Product Data Sheet

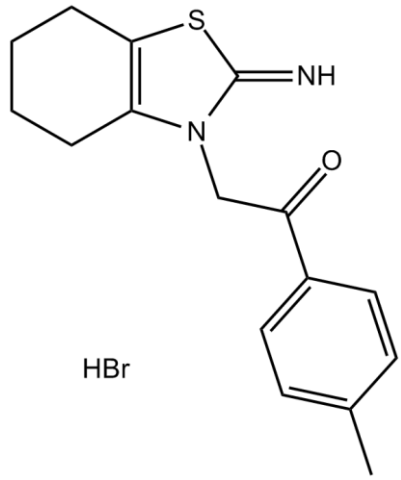
Chemical Properties

Product Name: Pifithrin-α (PFTα)

Cas No.: 63208-82-2

M.Wt: 367.3

Formula: C16H18N2OS.HBr



Chemical Name: 2-(2-imino-4,5,6,7-tetrahydro-1,3-benzothiazol-3-yl)-1-(4-methylphenyl)ethanone;hydrobromide

Canonical SMILES: CC1=CC=C(C=C1)C(=O)CN2C3=C(CCCC3)SC2=N.Br

Solubility: >17.45mg/mL in DMSO

Storage: Store at -20°C

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 : Apoptosis

Pathways: p53

Description:

Pifithrin-α is a synthetic, water-soluble and stable inhibitor of p53 [1].
Pifithrin-α is firstly found to block the activation of p53-responsive lacZ in ConA cells and reduce activation of endogenous cellular p53-responsive genes. In MEF cells transformed with E1a+ras,

10μM Pifithrin-α can inhibit the apoptosis of the cells and this anti-apoptotic activity is p53-dependent. Pifithrin-α also inhibits the growth arrest of human diploid fibroblasts induced by DNA damage but has no effect on p53-deficient fibroblasts. In addition, Pifithrin-α induces G2-arrest of cells after gamma irradiation [1].
Moerover, Pifithrin-α can also induce cell cycle arrest and growth arrest of embryonic stem cells. Treatment of Pifithrin-α significantly downregulates the protein lever of Nanog (a pluripotency marker).It is proved that the inhibition of p53 activity caused by Pifithrin-α has no effect on ES cell viability [2].

***Reference**:*

[1] Komarov PG, Komarova EA, Kondratov RV, Christov-Tselkov K, Coon JS, Chernov MV, Gudkov AV. A chemical inhibitor of p53 that protects mice from the side effects of cancer therapy. Science. 1999 Sep 10;285(5434):1733-7.
[2] Abdelalim EM, Tooyama I. The p53 inhibitor, pifithrin-α, suppresses self-renewal of embryonic stem cells. Biochem Biophys Res Commun. 2012 Apr 13;420(3):605-10.

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. Shortterm 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.

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