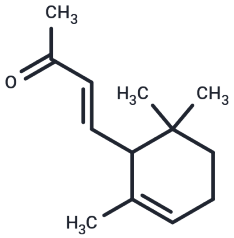
Data Sheet (Cat.No.TN3385)

TargetMol

alpha-Ionone

Chemical Properties



CAS No. : 127-41-3

Formula: C13H20O

Molecular Weight: 192.30

Storage: Keep away from direct sunlight
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	alpha-Ionone acts as an agonist for the olfactory receptor OR10A6. It induces apoptosis by activating OR10A6 and increasing the phosphorylation level of the LATS-YAP-TAZ signaling axis in the Hippo pathway, thereby inhibiting tumorigenesis and tumor progression in both in vitro and in vivo experiments.
Targets(IC50)	YAP
In vitro	Methods: A431 cells were treated with alpha-Ionone (0-1000 μM), and intracellular cAMP levels were detected. Results: alpha-Ionone increased cAMP levels in A431 cells in a dose-dependent manner, with an EC_{50} of 152.4 μM. Methods: HaCaT cells were treated with alpha-Ionone (100-250 μM). Results: alpha-Ionone inhibited the proliferation of HaCaT cells. Methods: A431 cells were treated with alpha-Ionone (0-200 μM) for 48 hours. Results: alpha-Ionone significantly inhibited the migration of A431 cells in a dose-dependent manner. Methods: A431 cells were treated with alpha-Ionone (100-200 μM). Results: alpha-Ionone increased the phosphorylation levels of LATS, YAP, and TAZ in A431 cells [1].
In vivo	Methods: In the A431 cell xenograft tumor model, alpha-Ionone (200 mg/kg) was intraperitoneally injected into experimental animals once every 3 days for 25 consecutive days. Results: alpha-Ionone activated OR10A6, thereby inhibiting the growth of A431 cell xenograft tumors [1].

Solubility Information

Solubility	DMSO: 160.00 mg/mL (832.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.2002 mL	26.001 mL	52.0021 mL
5 mM	1.040 mL	5.2002 mL	10.4004 mL
10 mM	0.520 mL	2.6001 mL	5.2002 mL
50 mM	0.104 mL	0.520 mL	1.040 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

Yoon YE, et al. A Food Odorant, α-Ionone, Inhibits Skin Cancer Tumorigenesis by Activation of OR10A6. Mol Nutr Food Res. 2024 Aug;68(15):e2400085.

Ozgen U, et al. A new sulfated alpha-ionone glycoside from Sonchus erzincanicus Matthews. Molecules. 2010 Apr 12;15(4):2593-9.