Product Data Sheet

Chemical Properties

Product Name: PTP Inhibitor I
Cas No.: 2491-38-5
M.Wt: 215.0
Formula: C8H7BrO2
Synonyms:
- α-Bromo-4-hydroxyacetophenone
- 2-Bromo-4′-hydroxyacetophenone
- 4-Hydroxyphenacyl bromide
- Protein Tyrosine Phosphatase Inhibitor I
- SHP-1 Inhibitor II

Chemical Name: 2-bromo-1-(4-hydroxyphenyl)-ethanone
Canonical SMILES: OC1=CC=C(C(CBr=O)C=C1
Solubility: ≥11.5mg/mL in DMSO
Storage: Store at RT

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Chromatin/Epigenetics
Pathways: Protein Ser/Thr Phosphatases

Description:
KI: 43 and 42 µM for SHP-1 and PTP1B, respectively.
PTP Inhibitor I is a tyrosine phosphatase (PTP) inhibitor.

Protein tyrosine phosphatases (PTPs) are considered to be involved in the etiology of diabetes mellitus, neural diseases such as Alzheimer’s and Parkinson’s disease, regulation of allergy and inflammation. PTPs are also considered to be responsible for the pathogens’ virulence.

In vitro: In previous study, the corresponding values of PTP Inhibitor I against PTP1B were determined to be $K_I$ of 42 μM, $kin_{act}$ of 0.57 min$^{-1}$, and $kin_{act}/K_I$ of 1.4*104 M$^{-1}$ min$^{-1}$, respectively. This study also showed that α-bromoacetophenone such as PTP Inhibitor I could provide an effective, neutral pY mimetic inhibitor of PTPs. While perturbation of the electronic properties of the phenyl ring did not significantly improve its potency against PTPs, attachment of a proper peptidyl moiety to the para position could improve both the potency and the selectivity substantially. In addition, since the covalent PTP inhibitor complex could be cleaved to regenerate the PTP activity photolytically, PTP Inhibitor I might provide a novel class of photolytic switch for controlling cellular signaling processes [1].

In vivo: Currently, there is no animal in vivo data reported.

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

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.