
Solubility	Storage	Store at -20°C, stored under nitrogen
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.	
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.	
Structure		

Background

Poly-L-lysine (M.W 70000~150000) is a polymer consists of numerous L-lysine with great biocompatibility [1]. Poly-L-lysine shows a wide range of antimicrobial activity and is stable at high temperatures and under both acidic and alkaline conditions[2]. The mechanism of the inhibitory effect of Poly-L-lysine on microbial growth is the electrostatic adsorption to the cell surface of microorganisms on the basis of the poly-cationic property [2]. Poly-L-lysine has effectively been used to adhere biological material such as human red blood cells, mouse leukemic cells, and marine dinoflagellates to glass coverslips[3]. Poly-L-lysine has been widely used as a coating material for porous biomass carrier particles to increase the density of immobilized *Escherichia coli* cells[4]. Poly-L-lysine is widely used in imaging identification and bio-silicification, not only as antimicrobial or antiviral drug carriers of proteins, and nucleic acids but also as adjuvants, modifiers, temples, or catalysts for certain drugs [5].

References:
[1] Stagi L, Sini M, Carboni D, et al. Modulating the poly-l-lysine structure through the control of the protonation–deprotonation state of l-lysine[J]. Scientific Reports, 2022, 12(1): 19719.

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[2] Yoshida T, Nagasawa T. ε-Poly-l-lysine: microbial production, biodegradation and application potential[J]. Applied microbiology and biotechnology, 2003, 62(1): 21-26.
[3] Botes L, Price B, Waldron M, et al. A simple and rapid scanning electron microscope preparative technique for delicate “gymnodinioid” dinoflagellates[J]. Microscopy research and technique, 2002, 59(2): 128-130.
[4] Huang J, Yamaji H, Fukuda H. Immobilization of Escherichia coli cells using porous support particles coated with cationic polymers[J]. Journal of bioscience and bioengineering, 2007, 104(2): 98-103.
[5] Chen S, Huang S, Li Y, et al. Recent advances in epsilon-poly-L-lysine and L-lysine-based dendrimer synthesis, modification, and biomedical applications[J]. Frontiers in Chemistry, 2021, 9: 659304.

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