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Pectin

Cat. No.:	HY-W145518
CAS No.:	9000-69-5
Target:	Endogenous Metabolite; Bacterial; Antibiotic
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)

Pectin

BIOLOGICAL ACTIVITY

Description	Pectin is a heteropolysaccharide, derived from the cell wall of higher plants. Pectin involves in the formation of nanoparticles as a delivery vehicle of agents. Pectin is also an adsorbent, a broad-spectrum antimicrobial agent that binds to bacteria toxins and other irritants in the intestinal mucosa, relieves irritated mucosa ^{[1][2][3]} .
IC₅₀ & Target	Human Endogenous Metabolite
In Vitro	<p>Pectin (5 mg/mL; 24, 48, and 72 h) shows low cytotoxicity on HepG2 cells, and can be made into nanoparticles (PPN), encapsulating Paclitaxel (HY-B0015), decreases the Paclitaxel cytotoxicity (%) from 55.6% to 21.7% at 72 h^[1].</p> <p>Pectin (3, 6 mg/mL; 48 h) inhibits Staphylococcus aureus ATCC 25923 growth, with a minimum inhibitory concentration (MIC) of 40 mg/mL^[2].</p> <p>Pectin inhibits Gram-negative Helicobacter pylori, a common human pathogen, shows highest antibacterial activity at pH 5.0, with a minimum inhibitory concentration (MIC) of 0.162 mg/mL and minimum bactericidal concentration (MBC) of 0.325 mg/mL^[2].</p> <p>Pectin displays lower antibacterial activity against E. coli with MICs of 25 mg/mL and 50 mg/mL and MBC values ranging between 25-50 mg/mL^[2].</p> <p>Pectin exhibits the antibacterial activity via its undissociated acid form^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Pectin serves as the nanoparticles encapsulating Paclitaxel (HY-B0015), (20 mg/kg; i.v.; single dose) significantly delays plasma clearance with detection of Paclitaxel possible up to 48 h in Balb/c mice^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Verma AK, et al. Pharmacokinetics and biodistribution of negatively charged pectin nanoparticles encapsulating paclitaxel. Cancer Nanotechnol. 2013;4(4-5):99-102.
- [2]. Ciriminna R, et al. Pectin: A Long-Neglected Broad-Spectrum Antibacterial. ChemMedChem. 2020 Dec 3;15(23):2228-2235.
- [3]. Wikiera A, et al. Prozdrowotne właściwości pektyn [Health-promoting properties of pectin]. Postepy Hig Med Dosw (Online). 2014 Jan 2;68:590-6. Polish.

Caution: Product has not been fully validated for medical applications. For research use only.

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