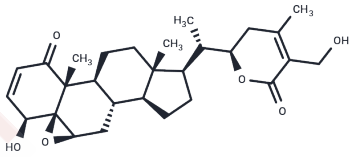
Data Sheet (Cat.No.T5687)

TargetMol

WITHAFERIN A

Chemical Properties



CAS No. : 5119-48-2

Formula: C28H38O6

Molecular Weight: 470.60

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	WITHAFERIN A is a novel class of NFkappaB inhibitors, which hold promise as novel anti-inflammatory agents for treatment of various inflammatory disorders and/or cancer.
Targets(IC50)	Ferroptosis,NF-κB
In vitro	WITHAFERIN A,potently inhibits NFkappaB activation by preventing the tumor necrosis factor-induced activation of IkappaB kinase beta via a thioalkylation-sensitive redox mechanism.
In vivo	WITHAFERIN A Displays Anti-inflammatory Properties in Vivo—Because NFκB is a critical player in the inflammatory signaling pathway and because WITHAFERIN A inhibits NFκB activation.
Cell Research	L929sA cells were co-treated with WITHAFERIN A and DTT for 1 h, and then TNF-induced NFκB activation was examined.
Animal Research	Mice are injected subcutaneously with zymosan in the footpad, and swelling is determined at several time points after the injection. Pretreatment with WITHAFERIN A (intraperitoneal) was performed to evaluate anti-inflammatory effects, whereas DEX (intraperitoneal) was chosen as a positive control. the mean of the differences between the zymosan-treated and untreated footpad for all the three groups. Both DEX.

Solubility Information

Solubility	DMSO: 50.50 mg/mL (107.31 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: 0.5 mg/mL (1.06 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	2.1249 mL	10.6247 mL	21.2495 mL
5 mM	0.425 mL	2.1249 mL	4.2499 mL
10 mM	0.2125 mL	1.0625 mL	2.1249 mL
50 mM	0.0425 mL	0.2125 mL	0.425 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

Kaileh M , Vanden Berghe W , Heyerick A , et al. Withaferin A Strongly Elicits IκB Kinase β Hyperphosphorylation Concomitant with Potent Inhibition of Its Kinase Activity[M]// An introduction to analog and digital communications /. Wiley, 2007.

Aihaiti Y, Zheng H, Cai Y, et al.Exploration and validation of therapeutic molecules for rheumatoid arthritis based on ferroptosis-related genes.Life Sciences.2024: 122780.

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