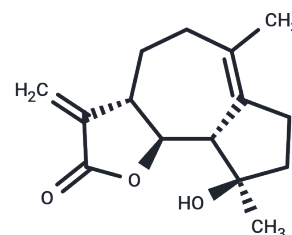


Micheliolide

Chemical Properties

CAS No. :	68370-47-8
Formula:	C ₁₅ H ₂₀ O ₃
Molecular Weight:	248.32
Storage:	Keep away from direct sunlight, Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Micheliolide(MCL) is a sesquiterpene lactone which inhibits various inflammatory response.
Targets(IC50)	NOS,NF-κB,Akt,COX,PI3K,TGF-beta/Smad
In vitro	Treatment of BV2 cells with Micheliolide(MCL) significantly repressed LPS-stimulated nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2) expression, as well as tumor necrosis factor-alpha (TNF-α), interleukin-6 (IL-6) and nitric oxide (NO) induction. MCL also attenuated mRNA levels of multiple pro-inflammatory cytokines and mediators such as iNOS, COX-2, TNF-α, IL-6 and IL-1β. Mechanistic studies revealed that MCL suppressed LPS-stimulated the activation of IκBα/NF-κB pathway and Akt pathway. Moreover, MCL inhibited LPS-induced the activation of c-Jun N-terminal kinase (JNK), p38 MAPK kinase, and extracellular signal-regulated kinases 1/2 (ERK1/2). Meanwhile, MCL markedly promoted antioxidant protein heme oxygenase-1 (HO-1) expression by enhancing NF-E2-related factor 2 (Nrf2) activity. Together, MCL may serve as a neuroprotective agent in neuroinflammation-related neurodegenerative disorders.
Cell Research	BV2 cells were pretreated with the indicated concentrations of Micheliolide 1 h prior to stimulation with LPS (1 μg/ml) for 6 h and total RNA was extracted using RaPure Total RNA Kit. Reverse transcription was performed using RevertAid First Strand cDNA Synthesis Kit. Real-time PCR analysis was performed using SYBR Select Master Mix in conjunction with an ABI Prism 7500 Sequence Detection System with the expression of β-actin as the internal control. The data were analyzed using the ΔΔCT method. The primers for iNOS, COX-2, TNF-α, IL-1β, IL-6 and β-actin were described as below.

Solubility Information

Solubility	DMSO: 250 mg/mL (1006.77 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 (8.05 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.</i>

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In vivo Formulation	<i>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.</i>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0271 mL	20.1353 mL	40.2706 mL
5 mM	0.8054 mL	4.0271 mL	8.0541 mL
10 mM	0.4027 mL	2.0135 mL	4.0271 mL
50 mM	0.0805 mL	0.4027 mL	0.8054 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

Sun Z, Li G, Tong T, et al. Micheliolide suppresses LPS-induced neuroinflammatory responses[J]. PLoS One. 2017 Oct 17;12(10):e0186592.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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