

Product Name: 2-MPPA

Catalog No.: 5033

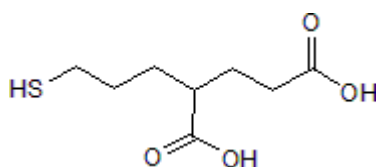
Batch No.: 1

CAS Number: 254737-29-6

IUPAC Name: 2-(3-Mercaptopropyl)pentanedioic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₄O₄S
Batch Molecular Weight: 206.26
Physical Appearance: White solid
Solubility: water to 100 mM
DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.08 (Ethyl acetate:Petroleum ether [1:1])
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	46.58	6.84	
Found	46.7	6.81	0.05

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Product Name: 2-MPPA

Catalog No.: 5033

Batch No.: 1

CAS Number: 254737-29-6

IUPAC Name: 2-(3-Mercaptopropyl)pentanedioic acid

Description:

Selective glutamate carboxypeptidase II (GCP II) inhibitor ($IC_{50} = 90$ nM). Selective for GCP II over NMDA, kainate and AMPA glutamate receptors and MMP-1, -2, -3, -7, -9, ACE and NEP metalloproteases. Antinociceptive in a rat model of neuropathic pain and protects against motor neuron death in familial amyotrophic lateral sclerosis mice. Orally bioavailable.

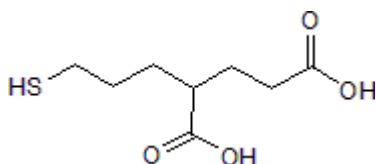
Physical and Chemical Properties:

Batch Molecular Formula: $C_8H_{14}O_4S$

Batch Molecular Weight: 206.26

Physical Appearance: White solid

Batch Molecular Structure:



Storage: Store at $-20^{\circ}C$. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

water to 100 mM

DMSO to 100 mM

CAUTION: The stability of this compound in aqueous solution is largely dependent on pH and oxygen saturation of the media. To avoid oxidation to the disulfide derivative it is essential to degas the media by passage of Argon prior to preparation of an aqueous solution.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a $45-60^{\circ}C$ water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at $-20^{\circ}C$ or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Majer et al (2003) Synthesis and biological evaluation of thiol-based inhibitors of glutamate carboxypeptidase II: discovery of an orally active GCP II inhibitor. *J.Med.Chem.* **46** 1989. PMID: 12723961.

Ghadge et al (2003) Glutamate carboxypeptidase II inhibition protects motor neurons from death in familial amyotrophic lateral sclerosis models. *Proc.Natl.Acad.Sci.U.S.A.* **100** 9554. PMID: 12876198.

Vornov et al (2013) Pharmacokinetics and pharmacodynamics of the glutamate carboxypeptidase II inhibitor 2-MPPA show prolonged alleviation of neuropathic pain through an indirect mechanism. *J.Pharmacol.Exp.Ther.* **346** 406. PMID: 23776202.

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Tocris Bioscience is an R&D Systems company
USA & CANADA Tel: (800) 343-7475 EUROPE Tel: +44 (0)1235 529449 CHINA Tel: +86 (21) 52380373
www.RnDSystems.com

