Product Data Sheet

Product Name: PTP Inhibitor IV
Cat. No.: GC15969

Chemical Properties

Cas. No.	329317-98-8		
Chemical Name	N,N'-[1,4-phenylenebis[(1-methylethylidene)-4,1-phenylene]]*bis*[1,1,1-trifluoro-methanesulfonamide		
SMILES	O=S(NC1=CC=C(C(C)(C)C2=CC=C(C(C)(C)C3=CC=C(NS(=O)(C(F)(F)F)=O)C=C3)C=C2)C=C1)(C(F)(F)F)=O		
Formula	$C_{26}H_{26}F_6N_2O_4S_2$	M.Wt	608.6
Solubility	≤25mg/ml in ethanol;25mg/ml in DMSO;30mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	PTP Inhibitor IV		

Background

IC50: 1.8, 2.5, 8.4, 13, 20, 6.4, and 6.7 μM for SHP-2, PTP1B, PTP-ε, PTP-Meg-2, PTP-σ, PTP-β, and PTP-μ, respectively

PTP Inhibitor IV is a protein tyrosine phosphatases (PTPs) inhibitor.

PTPs are reported to be important in the regulation of various signal transduction processes. Enzymes of this class are considered as potential therapeutic targets in the treatment of various diseases including inflammation, diabetes, as well as cancer. However, previously identified PTP inhibitors are peptide-based containing a highly charged component, which usually lack membrane permeability resulting in their limited utility in the inhibition of intracellular phosphatases.

In vitro: PTP inhibitor IV was identified as an uncharged, 1,4-di-substituted, phenyl-linked

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bis-trifluoromethylsulfonamido phosphate mimetic acting as a competitive, reversible, and active-site directed inhibitor. It was noticed that PTP inhibitor IV showed greatly increased potency not only on PTP1B but also on the phosphatases SHP-2 and Mu. Moreover, the interaction of the second SO2CF3 moiety in PTP inhibitor IV with conserved Arg residue of PTP might explain the increased inhibitory potency towards other PTPs in addition to PTP1B [1].

In vivo: Up to now, there is no animal in vivo data reported.

Clinical trial: So far, no clinical study has been conducted.

Reference:
[1] Huang, P. ,Ramphal, J.,Wei, J., et al. Structure-based design and discovery of novel inhibitors of protein tyrosine phosphatases. Bioor.Med.Chem. 11, 1835-1849 (2003).