Ergosterol

Cat. No.: HY-N0181

CAS No.: 57-87-4

Molecular Formula: $C_{28}H_{44}O$

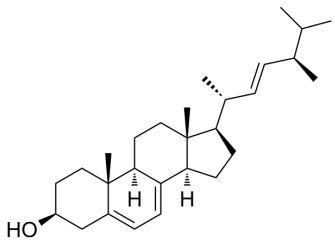
Molecular Weight: 396.65

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 3.57 mg/mL (9.00 mM; ultrasonic and warming and heat to 60°C)

Ethanol : 2.6 mg/mL (6.55 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5211 mL	12.6056 mL	25.2111 mL
5 mM	0.5042 mL	2.5211 mL	5.0422 mL
10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 0.5% CMC-Na >> 0.5% Tween-80
   Solubility: 2.5 mg/mL (6.30 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Ergosterol is the primary sterol found in fungi, with antioxidative, anti-proliferative, and anti-inflammatory effects.

In Vivo

Ergosterol (25, 50 mg/kg, p.o.) significantly mitigates the reduced cardiac performance in rats induced by LPS, increases SOD activity and decreases the formation of MDA, CK-MB, and LDH in LPS-induced sepsis rats[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [2]

Rats[2]

Experimental myocardial injury in rats is performed by LPS injection (15 mg/kg). Dexmedetomidine (Dex) is used as a positive control. The experimental animals are randomly divided into five groups (n = 10) as follows: Control group, rats

receive 2% gum acacia suspension orally at a dose of 2 mL/kg for 5 days, followed by normal saline injected intraperitoneally on day 5; LPS group, rats receive 2% gum acacia suspension at dose of 2 mL/kg for 5 days with LPS simultaneously injected intraperitoneally day 5; LPS+ Dex group, rats are treated with 2 mg/kg Dex suspension followed by LPS injection on day 5; LPS + Ergosterol (25 mg/kg, 50 mg/kg) groups, 25 or 50 mg/kg Ergosterol are given to rats orally for 5 consecutive days, and LPS is injected on day 5. Twelve hours after LPS treatment, blood samples are collected through the retro-orbital plexus. The serum specimens are centrifugated at 4, 000 × g for 15 min and stored at −80°C until needed. Thereafter, rats are anesthetized and sacrificed. Heart tissues are removed and homogenized in ice-cold phosphate buffered saline (50 mM, pH 7.4). Heart tissue homogenates from different groups are centrifuged at 12, 000 × g for 45 min at 4°C and the supernatants retained for further biochemical evaluations[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Commun Biol. 2023 Jan 3;6(1):1.

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REFERENCES

[1]. Xu J, et al. Ergosterol Attenuates LPS-Induced Myocardial Injury by Modulating Oxidative Stress and Apoptosis in Rats. Cell Physiol Biochem. 2018;48(2):583-592.

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

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