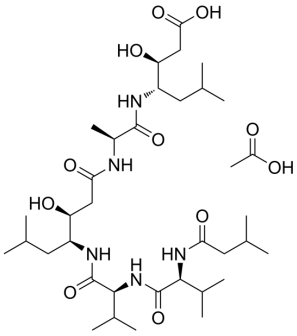
Pepstatin acetate

Cat. No.:	HY-P0018C
CAS No.:	28575-34-0
Molecular Formula:	$C_{36}H_{67}N_5O_{11}$
Molecular Weight:	745.94
Sequence Shortening:	{Ac}-VV-{Sta}-A-{Sta}
Target:	HIV Protease; Autophagy
Pathway:	Anti-infection; Metabolic Enzyme/Protease; Autophagy
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Pepstatin (Pepstatin A) acetate is a specific, orally active aspartic protease inhibitor produced by actinomycetes, with IC_{50}s 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 acetate also inhibits HIV protease[1][2] .
IC_{50} & Target	IC_{50}: 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]
In Vitro	Pepstatin (Pepstatin A) (7 μM; 48 h) affects the intracellular processing of HIV-specific gag protein[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Pepstatin (Pepstatin A) has a very low toxicity, with LD_{50}s of 1090 mg/kg, 875 mg/kg, 820 mg/kg and 450 mg/kg for mice, rats, rabbits, and dogs by i.p. route, and > 2000 mg/kg for all species by oral route[1]. Pepstatin (0.5-50 mg/kg, p.o.) suppresses stomach ulceration of the pylorus in ligated Shay rats[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Pylorus ligated male Wistar rats[1]
Dosage:	0.5, 1, 10 and 50 mg/kg
Administration:	Oral administration, 15 minutes after pyloric ligation
Result:	Effectively prevented stomach ulceration.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2022 Oct 10;e2203831.
- Cell Rep. 2021 Nov 2;37(5):109931.
- Environ Sci Technol. 2017 Dec 5;51(23):13938-13948.

- Cancer Lett. 2022 Mar 9;215629.
- Pharmacol Res. 2021 Dec 1;175:105985.

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REFERENCES

[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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