

Product Data Sheet

Product Name: Pepstatin Ammonium

Cat. No.: GC36871

Chemical Properties

Cas. No.

SMILES CC(C[C@H](NC([C@@H](NC([C@@H](NC(CC(C)C)=O)C(C)C)=O)C(C)C)=O)[C@@H](O)CC(N[C@@H](C)C(N[C@@H](CC(C)C)[C@@H](O)CC(O)=O)=O)=O)C.N

Formula $C_{34}H_{66}N_6O_9$ M.Wt 702.92

Solubility DMSO: 41.67 mg/mL (59.28 mM); Storage Store at -20°C
Water: < 0.1 mg/mL (insoluble)

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

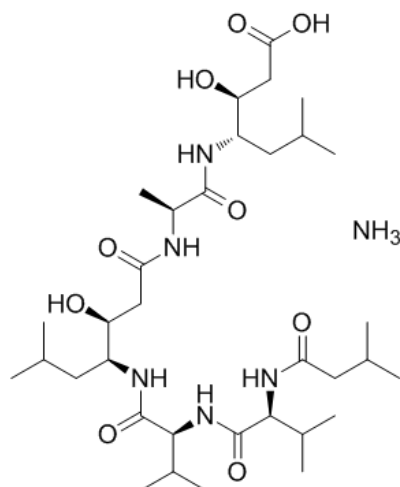
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Background

Pepstatin Ammonium is a specific aspartic protease inhibitor produced by actinomycetes, with IC₅₀s of 4.5 nM, 6.2 nM, 150 nM, 290 nM, 520 nM and 260 nM for hemoglobin-pepsin, hemoglobin-proctase, casein-pepsin, casein-proctase, casein-acid protease and hemoglobin-acid protease, respectively. Pepstatin Ammonium also inhibits HIV protease. IC₅₀: 4.5 nM (Hemoglobin-pepsin), 6.2 nM (Hemoglobin-proctase), 150 nM (Casein-pepsin), 260 nM (Hemoglobin-acid protease), 290 nM (Casein-proctase), 520 nM (Casein-acid protease)[1]

Pepstatin Ammonium is a specific acid protease inhibitor produced by actinomycetes, with IC₅₀s of 4.5 nM, 6.2 nM, 150 nM, 290 nM, 520 nM and 260 nM for hemoglobin-pepsin, hemoglobin-proctase, casein-pepsin, casein-proctase, casein-acid protease and hemoglobin-acid protease, respectively[1]. Pepstatin (Pepstatin A) inhibits the recombinant HIV protease with an IC₅₀ of 250 μM. Pepstatin shows no effect on cellular protein synthesis and probably does not exert severe cell toxicity[2].

Pepstatin has a very low toxicity, with LD₅₀s of 1090 mg/kg, 875 mg/kg, 820 mg/kg and 450 mg/kg

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for mice, rats, rabbits, and dogs by i.p. route, and >2000 mg/kg for all species by oral route. Pepstatin (0.5-50 mg/kg, p.o.) suppresses stomach ulceration of the pylorus in ligated Shay rats[1].

[1]. Umezawa H, et al. Pepstatin, a new pepsin inhibitor produced by Actinomycetes. J Antibiot (Tokyo). 1970 May;23(5):259-62. [2]. Seelmeier S, et al. Human immunodeficiency virus has an aspartic-type protease that can be inhibited by pepstatin A. Proc Natl Acad Sci U S A. 1988 Sep;85(18):6612-6.

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