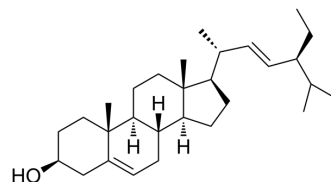


Stigmasterol

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:	<table border="0"> <tr> <td>Powder</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>2 years</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 year</td> </tr> </table>	Powder	-20°C	3 years		4°C	2 years	In solvent	-80°C	2 years		-20°C	1 year
Powder	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	2 years											
	-20°C	1 year											



SOLVENT & SOLUBILITY

In Vitro

Acetone : 6.67 mg/mL (16.16 mM; Need ultrasonic)
 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
	1 mM	2.4231 mL	12.1156 mL	24.2313 mL
	5 mM	0.4846 mL	2.4231 mL	4.8463 mL
	10 mM	0.2423 mL	1.2116 mL	2.4231 mL

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-1β-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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