

L-Glutamic acid monosodium salt

Chemical Properties

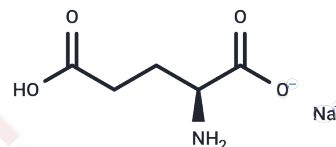
CAS No. : 142-47-2

Formula: $C_5H_8NO_4 \cdot Na$

Molecular Weight: 169.11

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	L-Glutamic acid monosodium salt (MSG) (Monosodium glutamate) is an activator of mGlu1 receptor.
Targets(IC50)	Apoptosis,Ferroptosis,GluR,iGluR
In vitro	Monosodium glutamate(MSG) induces apoptosis in human B cells. It has a more potent apoptotic effect in na ⁺ ve B cells compared to memory B cell population[3]. Low doses of L-monosodium glutamate promote neuronal growth and differentiation in vitro[4].
In vivo	Daily L-Glutamic acid monosodium salt(MSG) dietary consumption reduces pancreatic β -cell mass and enhances hemorrhages and fibrosis, but does not affect glucose homeostasis. High dietary MSG intake may exert a negative effect on the pancreas and such effect might become functionally significant in the presence or susceptibility to diabetes or NaCl. Parenteral MSG causes various changes in pancreatic islets such as hypertrophy, hyperplasia, decrease in acinar cells, α -cells and somatostatin cells and increase in fibrosis[1]. MSG may have some deleterious effects on the testes of Wistar rats and by extension may contribute to the causes of male infertility[2].
Cell Research	B cells are cultured with and with out increasing concentrations of MSG(1-100 mM) for 24 h. The number of early apoptotic cells and necrotic cells is determined using Annexin-V FITC/PI staining. (Only for Reference)

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble) H2O: 115 mg/mL (680.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.9133 mL	29.5666 mL	59.1331 mL
5 mM	1.1827 mL	5.9133 mL	11.8266 mL
10 mM	0.5913 mL	2.9567 mL	5.9133 mL
50 mM	0.1183 mL	0.5913 mL	1.1827 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.

Reference

Boonnate P, et al. PLoS One. 2015, 10(6):e20131595.

Aisha D. Alalwani. Middle East Fertility Society Journal. 2014, 19(4):274-280.

Jovic Z, et al. Bratisl Lek Listy. 2009, 110(10):636-40.

Aruffo C, et al. Dev Neurosci. 1987, 9(4):228-39.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481