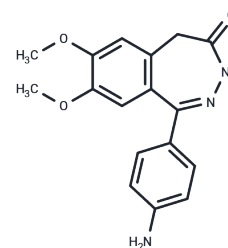


CFM-2

Chemical Properties

CAS No. :	178616-26-7
Formula:	C17H17N3O3
Molecular Weight:	311.34
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	CFM-2, a potent and selective non-competitive antagonist of AMPAR (AMPA), exhibits anticonvulsant activity across various seizure models.
Targets(IC50)	iGluR
In vitro	CFM-2 inhibits the extracellular signal-regulated kinase (ERK1/2) pathway, reduces phosphorylation of cAMP-responsive element-binding protein (CREB), and suppresses cyclin D1 expression. It upregulates cell cycle regulators and tumor suppressor proteins p21 and p53, consequently decreasing lung adenocarcinoma cell populations in the G2 and S phases of the cell cycle.
In vivo	Pretreatment with CFM-2 delayed the progression of seizure rank during repeated administration of pentylenetetrazole. At the end of the period of repeated pentylenetetrazole treatment (6 weeks), the mean seizure score was 0 in vehicle-treated controls, 4.3 in animals treated with vehicle + pentylenetetrazole, 2.2 in rats treated chronically with CFM-2 (20 µmol/kg i.p.) + pentylenetetrazole and 1.0 in rats treated repeatedly with CFM-2 (50 µmol/kg i.p.) + pentylenetetrazole. CFM-2 was also able to antagonize the long-term increase in sensitivity of the convulsant effects of GABA function inhibitors in pentylenetetrazole-kindled animals [1]. CFM-2 has been proven to possess anticonvulsant activity in various models of seizures [2]. Intrathecal application of two selective non-competitive AMPAR antagonists, CFM-2 (25 and 50 µg) and GYKI 52466 (50 µg), significantly attenuated mechanical and thermal hypersensitivities on the ipsilateral hind paw at 2 and 24 h post-CFA injection. Neither CFM-2 nor GYKI 52466 affected the contralateral basal responses to thermal and mechanical stimuli [4].

Solubility Information

Solubility	DMSO: 150 mg/mL (481.79 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 mg/mL (6.42 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2119 mL	16.0596 mL	32.1192 mL
5 mM	0.6424 mL	3.2119 mL	6.4238 mL
10 mM	0.3212 mL	1.606 mL	3.2119 mL
50 mM	0.0642 mL	0.3212 mL	0.6424 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

- De Sarro G, et al. Effects of some AMPA receptor antagonists on the development of tolerance in epilepsy-prone rats and in pentylenetetrazole kindled rats. *Eur J Pharmacol.* 1999 Mar 5;368(2-3):149-59.
- Rizzo M, et al. Determination of new 2,3-benzodiazepines in rat plasma using high-performance liquid chromatography with ultraviolet detection. *J Chromatogr B Biomed Sci Appl.* 1999 Aug 20;731(2):207-15.
- Stepulak A, et al. AMPA antagonists inhibit the extracellular signal regulated kinase pathway and suppress lung cancer growth. *Cancer Biol Ther.* 2007 Dec;6(12):1908-15.
- Park JS, et al. Role of spinal cord alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptors in complete Freund's adjuvant-induced inflammatory pain. *Mol Pain.* 2008 Dec 30;4:67.

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