

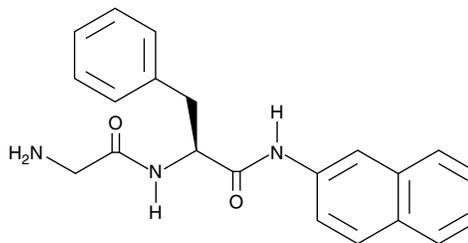
Product Information



Gly-Phe-β-naphthylamide

Item No. 14634

CAS Registry No.: 21438-66-4
Formal Name: glycyl-N-2-naphthalenyl-L-phenylalaninamide
Synonym: H-Gly-Phe-BNA
MF: C₂₁H₂₁N₃O₂
FW: 347.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 243, 283 nm



Laboratory Procedures

For long term storage, we suggest that Gly-Phe-β-naphthylamide be stored as supplied at -20°C. It should be stable for at least two years.

Gly-Phe-β-naphthylamide is supplied as a crystalline solid. A stock solution may be made by dissolving the Gly-Phe-β-naphthylamide in the solvent of choice. Gly-Phe-β-naphthylamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of Gly-Phe-β-naphthylamide in these solvents is approximately 1, 20, and 25 mg/ml, respectively.

Gly-Phe-β-naphthylamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Gly-Phe-β-naphthylamide should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Gly-Phe-β-naphthylamide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Cathepsin C is a lysosomal cysteine protease with broad exopeptidase activity that progressively removes dipeptides from various protein and polypeptides substrates.¹ Aside from its role in post-translational processing, cathepsins may also participate in apoptotic signaling pathways by targeting cytosolic caspases and proapoptotic proteins.² Gly-Phe-β-naphthylamide is a substrate of cathepsin C that accumulates within the lysosome. Hydrolysis by cathepsin C degrades Gly-Phe-β-naphthylamide into fragments that do not easily diffuse through the lysosomal membrane, leading to a loss of lysosome membrane integrity.³ This compound has been used to study intralysosomal hydrolysis, lysosomal membrane permeability, and the function of cathepsin C.^{1,3} At 50 μM, Gly-Phe-β-naphthylamide can inhibit the cathepsin-dependent activation of caspase-8.²

References

1. Qiu, G.-F., Feng, H.-Y., and Yamano, K. Expression and purification of active recombinant cathepsin C (dipeptidyl aminopeptidase I) of kuruma prawn *Marsupenaeus japonicus* in insect cells. *J. Biomed. Biotechnol.* **2009**, 1-6 (2009).
2. Baumgartner, H.K., Gerasimenko, J.V., Thorne, C., *et al.* Caspase-8-mediated apoptosis induced by oxidative stress is independent of the intrinsic pathway and dependent on cathepsins. *Am. J. Physiol. Gastrointest. Liver Physiol.* **293**(1), 296-307 (2007).
3. Jadot, M., Colmant, C., Wattiaux-De Coninck, S., *et al.* Intralysosomal hydrolysis of glycyl-L-phenylalanine 2-naphthylamide. *Biochem. J.* **219**(3), 965-970 (1984).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14634

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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