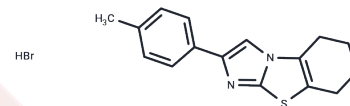


Pifithrin-β hydrobromide

Chemical Properties

CAS No. :	511296-88-1
Formula:	C16H17BrN2S
Molecular Weight:	349.29
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	Pifithrin-β hydrobromide (Cyclic PFT-α) is an inhibitor of p53; reversibly blocks p53-dependent transcriptional activation and apoptosis. Protects against neuronal death in models of stroke and neurodegenerative disorders. Active in vivo; protects mice from the side-effects of Y therapy associated with p53 induction. Suppresses self-renewal of embryonic stem cells. Also aryl hydrocarbon receptor (AHR) agonist, causes upregulation of AHR target gene CYP1A1 (EC50 = 1.1 μM).
Targets(IC50)	Ferroptosis, p53, MDM-2/p53
In vitro	PFTα molecule could not take a planar conformation required for AhR activation whereas Pifithrin-β hydrobromide showed a conformation similar to those of the prototypical AhR ligand β-naphthoflavone. In both cell lines, PFTα and Pifithrin-β hydrobromide provoked different responses related with AhR activation. However, when cyclization of PFTα to Pifithrin-β hydrobromide was hampered by acetylation of the exocyclic nitrogen, all these responses were not observed. These results lead to the conclusion that the activation of the AhR is probably caused by Pifithrin-β hydrobromide instead of PFTα.

Solubility Information

Solubility	DMSO: 13.89 mg/mL (39.77 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.86 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.863 mL	14.3148 mL	28.6295 mL
5 mM	0.5726 mL	2.863 mL	5.7259 mL
10 mM	0.2863 mL	1.4315 mL	2.863 mL
50 mM	0.0573 mL	0.2863 mL	0.5726 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.

Reference

- Christodoulou MS, et al. Synthesis and biological evaluation of imidazolo[2,1-b]benzothiazole derivatives, as potential p53 inhibitors. *Bioorg Med Chem*. 2011 Mar 1;19(5):1649-57.
- Xu D, Xu Y, Cui Q, et al. Cold atmospheric plasma as a potential tool for multiple myeloma treatment. *Oncotarget*. 2018, 9(26): 18002
- Da Pozzo E , La Pietra V , Cosimelli B , et al. p53 Functional Inhibitors Behaving Like Pifithrin- β Counteract the Alzheimer Peptide Non- β -amyloid Component Effects in Human SH-SY5Y Cells[J]. *ACS Chemical Neuroscience*, 2014, 5(5):390-399.
- Feng F, Wang Z, Li R, et al. Citrus alkaline extracts prevent fibroblast senescence to ameliorate pulmonary fibrosis via activation of COX-2. *Biomedicine & Pharmacotherapy*. 2019 Apr;112:108669
- Feng F, Wang Z, Li R, et al. Citrus alkaline extracts prevent fibroblast senescence to ameliorate pulmonary fibrosis via activation of COX-2[J]. *Biomedicine & Pharmacotherapy*. 2019 Apr;112:108669.
- Zhang H, Zhang L, Wu Z. Interaction of STIL with FOXM1 regulates SF3A3 transcription in the hepatocellular carcinoma development. *Cell Division*. 2025, 20(1): 1-14.
- Jiang Z, Sun X, Li Y, et al. Anlotinib induced ferroptosis through the p53/xCT/GPX4 pathway in non-small cell lung cancer. *Translational Oncology*. 2025, 53: 102289.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481