Product Data Sheet

Product Name: Arphamenine B (hemisulfate)
Cat. No.: GC16829

Chemical Properties

Cas. No.	144110-38-3		
Chemical Name	αR-[(3S)-3-amino-6-[(aminoiminomethyl)amino]-2-oxohexyl]-4-hydroxy-benzenepropanoic acid, hemisulfate		
SMILES	O=C([C@@H](N)CCCNC(N)=N)C[C@H](C(O)=O)CC1=CC=C(O)C=C1.OS(O)(=O)=O		
Formula	$C_{16}H_{24}N_4O_4 \cdot 1/2H_2SO_4$	M.Wt	385.4
Solubility	≤0.2mg/ml in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Arphamenine B (hemisulfate)		

Background

Arphamenine B is a specific inhibitor of aminopeptidase B first isolated from bacteria [1]. Aminopeptidase B (Ap-B) is a Zn2+-dependent exopeptidase which selectively removes Arg and/or Lys residues from the N terminus of several peptide substrates. Aminopeptidase B has been involved in processing events occurring either during its intracellular transport along the secretory pathway or at the plasma membrane level [2].

In vitro: Arphamenine B inhibited the activity of aminopeptidase enzyme with an IC50 value of 9.0 μM [2]. Arphamenine B strongly inhibited transport by the oligopeptide/H+ symporter with the EC50 values of 15 to 67 μM. Arphamenine at concentration 100 μM acted as either ineffective or weak inhibitor of membrane-associated hydrolysis [4]. Arphamenine selectively suppressed dipeptide hydrolysis [4].

References:
[1] Umezawa H, AOYAGI T, OHUCHI S, et al. Arphamenines A and B, new inhibitors of

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aminopeptidase B, produced by bacteria[J]. The Journal of antibiotics, 1983, 36(11): 1572-1575.
[2] Balogh A, Cadel S, Foulon T, et al. Aminopeptidase B: a processing enzyme secreted and associated with the plasma membrane of rat pheochromocytoma (PC12) cells[J]. Journal of Cell Science, 1998, 111(2): 161-169.
[3] Sajid M, Isaac R E, Harrow I D. Purification and properties of a membrane aminopeptidase from Ascaris suum muscle that degrades neuropeptides AF1 and AF2[J]. Molecular and biochemical parasitology, 1997, 89(2): 225-234.
[4] Daniel H, Adibi S A. Functional separation of dipeptide transport and hydrolysis in kidney brush border membrane vesicles[J]. The FASEB journal, 1994, 8(10): 753-759.

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