Specification

Pepstatin A A2205

Physical Description:	Solid
Product Code:	A2205
Product Name:	Pepstatin A
Specifications:	Assay (HPLC): min. 98 %
WGK:	1
Storage:	2-8°C
Molecular Formula:	$C_{34}H_{63}N_5O_9$
M:	685.91 g/mol
CAS:	26305-03-3
EINECS:	247-600-0
CS:	29241900

Comment

Pepstatin was isolated from *Streptomyces testaceus* and different actinomycetes. It is a strong inhibitor of acidic proteases ('Aspartic Proteases')\: Pepsin, HIV and MMTV protease, cathepsin D and renin (1-6). Pepstatin is not a strong toxin (1, 2). The working concentration ranges from 1 µM (0.7 µg/ml) to 5 µM, whereas the MMTV protease requires a higher dose (IC_{50} = 90 µM, ref. 5). Solutions are stable for approx. 1 week at \+4°C or 1 month at -20°C.Pepstatin may be dissolved in methanol or ethanol at a concentration of 1 mg/ml.. It is of low solubility in ethyl acetate, ether, benzene, chloroform, acetic acid, DMSO, pyridine and water (2). Under the assay conditions described in reference 3 (concentration 1 µM - 1 mM in DMSO), a precipitate of pepstatin A was observed.

Bibliography

(1)Aoyagi, T. *et al.* (1971) *J. Antibiotics* **24**, 687-694Effect of Pepstatin on acid proteases. (2)Umezawa, H. (1976) *Methods Enzymol.* **45**, 678-695Structures and activities of protease inhibitors of microbial origin. (3)Katoh, I. *et al.* (1987) *Nature* **329**, 654-656Inhibition of retroviral protease activity by an aspartyl proteinase inhibitor. (4)Von der Helm, K. *et al.* (1989) *FEBS Lett.* **247**, 349-352Inhibition of HIV replication in cell culture by the specific aspartic protease inhibitor Pepstatin A. (5)Menéndez-Arias, L. *et al.* (1992) *J. Biol. Chem.* **267**, 24134-24139Purification and characterization of the MMTV protease expressed in *Escherichia coli*. (6)Saiga, A. *et al.* (1993) *Arch. Virol.* **128**, 195-210The HTLV-1 protease expressed in *Escherichia coli* possesses aspartic proteinase activity.

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