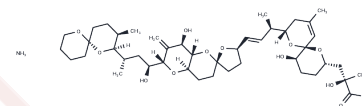


Okadaic acid ammonium salt

Chemical Properties

CAS No. : 175522-42-6
 Formula: C44H71NO13
 Molecular Weight: 822.046
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	Okadaic acid ammonium salt is a marine toxin that acts as an inhibitor of protein phosphatases (PP), with the highest affinity for PP2A (IC50 = 0.1-0.3 nM), while also inhibiting PP1, PP3, PP4, and PP5, but not PP2C. By increasing the phosphorylation of various proteins, it functions as a tumor promoter and induces tau protein phosphorylation, commonly used to establish Alzheimer's disease models.
Targets(IC50)	Others
In vitro	Okadaic acid ammonium salt at concentrations ranging from 0-100 nM and exposure times of either 24 or 48 hours has been shown to inhibit the proliferation of AGS, MNK-45, and Caco 2 cell lines[3]. Moreover, at a specific concentration of 10 nM and an incubation period of 8 hours, this compound enhances Drp1 phosphorylation and mitochondrial fission in rat cortical neurons[4]. These findings are supported by a Cell Proliferation Assay conducted on the aforementioned cell lines, with the results clearly indicating a suppression in their proliferation rates under the specified conditions[3].
In vivo	When administered unilaterally to the lateral amygdala in female wild-type C57BL/6 mice aged 6 to 8 months, okadaic acid ammonium salt at a dosage of 100 µM induces Tau phosphorylation and protein aggregation in anatomically distinct regions of the brain 24 hours after injection.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2165 mL	6.0824 mL	12.1647 mL
5 mM	0.2433 mL	1.2165 mL	2.4329 mL
10 mM	0.1216 mL	0.6082 mL	1.2165 mL
50 mM	0.0243 mL	0.1216 mL	0.2433 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kleppe R, et al. Cell Death Inducing Microbial Protein Phosphatase Inhibitors--Mechanisms of Action. *Mar Drugs*. 2015 Oct 22;13(10):6505-20.

Valdiglesias V, et al. Okadaic acid: more than a diarrheic toxin. *Mar Drugs*. 2013 Oct 31;11(11):4328-49.

del Campo M, et al. Okadaic acid toxin at sublethal dose produced cell proliferation in gastric and colon epithelial cell lines. *Mar Drugs*. 2013;11(12):4751-4760.

Cho MH, et al. Increased phosphorylation of dynamin-related protein 1 and mitochondrial fission in okadaic acid-treated neurons. *Brain Res*. 2012 May 15;1454:100-10.

Baker S, et al. A local insult of okadaic acid in wild-type mice induces tau phosphorylation and protein aggregation in anatomically distinct brain regions. *Acta Neuropathol Commun*. 2016;4:32.

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