Gly-Pro-Glu

Cat. No.: HY-117483

CAS No.: 32302-76-4

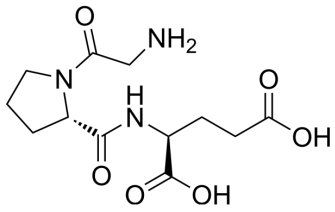
Molecular Formula: $C_{12}H_{19}N_3O_6$

Molecular Weight: 301.3

Target: Others

Pathway: Others

Storage: Sealed storage, away from moisture and light
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 66.67 mg/mL (221.27 mM; ultrasonic and adjust pH to 2 with 1M HCl)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	3.3190 mL	16.5948 mL	33.1895 mL
	5 mM	0.6638 mL	3.3190 mL	6.6379 mL
	10 mM	0.3319 mL	1.6595 mL	3.3190 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Gly-Pro-Glu is a neuroactive peptide with a potent action on acetylcholine release. Gly-Pro-Glu is the N-terminal tripeptide of insulin-like growth factor-I. Gly-Pro-Glu inhibits glutamate binds to N-methyl-D-aspartate (NMDA) receptor with an IC_{50} value of 14.7 μM. Gly-Pro-Glu can be used for the research of neuroprotection [1][2].

IC_{50} & Target

IC50: 14.7 μM (glutamate binds to NMDA receptor)[1]

In Vitro

Gly-Pro-Glu (0-100 μM) potentiates the potassium evoked release of both acetylcholine and dopamine, increases K^+ evoked acetylcholine release even at concentrations of 0.1 nM and significantly enhances evoked dopamine release[1].
Gly-Pro-Glu (1-1000 μM) shows an inhibition of L-[^{3}H]glutamate binding with an IC_{50} value of 14.7 μM[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Gly-Pro-Glu (300 mg; i.p. once per day; on day 0, 6 and 12) shows an in vivo effect protecting the temporal cortical somatostatinergic system from Abeta insult.[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Ovariectomized rats with Abeta25-35 injection[2]
Dosage:	300 mg
Administration:	Intraperitoneal injection; 300 mg per day; on day 0, 6 and 12
Result:	Recovered Abeta25-35-induced the reduction of somatostatin (SRIF) content and SRIF receptor density, and reduced the inhibitory effect of SRIF on adenylyl cyclase activity.

REFERENCES

[1]. Sara VR, et al. Identification of Gly-Pro-Glu (GPE), the aminoterminal tripeptide of insulin-like growth factor 1 which is truncated in brain, as a novel neuroactive peptide. Biochem Biophys Res Commun. 1989 Dec 15;165(2):766-71.

[2]. Aguado-Llera D, et al. Gly-Pro-Glu protects beta-amyloid-induced somatostatin depletion in the rat cortex. Neuroreport. 2004 Aug 26;15(12):1979-82.

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