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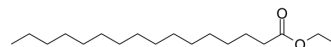
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Ethyl palmitate

Cat. No.:	HY-N2086
CAS No.:	628-97-7
Molecular Formula:	C ₁₈ H ₃₆ O ₂
Molecular Weight:	284.48
Target:	TNF Receptor; Interleukin Related; NF-κB
Pathway:	Apoptosis; Immunology/Inflammation; NF-κB
Storage:	<div>Pure form</div> <div>-20°C 3 years</div> <div>4°C 2 years</div> <div>In solvent</div> <div>-80°C 6 months</div> <div>-20°C 1 month</div>



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (351.52 mM; Need ultrasonic)					
	Preparing Stock Solutions	<div><div>Solvent</div><div>Concentration</div></div>	Mass	1 mg	5 mg	10 mg
		1 mM		3.5152 mL	17.5759 mL	35.1519 mL
		5 mM		0.7030 mL	3.5152 mL	7.0304 mL
		10 mM		0.3515 mL	1.7576 mL	3.5152 mL
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (8.79 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Ethyl palmitate (Ethyl hexadecanoate) is a CHIKV virus inhibitor with an EC ₅₀ value of 0.0068 μM. Ethyl palmitate can reduce levels of TNF-α, IL-6, and NF-κB in endotoxemic rats, showing anti-inflammatory activity ^{[1][2]} .
In Vitro	<p>Ethyl palmitate (1 μg/mL; 24, 48 h) can inhibit the expression and viral activity of CHIKV virus E2 protein, with an EC₅₀ value of 0.0068 μM^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis^[2].</p>

	Cell Line:	CHIKV infected Vero cells
	Concentration:	1 µg/mL
	Incubation Time:	24, 48 h
	Result:	Resulted in no expression of CHIKV E2 protein.
In Vivo	<p>Ethyl palmate (10 mL/kg; once; i.p.) can reduce the levels of TNF-α, IL-6, and NF-κB in endotoxemia rats, improve the histopathological changes induced by LPS, and has anti-inflammatory activity^[1].</p> <p>Ethyl palmate (1.5 mg/kg; once daily; 3 weeks; i.v.) can inhibit the phagocytic function of the reticuloendothelial system (RES) in dogs and reduce liver blood flow^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	
	Animal Model:	A rat model of lipopolysaccharide (LPS)-induced endotoxemia ^[1] .
	Dosage:	10 mL/kg
	Administration:	Intraperitoneal injection (i.p.); once
	Result:	Reduced plasma levels of tumor necrosis factor- α (TNF- α) and interleukin-6 (IL-6), decreased NF- κ B expression in liver and lung tissues and ameliorated histopathological changes caused by LPS.
	Animal Model:	12 dogs of both sexes, weighing between 5.0 and 11.2 kg ^[3] .
	Dosage:	1.5 mg/kg
	Administration:	Intravenous injection (i.v.); once daily; 3 weeks
	Result:	Inhibited the phagocytic activity of red blood cells and led to hepatocyte degeneration and local necrosis.

CUSTOMER VALIDATION

- PLoS Biol. 2024 June 27.
- bioRxiv. 2023 Jun 3.

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REFERENCES

- [1]. Saeed NM, et al. Anti-inflammatory activity of methyl palmitate and ethyl palmitate in different experimental rat models. *Toxicol Appl Pharmacol.* 2012 Oct 1;264(1):84-93.
- [2]. Sagna A, et al. Ethyl palmitate, an anti-chikungunya virus principle from *Sauropus androgynus*, a medicinal plant used to alleviate fever in ethnomedicine. *J Ethnopharmacol.* 2023 Jun 12;309:116366.
- [3]. Areekul S, et al. Studies on liver blood flow and phagocytic activity of reticuloendothelial system in dogs treated with ethyl palmitate. *Southeast Asian J Trop Med Public Health.* 1973 Sep;4(3):395-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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