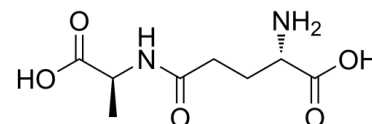


Data Sheet

Product Name:	γ-L-Glutamyl-L-alanine
Cat. No.:	CS-0043596
CAS No.:	5875-41-2
Molecular Formula:	C ₈ H ₁₄ N ₂ O ₅
Molecular Weight:	218.21
Target:	CaSR; Endogenous Metabolite
Pathway:	GPCR/G Protein; Metabolic Enzyme/Protease
Solubility:	H ₂ O : ≥ 50 mg/mL (229.14 mM); DMSO : 1 mg/mL (4.58 mM); Need ultrasonic)



BIOLOGICAL ACTIVITY:

γ-L-Glutamyl-L-alanine, composed of gamma-glutamate and alanine, is a proteolytic breakdown product of larger proteins. γ-L-Glutamyl-L-alanine is a natural substrate of the γ-Glutamylcyclotransferase. γ-L-Glutamyl-L-alanine is a positive modulator of calcium-sensing receptor (CaR) function^{[1][2][3][4]}. *In Vitro*: γ-L-Glutamyl-L-alanine (γ-Glu-Ala) shows the potency for Ca²⁺_i mobilization in CaR (calcium-sensing receptor)-expressing HEK-293 cells, with an EC₅₀ of 4.8 μM^[3].

γ-L-Glutamyl-L-alanine shows the potency for Ca²⁺_i mobilization in human parathyroid cells with an EC₅₀ of 13.9 μM^[3].

γ-L-Glutamyl-L-alanine (20 μM) suppress PTH secretion from normal human parathyroid cells^[3].

γ-L-Glutamyl-L-alanine is a substrate for glutaminase B^[4].

References:

[1]. Ovchinnikova OG, et al. Structure of a polysaccharide from *Providencia rustigianii* O11 containing a novel amide of 2-acetamido-2-deoxygalacturonic acid with L-glutamyl-L-alanine. *Carbohydr Res.* 2012 Feb 15;349:95-102.

[2]. York MJ, et al. gamma-Glutamylcyclotransferase: inhibition by D-beta-aminoglutaryl-L-alanine and analysis of the solvent kinetic isotope effect. *Eur J Biochem.* 1989 Sep 1;184(1):97-101.

[3]. Broadhead GK, et al. Allosteric modulation of the calcium-sensing receptor by gamma-glutamyl peptides: inhibition of PTH secretion, suppression of intracellular cAMP levels, and a common mechanism of action with L-amino acids. *J Biol Chem.* 2011 Mar 18;286(11):8786-97.

[4]. Tatsuo Yamamoto, et al. Further Characterization of Glutaminase Isozymes from *Pseudomonas aeruginosa*.

CAIndexNames:

L-Alanine, L-γ-glutamyl-

SMILES:

OC([C@@H](N)CCC(N[C@@H](C)C(O)=O)=O)=O

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

Tel: 610-426-3128

Fax: 888-484-5008

E-mail: sales@ChemScene.com

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