Product Name: Apicidin
Revision Date: 6/30/2018

Product Data Sheet

Chemical Properties

Product Name: Apicidin
Cas No.: 183506-66-3
M.Wt: 623.78
Formula: C34H49N5O6

Chemical Name: (3S,6S,9S,12R)-3-[(2S)-butan-2-yl]-6-[(1-methoxyindol-3-yl)methyl]-9-(6-oxooctyl)-1,4,7,10-tetrazabicyclo[10.4.0]hexadecane-2,5,8,11-tetrone

Canonical SMILES: CCC(C)C1C(=O)N2CCCCC2C(=O)NC(=O)NC(=O)N1CC3=CN(C(=O)NC(C(=O)N1)CC3=CN(C4=C(C=C(C43)OC)CCCCC(=O)CC

Solubility: Limited solubility, soluble in DMSO or ethanol

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: DNA Damage/DNA Repair
Pathways: HDAC

Description:
Apicidin, a natural fugal metabolite, is a selective inhibitor of HDAC. Histone deacetylases (HDAC) are enzymes that remove acetyl groups from an ε-N-acetyl lysine amino acid on a histone. It has been revealed that histone acetyltransferase and histone deacetylase play important roles to either transcriptionally activate or repress gene expression through the reversible acetylation of lysine residues on a histone.
Apicidin has the potent and broad activity against apicomplexan parasites [1]. It has also been shown to have potent anti-angiogenesis activity and decrease HIF-1α levels in both human and mouse cancer cell lines [2].

The component has also been used extensively in vivo study to understand the role of HDAC in different physical processes. Apicidin exhibits anti-proliferative activity against different cancer cell lines in mice [3]. In a human colon HCT-116 carcinoma xenograft model, apicidin suppresses the tumor growth [4]. And it also exhibits the antitumor activity in a Ishikawa cell tumor xenograft model [5].

Reference:

Protocol

Cell experiment:

Cell lines HeLa cells

Preparation method The solubility of this compound in DMSO is limited. 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.

Reacting conditions 1 μg/mL; 24 hrs

Applications Apicidin exhibited long-lasting anti-proliferative activity against HeLa cells, up to 48 hrs after withdrawal.

Animal experiment [3]:

Animal models Ishikawa endometrial cancer xenografted mouse model
Dosage form: 5 mg/kg; i.p.; q.d., for 21 days

Applications: Significant inhibition of tumor growth was observed starting from day 15 after the Apicidin treatment. Apicidin (5 mg/kg) significantly inhibited tumor growth up to 53%.

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:

Product Citations

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.