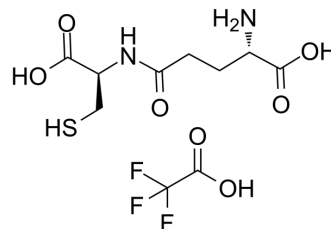


## Gamma-glutamylcysteine TFA

<b>Cat. No.:</b>	HY-113402A
<b>CAS No.:</b>	283159-88-6
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>15</sub> F <sub>3</sub> N <sub>2</sub> O <sub>7</sub> S
<b>Molecular Weight:</b>	364.3
<b>Target:</b>	Interleukin Related; TNF Receptor; Endogenous Metabolite
<b>Pathway:</b>	Immunology/Inflammation; Apoptosis; Metabolic Enzyme/Protease
<b>Storage:</b>	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (274.50 mM; Need ultrasonic)					
	H <sub>2</sub> O : 100 mg/mL (274.50 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		2.7450 mL	13.7250 mL	27.4499 mL
<b>5 mM</b>			0.5490 mL	2.7450 mL	5.4900 mL	
	<b>10 mM</b>		0.2745 mL	1.3725 mL	2.7450 mL	
Please refer to the solubility information to select the appropriate solvent.						
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (6.86 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.86 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (6.86 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Gamma-glutamylcysteine (γ-Glutamylcysteine) TFA, an intermediate in glutathione (GSH) synthesis, is a dipeptide served as an essential cofactor for the antioxidant enzyme glutathione peroxidase (GPx). Gamma-glutamylcysteine TFA also upregulates the level of the anti-inflammatory cytokine IL-10 and reduces the levels of the pro-inflammatory cytokines (TNF-α, IL-6, and IL-1β). Gamma-glutamylcysteine TFA attenuates the changes in metalloproteinase activity in oligomeric Aβ40-treated astrocytes <sup>[1]</sup> .			
<b>IC<sub>50</sub> &amp; Target</b>	IL-10	IL-6	IL-1β	Human Endogenous Metabolite

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## REFERENCES

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

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