

GPP78

Chemical Properties

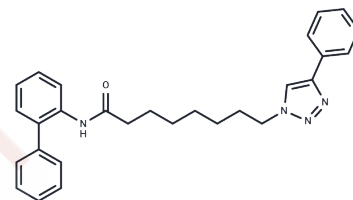
CAS No. : 1202580-59-3

Formula: C₂₇H₂₉N₅O

Molecular Weight: 439.55

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	GPP78 is a potent inhibitor of Nampt (IC ₅₀ : 3.0 nM for nicotinamide adenine dinucleotide (NAD) depletion). GPP78 is cytotoxic to neuroblastoma cell line SH-SY5Y cells (IC ₅₀ : 3.8 nM by inducing autophagy). GPP78 has anti-cancer and anti-inflammatory effects.
Targets(IC ₅₀)	Autophagy, NAMPT
In vitro	GPP78 appears truly cytotoxic in melanoma cell lines, while in the others it is mainly cytostatic. GPP78 inhibits the growth of most cell lines tested, with nanomolar potency (GI ₅₀) in cell lines derived from leukemia, lung, CNS, colon, melanoma, ovarian, renal, and prostate cancers. GPP78 (10 nM; 24-40 hours; SH-SY5Y cells) treatment with cells, punctate staining of LC3-II, and the formation of autophagolysosomes are observable. LC3-II is membrane-bound and is present in autophagosomes [1].
In vivo	GPP78 (i.p.; daily; 10 mg/kg; 1 hour or 6 hours after SCI; for 19 days; male adult CD1 mice) treatment decreases the severity of spinal cord trauma in SCI mice [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2751 mL	11.3753 mL	22.7505 mL
5 mM	0.455 mL	2.2751 mL	4.5501 mL
10 mM	0.2275 mL	1.1375 mL	2.2751 mL
50 mM	0.0455 mL	0.2275 mL	0.455 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Colombano G, et al. A novel potent nicotinamide phosphoribosyltransferase inhibitor synthesized via click chemistry. J Med Chem. 2010 Jan 28;53(2):616-23.

Esposito E, et al. The NAMPT inhibitor FK866 reverts the damage in spinal cord injury. J Neuroinflammation. 2012 Apr 10;9:66.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481