

Histatin 5 acetate

Chemical Properties

CAS No. :

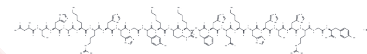
Formula: C135H199N51O35

Molecular Weight: 3096.35

Keep away from moisture

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	Histatin 5 acetate inhibits the activity of the host matrix metalloproteinases MMP-2 and MMP-9 with IC50s of 0.57 and 0.25 μ M, respectively.
Targets(IC50)	MMP
In vitro	Histatin 5 is a member of a family of low-molecular-weight salivary proteins secreted by parotid, submandibular, and sublingual glands. Using biotinylated gelatin as a substrate, Histatin 5 is found to inhibit the activity of the host matrix metalloproteinases MMP-2 and MMP-9 with IC50s of 0.57 and 0.25 μ M, respectively. To localize the domain responsible for this inhibition, three peptides containing different regions of Histatin 5 are synthesized and tested as inhibitors of MMP-9. Peptides comprising residues 1 to 14 and residues 4 to 15 of Histatin 5 show much lower inhibitory activities (IC50s, 21.4 and 20.5 μ M, respectively), while a peptide comprising residues 9 to 22 showed identical activity to Histatin 5 against MMP-9. Kinetic analysis of the inhibition of the Arg-gingipain reveals that Histatin 5 is a competitive inhibitor, affecting only the Km with a Ki of 15 μ M. Histatin 5 is an inhibitor of mitochondrial respiration. The human salivary antifungal peptide Histatin 5 is taken up by Candida albicans cells and associates intracellularly with mitochondria. Histatin 5 inhibits respiration of isolated C. albicans mitochondria as well as the respiration of intact blastoconidia in a dose and time-dependent manner. Histatin 5 at a concentration of 33 μ M inhibits state 2 respiration.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.323 mL	1.6148 mL	3.2296 mL
5 mM	0.0646 mL	0.323 mL	0.6459 mL
10 mM	0.0323 mL	0.1615 mL	0.323 mL
50 mM	0.0065 mL	0.0323 mL	0.0646 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

Gusman H, et al. Salivary histatin 5 is an inhibitor of both host and bacterial enzymes implicated in periodontaldisease. *Infect Immun.* 2001 Mar;69(3):1402-8.

Helmerhorst EJ, et al. The human salivary peptide histatin 5 exerts its antifungal activity through the formation of reactive oxygen species. *Proc Natl Acad Sci U S A.* 2001 Dec 4;98(25):14637-42.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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