

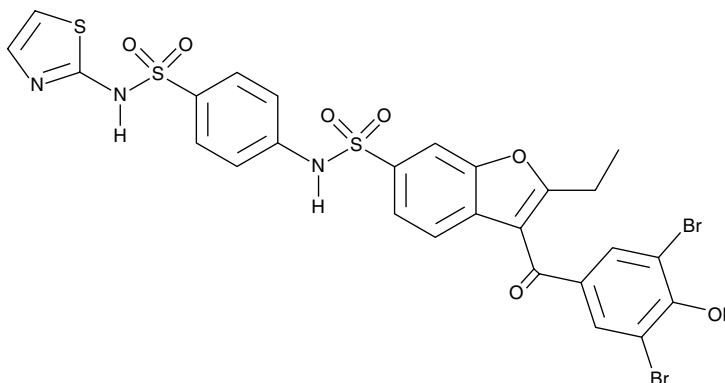
Product Information



PTP1B Inhibitor

Item No. 15782

CAS Registry No.: 765317-72-4
Formal Name: 3-(3,5-dibromo-4-hydroxybenzoyl)-2-ethyl-N-[4-[(2-thiazolylamino)sulfonyl]phenyl]-6-benzofuransulfonamide
Synonym: Protein Tyrosine Phosphatase 1B Inhibitor
MF: C₂₆H₁₉Br₂N₃O₇S₃
FW: 741.5
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 243, 284, 366 nm



Laboratory Procedures

For long term storage, we suggest that protein tyrosine phosphatase 1B (PTP1B) inhibitor be stored as supplied at -20°C. It should be stable for at least two years.

PTP1B inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the PTP1B inhibitor in the solvent of choice. PTP1B inhibitor is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of PTP1B inhibitor in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

PTP1B inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PTP1B inhibitor should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PTP1B inhibitor has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

PTP1B has critical roles in cell signaling relevant to diabetes, obesity, and cancer.¹⁻² PTP1B inhibitor is a cell-permeable allosteric inhibitor of PTP1B (IC₅₀s = 4 and 8 μM for 403 and 298 residue PTP1B forms, respectively).³ It binds reversibly and non-competitively, altering the conformation of the catalytic pocket.³⁻⁴ PTP1B inhibitor selectively increases the phosphorylation of the insulin receptor, insulin receptor substrate 1, and Akt, mimicking the action of insulin.³

References

1. Zhang, S. and Zhang, Z.-Y. PTP1B as a drug target: recent developments in PTP1B inhibitor discovery. *Drug Discov. Today* **12(9/10)**, 373-381 (2007).
2. Tonks, N.K. Protein tyrosine phosphatases - from housekeeping enzymes to master regulators of signal transduction. *FEBS J.* **280(2)**, 346-378 (2013).
3. Wiesmann, C., Barr, K.J., Kung, J., *et al.* Allosteric inhibition of protein tyrosine phosphatase 1B. *Nat. Struct. Mol. Biol.* **11(8)**, 730-737 (2004).
4. Li, S., Zhang, J., Lu, S., *et al.* The mechanism of allosteric inhibition of protein tyrosine phosphatase 1B. *PLoS One* **9(5)**, e97668 (2014).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/15782

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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