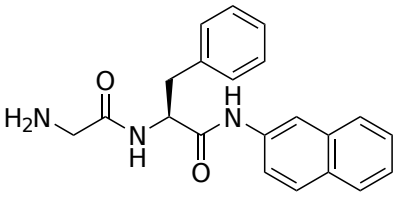
Gly-Phe-2-naphthylamide

Catalog Number: 20054
Unit Size: 10 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	24 months upon receiving

Chemical Properties

Appearance	Solid
Molecular Weight	347.42
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	N/A
Emission Wavelength	N/A

Applications

Gly-Phe-2-naphthylamide is a selective substrate for Cathepsin C, a lysosomal cysteine protease that catalyzes the sequential removal of dipeptides from various proteins and polypeptides. This compound is widely employed in biochemical assays to investigate intralysosomal hydrolysis, assess lysosomal membrane integrity, and explore the functional role of Cathepsin C in cellular processes. Upon hydrolysis by Cathepsin C, Gly-Phe-2-naphthylamide is cleaved into products that are retained within the lysosome, leading to disruption of lysosomal membrane integrity. Gly-Phe-2-naphthylamide is particularly useful in studies of proteolytic activity and lysosomal dynamics, as well as apoptosis research. At a concentration of 50 µM, Gly-Phe-2-naphthylamide has been demonstrated to inhibit the Cathepsin C-mediated activation of caspase-8, making it a critical tool for dissecting the molecular mechanisms involved in programmed cell death. Its ability to impair lysosomal membrane integrity and modulate caspase-8 activity underscores its utility in studies of lysosomal function, protease activity, and apoptotic signaling pathways, particularly in the context of protease-mediated apoptosis.