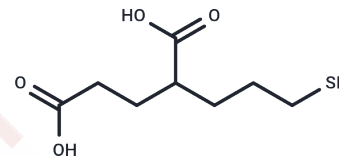


## 2-MPPA

## Chemical Properties

CAS No. :	254737-29-6
Formula:	C <sub>8</sub> H <sub>14</sub> O <sub>4</sub> S
Molecular Weight:	206.26
Storage:	Store at low temperature Powder: -20°C for 3 years   In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



## Biological Description

Description	2-MPPA (GPI-5693) is an orally active, selective, and potent inhibitor of glutamate carboxypeptidase II (GCP II) (IC <sub>50</sub> : 90 nM) and also a NAALADase inhibitor, used in the study of neurological diseases.
Targets(IC <sub>50</sub> )	Carboxypeptidase
In vitro	The application of 2-MPPA (1-20 μM) had no effect on the intrinsic membrane properties of CA3 pyramidal neurons recorded in vitro in whole-cell current clamp or voltage clamp mode. [3]
In vivo	2-MPPA (30 mg/kg intraperitoneally administered) increased jumping behavior in morphine-dependent mice. Opioid-dependent mice treated with 2-MPPA (30 mg/kg, intraperitoneal injection) showed a large number of episodes of tooth trembling. [1] 2-MPPA (10, 30, or 100mg/kg orally) significantly alleviated dizoxepine (0.1mg/kg) - induced PPI deficits in mice in a dose-dependent manner. [2]

## Solubility Information

Solubility	H <sub>2</sub> O: 8 mg/mL (38.79 mM),Sonication is recommended. DMSO: 80 mg/mL (387.86 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: 3.3 mg/mL (16 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

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	1mg	5mg	10mg
1 mM	4.8482 mL	24.2412 mL	48.4825 mL
5 mM	0.9696 mL	4.8482 mL	9.6965 mL
10 mM	0.4848 mL	2.4241 mL	4.8482 mL
50 mM	0.097 mL	0.4848 mL	0.9696 mL

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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

Kozela E, et al. 2-MPPA, a selective glutamate carboxypeptidase II inhibitor, attenuates morphine tolerance but not dependence in C57/Bl mice. *Psychopharmacology (Berl)*. 2005 Dec;183(3):275-84.

Takatsu Y, et al. Orally active glutamate carboxypeptidase II inhibitor 2-MPPA attenuates dizocilpine-induced prepulse inhibition deficits in mice. *Brain Res*. 2011 Jan 31;1371:82-6.

Sanabria ER, et al. GCP II (NAALADase) inhibition suppresses mossy fiber-CA3 synaptic neurotransmission by a presynaptic mechanism. *J Neurophysiol*. 2004 Jan;91(1):182-93.

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