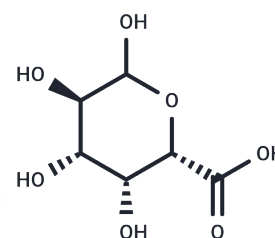


Polygalacturonic acid

Chemical Properties

CAS No. :	25990-10-7
Formula:	(C ₆ H ₁₀ O ₇) _x
Molecular Weight:	194.139
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Polygalacturonic acid (Galacturonic acid polymer) is a transparent, gel-like polymer that constitutes a key component of the plant cell wall, and Polygalacturonic acid has been applied in the synthesis of silver nanoparticles (AgNPs), acting as an antioxidant and anti-inflammatory agent to protect cells from ROS-induced damage and promote wound healing, while Polygalacturonic acid nanoparticles additionally exhibit antimicrobial properties, providing multifunctional applications in biomedical research and nanomaterial development.
Targets(IC50)	Reactive Oxygen Species
In vitro	The Polygalacturonic acid-hyaluronate composite hydrogel conjugated with Ibuprofen can effectively prevent epidural fibrosis (a severe adhesive scar tissue disorder) in adult male rats after laminectomy, while improving local inflammatory control efficiency and reducing the side effects of Ibuprofen [1]. The Polygalacturonic acid-hyaluronate composite hydrogel (PGA-HA, concentration 2%, volume 200 μ L) exhibited only low cytotoxicity against mouse fibroblast L929 cells after 24 hours of treatment [1].
In vivo	In the regulation of immune function and intestinal microbiota in mice with ulcerative colitis (UC), oral administration of Polygalacturonic acid showed more pronounced effects on intestinal mucosal lamina propria immunity and gut microbiota modulation, while intravenous injection of Polygalacturonic acid demonstrated superior benefits in splenic immune regulation [2].

Solubility Information

Solubility	H ₂ O: < 1 mg/mL (insoluble) 0.1 M NaOH: 8.00 mg/mL (41.21 mM), when pH is adjusted to 11 with NaOH. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.1509 mL	25.7546 mL	51.5092 mL
5 mM	1.0302 mL	5.1509 mL	10.3018 mL
10 mM	0.5151 mL	2.5755 mL	5.1509 mL
50 mM	0.103 mL	0.5151 mL	1.0302 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Lin CY, et al. Ibuprofen-conjugated hyaluronate/polygalacturonic acid hydrogel for the prevention of epidural fibrosis. *J Biomater Appl.* 2016 May;30(10):1589-600.

Song J, et al. Combination of lipopolysaccharide and polygalacturonic acid exerts antitumor activity and augments anti-PD-L1 immunotherapy. *Int J Biol Macromol.* 2024 Nov;281(Pt 1):136390.

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