

## Pectin

Cat. No.:	HY-W145518
CAS No.:	9000-69-5
Target:	Endogenous Metabolite; Bacterial; Antibiotic
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

# Pectin

### BIOLOGICAL ACTIVITY

<b>Description</b>	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 <sup>[1][2][3]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Human Endogenous Metabolite
<b>In Vitro</b>	<p>Pectin (5 mg/mL; 24, 48, and 72 h) shows low cytotoxicity on HepG2 cells, and can be made into nanoparticles (PPN), encapsulating <a href="#">Paclitaxel</a> (HY-B0015), decreases the Paclitaxel cytotoxicity (%) from 55.6% to 21.7% at 72 h<sup>[1]</sup>.</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<sup>[2]</sup>.</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<sup>[2]</sup>.</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<sup>[2]</sup>.</p> <p>Pectin exhibits the antibacterial activity via its undissociated acid form<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Pectin serves as the nanoparticles encapsulating <a href="#">Paclitaxel</a> (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<sup>[1]</sup>.</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.

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

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