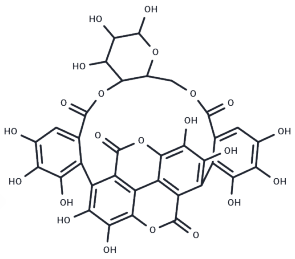
Data Sheet (Cat.No.T4S1718)

TargetMol

Punicalin

Chemical Properties



CAS No. : 65995-64-4

Formula: C34H22O22

Molecular Weight: 782.53

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	Punicalin exerts anti-inflammatory, antioxidative, and anti-hepatotoxic activities, it shows inhibitory activity on HIV-1 reverse transcriptase in a dose-dependent manner, with an IC50 of 0.11 microg/ml (0.14 microM).
Targets(IC50)	HIV Protease,Carbonic Anhydrase,Pyroptosis,HBV
In vitro	The edema after carrageenan injection is believed to be biphasic in nature.?The initial phase, beginning 1 hr after carrageenan administration, is due to the release of histamine and serotonin.?The second phase occurs 2 to 5 hr after carrageenan administration.??is induced by the release of bradykinin, protease, prostaglandin and lysosome ?.?It has been reported that the second phase of edema is sensitive to most clinically effective anti-inflammatory agents, such as indomethacin.?However, that treatment with punicalagin and punicalin is effective against both phases of inflammation induced by carrageenan.
In vivo	Punicalagin and punicalin were the active components of T. catappa L., a hepatoprotective crude drug used in Southern Asia, and both found to exhibit great antioxidant activity and hepatoprotective effect on CC14- or acetaminophen-induced liver damages. Even if they had great antioxidant effects in smaller concentration in vitro, treatment with larger doses of punicalagin and punicalin yield liver cell damage in rats.?In studying their anti-inflammatory effects, similar results were also observed.
Animal Research	Edema in the left hind paw of rats was induced by injecting 0.05 ml of 1% (w/v) carrageenan into the limb.?Animals were divided into six groups with eight animals in each group.?The drug test groups were treated with 5 or 10 mg/kg body weight of each component 1 hr before carrageenan injection.?The animals in the control group received saline.?Another group of rats was administered 5 mg/kg indomethacin as a standard anti-inflammatory drug.

Solubility Information

Solubility	DMSO: 63.125 mg/mL (80.67 mM),Sonication is recommended. H2O: 100 mg/mL (127.79 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (2.56 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2779 mL	6.3895 mL	12.7791 mL
5 mM	0.2556 mL	1.2779 mL	2.5558 mL
10 mM	0.1278 mL	0.639 mL	1.2779 mL
50 mM	0.0256 mL	0.1278 mL	0.2556 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

Lin CC, et al. Effects of punicalagin and punicalin on carrageenan-induced inflammation in rats.Am J Chin Med. 1999;27(3-4):371-6.

Xiao Y, Cai G P, Feng X, et al.Splicing factor YBX1 regulates bone marrow stromal cell fate during aging.The EMBO Journal.2023: e111762.