

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, PTPN1 Inhibitor, Tyrosine-protein Phosphatase Non-Receptor Type 1 Inhibitor

MF: C₂₆H₁₉Br₂N₃O₇S₃

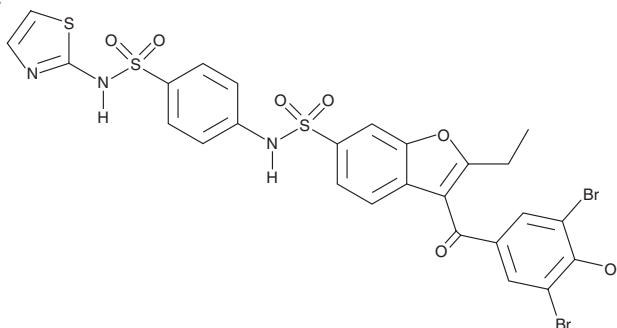
FW: 741.5

Purity: ≥70%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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

Description

Protein tyrosine phosphatase 1B (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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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