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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

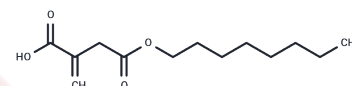
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4-Octyl itaconate

Chemical Properties

CAS No. :	3133-16-2
Formula:	C13H22O4
Molecular Weight:	242.31
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	4-Octyl Itaconate is a cell-permeable derivative of Itaconate, an anti-inflammatory metabolite. 4-Octyl Itaconate activates Nrf2 via alkylation of KEAP1 and also inhibits phosphorylation of STING. 4-Octyl Itaconate is an anti-inflammatory metabolite.
Targets(IC50)	Nrf2
In vitro	<p>METHODS: Human PBMC cells were pretreated with 4-Octyl Itaconate (62.5-125 μM) for 3 h. The expression levels of target proteins were detected by Western Blot.</p> <p>RESULTS: 4-Octyl Itaconate decreased LPS-induced pro-IL-1β and HIF-1α protein levels. [1]</p> <p>METHODS: Macrophage THP1 cells were treated with 4-Octyl Itaconate (200 ng/mL) for 2 h, then stimulated with 2',3'cGAMP for 1 h. The level of p-STING was detected by Immunofluorescence.</p> <p>RESULTS: 4-Octyl Itaconate pretreatment resulted in a significant inhibition of STING phosphorylation. [2]</p>
In vivo	<p>METHODS: To test the anti-inflammatory activity in vivo, 4-Octyl Itaconate (50 mg/kg in 40% cyclodextrin in PBS) was intraperitoneally injected into mice, and 2 h later LPS (2.5 mg/kg) was intraperitoneally injected.</p> <p>RESULTS: 4-Octyl Itaconate counteracted the pro-inflammatory response to LPS in vivo. 4-Octyl Itaconate activated Nrf2, prolonged survival, decreased clinical scores and improved thermoregulation, and decreased IL-1β and TNF levels, but not IL-10, in the LPS model of sepsis. [1]</p> <p>METHODS: To investigate the role in immunosuppressive impairment in sepsis, 4-Octyl Itaconate (25-50 mg/kg) was injected intraperitoneally into a C57bl/6 mouse model of sepsis established by cecum ligation and puncture (CLP).</p> <p>RESULTS: 4-Octyl Itaconate inhibits the early release of inflammatory and oxidative stress-related factors to reduce tissue and organ damage in septic mice. [3]</p>

Solubility Information

Solubility	DMSO: 121.95 (503 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1269 mL	20.6347 mL	41.2694 mL
5 mM	0.8254 mL	4.1269 mL	8.2539 mL
10 mM	0.4127 mL	2.0635 mL	4.1269 mL
50 mM	0.0825 mL	0.4127 mL	0.8254 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

Wang S J, Ye W, Li W Y, et al. Effects and mechanisms of Xiaochaihu Tang against liver fibrosis: An integration of network pharmacology, molecular docking and experimental validation. *Journal of Ethnopharmacology*. 2022:

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel: 781-999-4286 E_mail: info@targetmol.com Address: 36 Washington Street, Wellesley Hills, MA 02481