

## Gamma-Glutamylcysteine

## Chemical Properties

CAS No. : 636-58-8

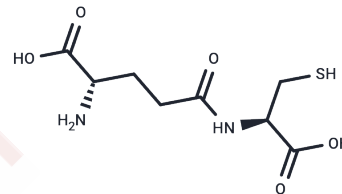
Formula: C<sub>8</sub>H<sub>14</sub>N<sub>2</sub>O<sub>5</sub>S

Molecular Weight: 250.27

Store at low temperature

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

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Gamma-Glutamylcysteine is a natural dipeptide containing cysteine and glutamic acid, serving as a precursor to glutathione (GSH) and a cofactor for glutathione peroxidase (GPx). Gamma-Glutamylcysteine exhibits anti-inflammatory effects by upregulating IL-10 whilst downregulating TNF- $\alpha$ , IL-6, and IL-1 $\beta$ .
Targets(IC50)	Endogenous Metabolite, GPX, IL Receptor, TNF
In vitro	Gamma-Glutamylcysteine (200 $\mu$ M) was used to pre-incubate Homo sapiens astrocyte-like cells for 15 minutes, followed by treatment with A $\beta$ 40 oligomers (10 nM). After 24 hours, relevant biochemical indicators were measured. The research results indicate that Gamma-Glutamylcysteine can alleviate A $\beta$ 40 oligomer-induced oxidative damage and neuroinflammation by increasing GSH levels and reducing the GSSG/GSH ratio [1].

## Solubility Information

Solubility	Ethanol: $\geq$ 54.8 mg/mL, Sonication is recommended. DMSO: $\geq$ 52 mg/mL, Sonication is recommended. H <sub>2</sub> O: 80 mg/mL (319.65 mM), Sonication is recommended. ( $<$ 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	3.9957 mL	19.9784 mL	39.9568 mL
5 mM	0.7991 mL	3.9957 mL	7.9914 mL
10 mM	0.3996 mL	1.9978 mL	3.9957 mL
50 mM	0.0799 mL	0.3996 mL	0.7991 mL

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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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

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

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