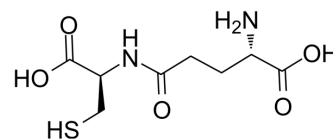


Gamma-glutamylcysteine

Cat. No.:	HY-113402		
CAS No.:	636-58-8		
Molecular Formula:	C ₈ H ₁₄ N ₂ O ₅ S		
Molecular Weight:	250		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 100 mg/mL (400.00 mM; Need ultrasonic)					
		Solvent	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	Concentration				
		1 mM		4.0000 mL	20.0000 mL	40.0000 mL
		5 mM		0.8000 mL	4.0000 mL	8.0000 mL
10 mM		0.4000 mL	2.0000 mL	4.0000 mL		
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (400.00 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	Gamma-glutamylcysteine (γ-Glutamylcysteine), a dipeptide containing cysteine and glutamic acid, is a precursor to glutathione (GSH). Gamma-glutamylcysteine is a cofactor for glutathione peroxidase (GPx) to increase GSH levels ^[1] .
IC₅₀ & Target	Human Endogenous Metabolite
In Vitro	Co-treatment of Aβ40 oligomers with Gamma-glutamylcysteine (γ-Glutamylcysteine; GGC) at 200 μM increased the activity of the antioxidant enzymes superoxide dismutase (SOD) and glutathione peroxidase (GPx) and leads to significant increases in the levels of the total antioxidant capacity (TAC) and GSH and reduces the GSSG/GSH ratio. Gamma-glutamylcysteine also upregulates the level of the anti-inflammatory cytokine IL-10 and reduced the levels of the pro-inflammatory cytokines (TNF-α, IL-6, and IL-1β) and attenuates the changes in metalloproteinase activity in oligomeric Aβ40-treated astrocytes ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Braidy N, et al. The Precursor to Glutathione (GSH), γ -Glutamylcysteine (GGC), Can Ameliorate Oxidative Damage and Neuroinflammation Induced by A β 40 Oligomers in Human Astrocytes. *Front Aging Neurosci.* 2019 Aug 8;11:177.

Caution: Product has not been fully validated for medical applications. For research use only.

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