

Product Data Sheet

Product Name: GPDA (GPN)

Cat. No.: GC30321

Chemical Properties

Cas. No. 65096-46-0

SMILES O=C([C@H](CCC1)N1C(CN)=O)NC2=CC=C([N+])([O-])=O)C=C2.O=S(C3=CC=C(C)C=C3)(O)=O

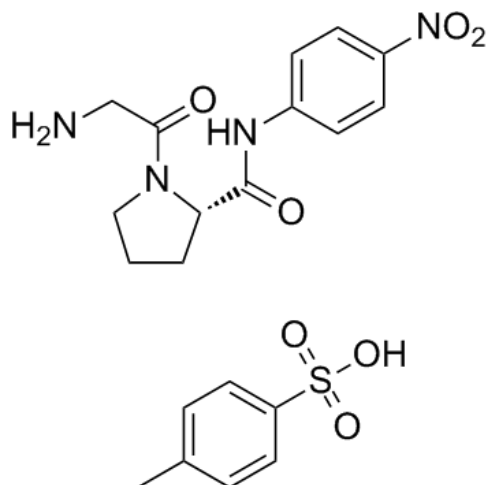
Formula $C_{20}H_{24}N_4O_7S$ M.Wt 464.49

Solubility DMSO : ≥ 48 mg/mL (103.34 mM) Storage Store at -20°C , protect from light

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



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

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Protocol

GPDA Enzyme Activity Assay

This protocol is adapted from research data and provided for reference only. Adjustments may be necessary based on specific experimental requirements.

- (1) Dissolve GPDA in 157.5mM Tris-HCl buffer (pH=7.9) to prepare a high-concentration stock solution (5mM). Aliquot and store at -20°C. Dissolve glycylglycine in Tris-HCl buffer (157.5mM, pH=7.9) to a concentration of 62.6mM.
- (2) Enzyme Sample Preparation: Use homogenates of human liver tissue, liver cancer tissue, or embryonic tissue, or serum samples. For tissue homogenization, add 0.25M sucrose solution at a 1:9 (w/v) ratio.
- (3) GPDA Enzyme Activity Detection: Reaction system: 50μL enzyme sample + 1mL reaction solution (containing 1.7mM GPDA substrate and 62.6mM glycylglycine). Incubate at 37°C for 30 minutes, then add 5 mL of 1M acetate buffer (pH=4.2) to terminate the reaction. Use a spectrophotometer to detect the absorbance of released p-nitroaniline at 405nm.

Precautions:

- (1) The substrate is light-sensitive. Store and handle it protected from light to slow degradation.
- (2) Post-mortem changes in tissue samples may affect enzyme activity (especially the stability of GPDA in microsomes is poor). GPDA is recommended to use fresh surgical samples rather than autopsy samples.
- (3) For your safety and health, please wear a lab coat and disposable gloves during operation.

References:

- [1] Kojima J, Ueno Y, Kasugai H, et al. Glycylproline dipeptidyl aminopeptidase and gamma-glutamyl transpeptidase in human hepatic cancer and embryonal tissues. Clin Chim Acta. 1987 Aug 31;167(3):285-91.

Background

GPDA (GPN) is the substrate for detecting glycylproline dipeptidyl aminopeptidase. GPDA (GPN) can be hydrolyzed by the corresponding enzyme, producing yellow p-nitroaniline. By monitoring the change in absorbance at 405nm, enzyme activity can be quantified^[1].

References:

- [1] Hino M, Fuyamada H, Hayakawa T, et al. X-Prolyl dipeptidyl-aminopeptidase activity, with X-proline p-nitroanilides as substrates, in normal and pathological human sera. Clin Chem. 1976

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