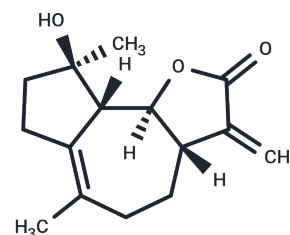


Micheliolide

Chemical Properties

CAS No. :	68370-47-8
Formula:	C ₁₅ H ₂₀ O ₃
Molecular Weight:	248.32
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Micheliolide(MCL) is a sesquiterpene lactone which inhibits various inflammatory response.
Targets(IC50)	NOS,NF-κB,COX
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
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: 49 mg/mL (197.32 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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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.

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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