

PTP1B/AKR1B1-IN-1

Chemical Properties

CAS No. :

Formula: C22H21NO4S2

Molecular Weight: 427.54

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	PTP1B/AKR1B1-IN-1 is a dual inhibitor targeting protein tyrosine phosphatase 1B (PTP1B) and aldose reductase (AKR1B1), with IC50s of 0.06 μ M for PTP1B and 4.3 μ M for AKR1B1. It also inhibits T-cell protein tyrosine phosphatase (TC-PTP) with an IC50 of 9 μ M. This compound acts as an insulin-mimetic in murine myoblasts, reduces AKR1B1-mediated sorbitol accumulation, and aids in managing blood glucose levels and inhibiting type 2 diabetes mellitus (T2DM) development [1].
Targets(IC50)	Reductase,Phosphatase
In vitro	PTP1B/AKR1B1-IN-1 exhibits tight binding affinity to PTP1B and AKR1B1 with K_i values of 4.6 μ M and 0.08 μ M, respectively. At 20 μ M for 24 hours, this compound shows negligible cytotoxicity in differentiated murine C2C12 myoblasts [1]. It also enhances insulin (10 μ M, 15 minutes)-stimulated Akt phosphorylation in the C2C12 cell line at the same concentration and duration [1]. Additionally, PTP1B/AKR1B1-IN-1 (2 μ M, 24 hours) significantly reduces sorbitol accumulation in the human lens epithelial cell line B3 (HLE) when co-incubated with 75 mM D-glucose for 24 hours [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.339 mL	11.6948 mL	23.3896 mL
5 mM	0.4678 mL	2.339 mL	4.6779 mL
10 mM	0.2339 mL	1.1695 mL	2.339 mL
50 mM	0.0468 mL	0.2339 mL	0.4678 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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