Product Data Sheet

Product Name: CEP 1347
Cat. No.: GC12841

Chemical Properties

Cas. No.	156177-65-0		
Chemical Name	(5S,6S,8S)-methyl 2,11-bis((ethylthio)methyl)-5-methyl-13-oxo-6,7,8,13,14,15-hexahydro-5H-16-oxa-4b,8a,14-triaza-5,8-methanodibenzo[b,h]cyclooct[jkl]cyclopenta[e]-as-indacene-6-carboperoxoate		
SMILES	O=C([C@@H](C1)[C@]2(C)O[C@@H]1N3C4=C5N2C(C=CC(CSCC)=C6)=C6C5=C(CNC7=O)C7=C4C8=C3C=CC(CSCC)=C8)OOC		
Formula	$C_{33}H_{33}N_3O_5S_2$	M.Wt	615.76
Solubility	<6.16mg/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	CEP 1347		

Background

CEP-1347, also called KT 7515, is an inhibitor of the c-Jun N-terminal kinase (JNK) signaling pathway, with an IC50 value for JNK1 activation of 20 ± 2 nM in rat embryonic motoneurons [1].

The JNK pathway, also known as the stress-activated protein kinase (SAPK) pathway, is one of the signaling cascades that mediate the apoptotic death in response to a variety of stressful stimuli. JNK activation by phosphorylation is important for neuronal cell death after injury in vivo and after trophic factor withdrawal in vitro [2].

CEP-1347 induced neuronal survival. JNK1 activity in untreated cell cultures increased approximately fourfold within 24 hr after plating. As early as 15 min after the application of CEP-1347 at 500 nM, the activity of JNK1 sharply decreased to ~50% of control levels. For the next 24 hr, the activity of JNK1 continued to decrease. Cultures rich in motoneurons were grown in the presence of CEP-1347 at increasing concentrations, and the IC50 for JNK1 activity at 22 hr was 21 ± 2 nM, whereas the EC50 for cell survival at 5 d was 20 ± 2 nM [1].

CEP-1347 can affect noise-induced hearing loss. Data showed that hearing thresholds 2 d before noise exposure showed no significant difference between the noise-exposed control and treated group. Hearing threshold shifts in all guinea pigs 2 d after the noise exposure. By day 6 after exposure, threshold shifts were significantly less in the CEP-1347 group than in the noise-exposed control group. By 2 weeks after exposure, the difference between the two groups became more pronounced [2].

References:
[1]. Maroney AC, Glicksman MA, Basma AN, et al. Motoneuron apoptosis is blocked by CEP-1347 (KT 7515), a novel inhibitor of the JNK signaling pathway[J]. The Journal of neuroscience, 1998, 18(1): 104-111.
[2]. Pirvola U, Liang XQ, Virkkala J, et al. Rescue of hearing, auditory hair cells, and neurons by CEP-1347/KT7515, an inhibitor of c-Jun N-terminal kinase activation[J]. The Journal of Neuroscience, 2000, 20(1): 43-50.

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