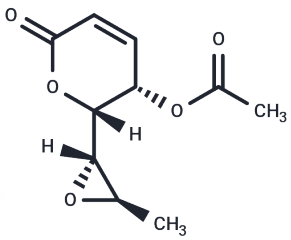
Data Sheet (Cat.No.TN9162)

TargetMol

Asperlin

Chemical Properties



CAS No. : 30387-51-0

Formula: C10H12O5

Molecular Weight: 212.199

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	Asperlin is an orally active marine-derived antibiotic with antifungal, anticancer, anti-inflammatory, and anti-atherosclerotic properties. It can induce apoptosis and increase reactive oxygen species (ROS) and DNA damage-related G2/M phase arrest, as well as ATM phosphorylation. Additionally, Asperlin effectively prevents HFD-induced obesity in vivo and modulates gut microbiota.
Targets(IC50)	Apoptosis,Bcl-2 Family,Reactive Oxygen Species,Antibacterial,NO Synthase,Antibiotic, COX,Interleukin,TNF
In vitro	Asperlin, at concentrations of 6-25 μM for 24-48 hours, inhibits cell growth in a dose-dependent manner, induces caspase-3 and PARP cleavage, decreases Bcl-2 levels, and triggers apoptosis. This apoptotic effect in HeLa cells can be blocked by NAC [1]. At 6-25 μM for 24 hours, Asperlin increases ROS and causes DNA damage-related G2/M phase arrest and ATM phosphorylation, which can be significantly blocked by NAC or the ATM inhibitor KU-55933 [1]. Asperlin also exhibits anti-inflammatory properties in macrophages at 5-40 μM for 12 hours, reducing the expression of iNOS and COX-2 induced by LPS, and decreasing the production of TNF-α and IL-1β in mouse peritoneal macrophages and RAW264.7 macrophage cells in a dose-dependent manner [3]. At 500 μg/ml for 1 day, Asperlin effectively controls tomato late blight and wheat leaf rust disease, showing a disease control value of 95% [4].
In vivo	Asperlin (40-80 mg/kg; oral administration; once daily for 12 weeks) effectively prevents obesity development in mice on a high-fat diet (HFD), enhances energy expenditure, and modulates the gut microbiota [2]. Furthermore, Asperlin (80 mg/kg; oral administration; once daily for 12 weeks) significantly inhibits atherosclerotic plaque formation in HFD-fed ApoE-/- mice, leading to reduced aortic dilation and decreased atherosclerotic lesion area [5].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.7125 mL	23.5627 mL	47.1254 mL
5 mM	0.9425 mL	4.7125 mL	9.4251 mL
10 mM	0.4713 mL	2.3563 mL	4.7125 mL
50 mM	0.0943 mL	0.4713 mL	0.9425 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.

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