

PTP1B-IN-3 diammonium

Chemical Properties

CAS No. :

Formula: C₁₂H₁₃BrF₂N₃O₃P

Molecular Weight: 396.12

Appearance: no data available

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

Biological Description

Description	PTP1B-IN-3 diammonium is a highly effective and orally bioavailable inhibitor of the protein tyrosine phosphatase 1B (PTP1B) enzyme, with an IC ₅₀ value of 120 nM for both PTP1B and TCPTP. This compound exhibits potent antidiabetic and anticancer properties, as supported by extensive research [1] [2].
In vivo	In diet-induced obese (DIO) mice, PTP1B-IN-3 (compounds 3g) demonstrates a dose-dependent reduction of glucose levels, with 60%, 80%, and 100% inhibition observed at dosages of 1, 3, and 10 mg/kg, respectively, when administered orally 2 hours before a glucose challenge, showcasing an efficacious dose (ED 50) of 0.8 mg/kg. Furthermore, PTP1B-IN-3 effectively delays tumor onset in NDL2 Ptpn1 transgenic mice, extending the average period before tumor development from 28 to 75 days, when given orally at 30 mg/kg for 21 days. The compound also shows favorable pharmacokinetic properties in DIO mice, including good oral bioavailability (24%), slow clearance rate (0.71 mL/kg/min), and a substantial elimination half-life (6 hours). Although oral bioavailability decreases in higher species—rats (4%) and squirrel monkeys (2%)—remarkable exposure levels are still achieved with oral administration.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5245 mL	12.6224 mL	25.2449 mL
5 mM	0.5049 mL	2.5245 mL	5.049 mL
10 mM	0.2524 mL	1.2622 mL	2.5245 mL
50 mM	0.0505 mL	0.2524 mL	0.5049 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only. Not for Human or Veterinary or Therapeutic Use

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