Product Name: HO-3867

Chemical Properties

Product Name: HO-3867

Cas No.: 1172133-28-6

M.Wt.: 464.55

Formula: C28H30F2N2O2

Chemical Name: (3E,5E)-3,5-bis(4-fluorobenzylidene)-1-((1-hydroxy-2,2,5,5-tetramethyl-2,5-dihydro-1H-pyrrol-3-yl)methyl)piperidin-4-one

Canonical SMILES: O=C(/C(C(CC1=CC(C)(C)N(O[H])C1(C)C/C2)=C/C3=CC=CC(F)=C(C3)=C)C2=C\C4=CC=CC(F)C=C4

Solubility: ≥18.15mg/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: JAK/STAT Signaling

Pathways: STAT

Description:
HO-3867 is a novel curcumin analog and a selective inhibitor of STAT3. [1] STAT3 (signal transducer and activator of transcription 3) belongs to the STAT protein family. It mediates various gene expressions for numerous cellular functions, including cell growth, division and apoptosis. HO-3867 selectively blocked STAT3 phosphorylation, transcription, and DNA binding without inhibiting other STATs proteins. It activated apoptosis in ovarian cancer cells and showed minimal toxicity to healthy cells. [2] HO-3867 also significantly inhibited the proliferation of
serum-stimulated SMCs and elevated the phosphorylated and total levels of PTENs in SMCs. [3] By inducing cell cycle arrest and apoptosis, HO-3867 reduced the high levels of pSTAT3 Ser727 in endometrial cancer cells. [4] In mice tumor xenograft, HO-3867 inhibited the tumor growth without toxic side effects, it also blocked PSTAT3/JAK1 and increased apoptotic marker cleaved Caspase 3/PARP. [2] [5] After rat carotid artery injury, HO-3867 inhibited neointima formation and upregulated PTEN expression. [3]

**Reference:**


**Protocol**

**Cell experiment:**

**Cell lines**

A2780 human epithelial ovarian cancer cell line, ovarian cancer cell lines used (SKOV3, OVCAR3, A2780R, and OV4)

**Preparation method**

Soluble in DMSO. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Reactive conditions**

**Applications**

HO-3867 was cytotoxic to A2780 and other ovarian cancer cell lines. HO-3867 (20 μmol/L) induced G2 -M cell cycle arrest in A2780 cells. HO-3867 induced apoptosis in A2780 cells. HO-3867 induced apoptosis and inhibited JAK/STAT3 signaling in human ovarian cancer cell lines.
Animal experiment [3]:

<table>
<thead>
<tr>
<th>Animal models</th>
<th>Ovarian cancer tumor xenografted mice model</th>
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<td>Dosage form</td>
<td>Oral gavage, 25, 50, and 100 ppm</td>
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Applications

In ovarian cancer tumor xenografted mice, HO-3867 inhibited the growth of xenograft tumor in mice. HO-3867 inhibited pSTAT3 and downregulated the STAT3-targeting proteins in vivo. HO-3867 (100 ppm p.o.) attenuated left-heart-failure-induced pulmonary hypertension by decreasing oxidative stress and increasing PTEN expression in the lung of rats.

Other notes

Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

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. 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.