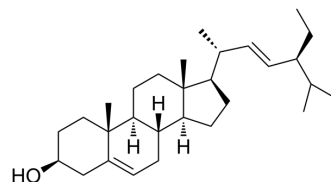


Stigmasterol

Cat. No.:	HY-N0131		
CAS No.:	83-48-7		
Molecular Formula:	C ₂₉ H ₄₈ O		
Molecular Weight:	412.69		
Target:	MMP; Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

Acetone : 2 mg/mL (4.85 mM; ultrasonic and warming and heat to 60°C)
 DMF : 1 mg/mL (2.42 mM; ultrasonic and warming and heat to 60°C)
 Ethanol : < 1 mg/mL (insoluble)
 DMSO : < 1 mg/mL (insoluble or slightly soluble)
 H₂O : < 0.1 mg/mL (insoluble)
 1M NaOH : < 1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		Concentration	2.4231 mL	12.1156 mL	24.2313 mL
	1 mM		---	---	---
	5 mM		---	---	---
	10 mM		---	---	---

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

In Vivo

1. Add each solvent one by one: corn oil
 Solubility: 3.12 mg/mL (7.56 mM); Clear solution; Need ultrasonic and warming and heat to 50°C

BIOLOGICAL ACTIVITY

Description

Stigmasterol is a plant sterol which has been focused on the cholesterol-lowering activity and is valued as an anti-stiffness factor in the therapy of rheumatic diseases.

IC₅₀ & Target

Human Endogenous Metabolite

In Vitro

Preincubation of Stigmasterol to IL-1beta-treated cells shows significant reduction of MMP-3 mRNA in human and mouse, MMP-3 protein in mouse, MMP-13 mRNA in mouse and human, ADAMTS-4 mRNA in human, PGE2 protein in human and

mouse. Stigmasterol is also capable of counteracting the IL-1beta-induced NF-κB pathway^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[1]

A model of newborn mouse chondrocytes and human osteoarthritis (OA) chondrocytes are used in primary culture stimulated with or without IL-1β (10 ng/mL), for 18 h. Cells are pre-incubated with Stigmasterol (20 mg/mL) for 48 h^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nature. 2024 Feb;626(7998):411-418.
- J Ethnopharmacol. 2022 Aug 2;115586.

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REFERENCES

[1]. Gabay O, et al. Stigmasterol: a phytosterol with potential anti-osteoarthritic properties. Osteoarthritis Cartilage. 2010 Jan;18(1):106-16.

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

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