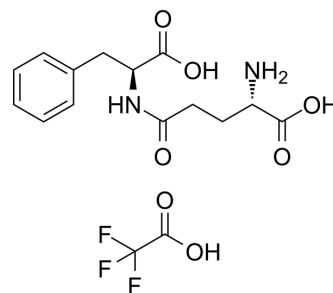


## γ-Glu-Phe TFA

Cat. No.:	HY-101399A
CAS No.:	2828432-42-2
Molecular Formula:	C <sub>16</sub> H <sub>19</sub> F <sub>3</sub> N <sub>2</sub> O <sub>7</sub>
Molecular Weight:	408.33
Sequence:	γ-Glu-Phe
Sequence Shortening:	γ-EF
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Sealed storage, away from moisture
	Powder    -80°C    2 years
	-20°C    1 year



\* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 250 mg/mL (612.25 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		2.4490 mL	12.2450 mL	24.4900 mL
	5 mM		0.4898 mL	2.4490 mL	4.8980 mL
	10 mM		0.2449 mL	1.2245 mL	2.4490 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

γ-Glu-Phe TFA (γ-Glutamylphenylalanine TFA) is synthesized by *Bacillus amyloliquefaciens* (GBA) and *Aspergillus oryzae* (GAO). γ-Glu-Phe TFA or the post-enzymatic reaction mixture enhances the umami intensity of commercial soy sauce and model chicken broth<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

#### In Vitro

γ-Glu-Phe, γ-Glu-Met and γ-Glu-Val, are identified in sourdough by liquid chromatography-tandem mass spectrometry in MRM mode. γ-Glutamyl dipeptides are found in higher concentrations in sourdough fermented with *L. reuteri* when compared to the chemically acidified controls. Proteolysis is an important factor for generation of γ-glutamyl dipeptides. Sensory evaluation of bread reveals that sourdough bread with higher concentrations of γ-glutamyl dipeptides ranks higher with respect to the taste intensity when compared to regular bread and type I sourdough bread. Sourdough breads fermented with *L. reuteri* LTH5448 and *L. reuteri* 100-23 differ with respect to the intensity of the salty taste; this difference corresponds to a different concentration of γ-glutamyl dipeptides<sup>[2]</sup>.

---

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

---

## REFERENCES

---

- [1]. Yang J, et al. Synthesis and Sensory Characteristics of Kokumi  $\gamma$ -[Glu]<sub>n</sub>-Phe in the Presence of Glutamine and Phenylalanine: Glutaminase from *Bacillus amyloliquefaciens* or *Aspergillus oryzae* as the Catalyst. *J Agric Food Chem*. 2017 Oct 4;65(39):8696-8703.
- [2]. Zhao CJ, et al. Synthesis of Taste-Active  $\gamma$ -Glutamyl Dipeptides during Sourdough Fermentation by *Lactobacillus reuteri*. *J Agric Food Chem*. 2016 Oct 12;64(40):7561-7568.
- [3]. Zhao CJ, et al. Synthesis of Taste-Active  $\gamma$ -Glutamyl Dipeptides during Sourdough Fermentation by *Lactobacillus reuteri*. *J Agric Food Chem*. 2016 Oct 12;64(40):7561-7568.
- 

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA