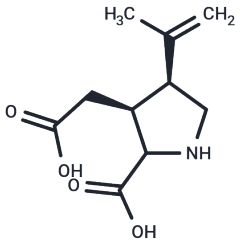
Data Sheet (Cat.No.T15643)

TargetMol

Kainic acid

Chemical Properties



CAS No. : 487-79-6

Formula: C10H15NO4

Molecular Weight: 213.23

Storage: Keep away from direct sunlight,Keep away from moisture
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	Kainic acid is an excitatory amino acid receptor agonist (EC50=16.2 μM). Kainic acid is an effective excitatory toxic agent. Kainic acid induces epileptic seizures.
Targets(IC50)	Others
In vitro	**METHODS**: After the NSC-34 mouse motor neuron cell line was treated with Kainic acid (0.1 mM, 0.5 mM, 1 mM) for 24 and 48 hours, the cell viability was detected by the MTT method. **RESULTS**: Kainic acid induced excitotoxic injury, with an IC50 value of approximately 0.5 mM. [1]
In vivo	**METHODS**: To study the effect of Kainic acid on epileptic seizures, Kainic acid (30 mg/kg) was intraperitoneally injected into juvenile (20 mg/kg) or adult (30 mg/kg) male Slack+/+ and Slack−/− mice. **RESULTS**: After injection of 30 mg/kg of Kainic acid, grade 3 or above epileptic seizures occurred in mice within 20 minutes. Different mouse strains have different sensitivities to Kainic acid. For example, Slack - / - mice are more prone to severe epileptic seizures and status epilepticus (SE), and have a higher mortality rate than Slack+/+ mice. [2]

Solubility Information

Solubility	H2O: 50 mg/mL (234.49 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.5 mg/mL (11.72 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.6898 mL	23.4489 mL	46.8977 mL
5 mM	0.938 mL	4.6898 mL	9.3795 mL
10 mM	0.469 mL	2.3449 mL	4.6898 mL
50 mM	0.0938 mL	0.469 mL	0.938 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

Anjum A, et al. NeuroAid™-II (MLC901) provides neuroprotection and enhances neuronal cell survival against kainic acid-induced excitotoxicity in vitro by activating the PI3K/AKT pathway. Futur J Pharm Sci 11, 31 (2025).
Skrabak D, et al. Slack K+ channels limit kainic acid-induced seizure severity in mice by modulating neuronal excitability and firing. Commun Biol. 2023 Oct 11;6(1):1029.