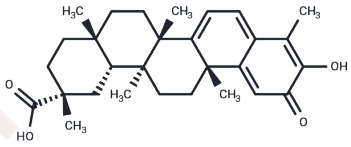
Data Sheet (Cat.No.T3028)

TargetMol

Tripterin

Chemical Properties



CAS No. : 34157-83-0

Formula: C29H38O4

Molecular Weight: 450.61

Storage: Keep away from direct sunlight,Keep away from moisture,The compound is unstable in solution. Please use soon
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	Tripterin (Celastrol) is a natural product, a proteasome inhibitor that inhibits the pancreatic rennet-like activity of the 20S proteasome (IC50=2.5 μM). Tripterin has anti-inflammatory, anti-infectious, and immunomodulatory properties.
Targets(IC50)	Apoptosis,Mitophagy,Proteasome,Endogenous Metabolite,Antibacterial,Antibiotic, Autophagy
In vitro	**METHODS**: Human prostate cancer cells PC-3 were treated with Tripterin (0.5-5 μM) for 12 h. Proteasomal chymotrypsin-like activity was assayed using Z-GGL-AMC. **RESULTS**: Tripterin significantly inhibited proteasomal chymotrypsin-like activity in PC-3 cells in a concentration-dependent manner, reaching about 55% inhibition at 2.5 μM. [1] **METHODS**: Human chronic myeloid leukemia cells KBM-5 were incubated with Tripterin (2.5 μM) for 6 h, followed by treatment with TNF (1 nM) for 6-24 h. Target protein expression levels were detected using Western Blot. **RESULTS**: TNF induced the expression of anti-apoptotic proteins IAP1, IAP2, Bcl-2, Bcl-XL, c-FLIP and survivin in a time-dependent manner, which was inhibited by Tripterin. [2]
In vivo	**METHODS**: To detect anti-tumor activity in vivo, Tripterin (1-3 mg/kg, 10% DMSO+70% Cremophor/ethanol (3:1)+20% PBS) was injected intraperitoneally once daily for sixteen days into nude immunodeficient mice bearing human prostate cancer tumor PC-3. **RESULTS**: Tripterin treatment significantly inhibited the growth of prostate cancer xenografts and suppressed proteasome activity and induced apoptosis in vivo. [1] **METHODS**: To detect anti-tumor activity in vivo, Tripterin (1.25 mg/kg) was intraperitoneally injected into BALB/c (nu/nu) mice bearing vestibular nerve sheath tumor SC4 every three days for two weeks. **RESULTS**: Tripterin significantly inhibited tumor growth without showing toxicity. [3]
Kinase Assay	Inhibition of purified 20S proteasome activity: A purified rabbit 20S proteasome (0.1 μg) is incubated with 40 μM of various fluorogenic peptide substrates in 100 μL assay buffer (20 mM Tris-HCl (pH 7.5)), in the presence of Celastrol at different concentrations or in the solvent DMSO for 2 hours at 37 ℃, followed by measurement of inhibition of each proteasomal activity.
Cell Research	The anti-proliferative effect of celastrol on various human tumor cell lines is determined by the MTT uptake method. Briefly, 5×103 cells are incubated with Celastrol in triplicate in a 96-well plate at 37 ℃. MTT solution is then added to each well. After a 2 hours

Cell Research	incubation at 37 ℃, extraction buffer (20% SDS, 50% dimethylformamide) is added, cells are incubated overnight at 37 ℃, and the optical density is then measured at 570 nm using a Tecan plate reader.(Only for Reference)

Solubility Information

Solubility	DMSO: 250 mg/mL (554.8 mM),Sonication is recommended. Ethanol: 33.8 mg/mL (75.01 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: 4.51 mg/mL (10.01 mM),Solution. *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	2.2192 mL	11.0961 mL	22.1921 mL
5 mM	0.4438 mL	2.2192 mL	4.4384 mL
10 mM	0.2219 mL	1.1096 mL	2.2192 mL
50 mM	0.0444 mL	0.2219 mL	0.4438 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

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