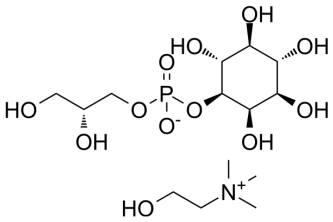
Glycerophosphoinositol choline

Cat. No.:	HY-B1337B
CAS No.:	425642-32-6
Molecular Formula:	$C_{14}H_{32}NO_{12}P$
Molecular Weight:	437.38
Target:	Endogenous Metabolite; nAChR
Pathway:	Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Glycerophosphoinositol choline is an essential nutrient that activates alpha7 nicotinic receptors and has analgesic and anti-inflammatory activity. Glycerophosphoinositol choline can affect diseases such as liver disease, atherosclerosis and neurological disorders[1][2].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Glycerophosphoinositol choline (0 or 70 μM, 4 days) can effectively mitigate apoptosis and maintain cell viability[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Rat pheochromocytoma cells PC12
Concentration:	0 or 70 μM
Incubation Time:	4 days
Result:	Showed the cell viability of 94% at 70 μM while cell viability of 83% at 0 μM. Reduced the number of cells with DNA breaks (characteristic of apoptosis) by 8.5% at 70 μM compared to the no treatment group.

In Vivo

Glycerophosphoinositol choline (s.c., 0.2 and 100 mg/kg/h, 24 or 48 hours) can reduce postoperative injurious reflexes and effectively decreases tumor necrosis factor (TNF) release from macrophages in female C57/Bl6 mice[2].

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Animal Model:	Postoperative pain model of female C57/Bl6 mice[2]
Dosage:	0.2 and 100 mg/kg/h
Administration:	Subcutaneous injection, 24 or 48 hours
Result:	Reduced heat hypersensitivity after surgery with maximal efficacy after 48 h treatment and the ED_{50} value of choline dose was 1.7 mg/kg/h. Reduced hypersensitivity to punctate mechanical stimuli 48 hours after infusion in a dose-

	dependent manner and with the ED_{50} value of 4.7 mg/kg/h but not 24 hours.

CUSTOMER VALIDATION

- Cell Death Dis. 2022 Oct 3;13(10):845.
- Antioxidants (Basel). 2024 Jan 17;13(1):115.

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REFERENCES

[1]. M Q Holmes-McNary, et al. Apoptosis is induced by choline deficiency in fetal brain and in PC12 cells. Brain Res Dev Brain Res. 1997 Jul 18;101(1-2):9-16.

[2]. T J Rowley, et al. Antinociceptive and anti-inflammatory effects of choline in a mouse model of postoperative pain. Br J Anaesth. 2010 Aug;105(2):201-7.

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