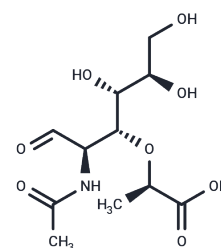


Ac-muramic acid

Chemical Properties

CAS No. :	10597-89-4
Formula:	C ₁₁ H ₁₉ N ₀ O ₈
Molecular Weight:	293.27
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Ac-muramic acid (MurNAc) is an essential component of bacterial peptidoglycan, the structural polymer of the cell wall. Ac-muramic acid is covalently linked to N-acetylglucosamine through β -1,4 linkages and may also be connected via the hydroxyl group on carbon-4 to the carbon atom of L-alanine, forming part of the peptide stem. MurNAc is central to bacterial cell wall biosynthesis studies.
Targets(IC50)	Others,NF- κ B,Antibacterial,p38 MAPK
In vitro	Methods: RAW264.7 cells were treated with Ac-muramic acid (100-300 μ g/mL, 48 hours), and the expression of related proteins was analyzed by Western Blot. Results: Ac-muramic acid inhibited the expression of iNOS and COX-2 proteins. [1]
In vivo	Method: Ac-muramic acid (10-40 mg/kg, once daily for 28 consecutive days) was orally administered to E. coli-infected mouse models to investigate the anti-inflammatory effects of N-Acetylmuramic acid. Results: Ac-muramic acid inhibited intestinal villus edema and thickening in mice and increased the level of secretory immunoglobulin A (sIgA) in the intestinal tract of mice. [1]

Solubility Information

Solubility	DMF: 2.5 mg/mL (8.52 mM),Sonication is recommended. H ₂ O: 80 mg/mL (272.79 mM),Sonication is recommended. PBS (pH 7.2): 10 mg/mL (34.1 mM),Sonication is recommended. DMSO: 30 mg/mL (102.29 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4098 mL	17.0491 mL	34.0983 mL
5 mM	0.682 mL	3.4098 mL	6.8197 mL
10 mM	0.341 mL	1.7049 mL	3.4098 mL
50 mM	0.0682 mL	0.341 mL	0.682 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

Wu Z, et al. N-acetylmuramic acid triggers anti-inflammatory capacity in LPS-induced RAW 264.7 cells and mice[J]. journal of functional foods, 2015, 13: 108-116.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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