SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

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

www.szabo-scandic.com

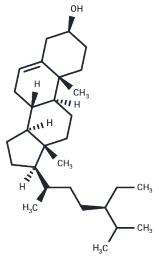
linkedin.com/company/szaboscandic

Data Sheet (Cat.No.T2966)

TargetMol

Beta-Sitosterol

Chemical Properties



CAS No. : 83-46-5

Formula: C29H50O

Molecular Weight: 414.71

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Beta-Sitosterol (SKF 14463) has recently been shown to induce G2/M arrest, endoreduplication, and apoptosis through the Bcl-2 and PI3K/Akt signaling pathways. Beta-Sitosterol (SKF 14463) , a main dietary phytosterol found in plants, may have the potential for prevention and therapy for human cancer. Although the exact mechanism of action of Beta-Sitosterol (SKF 14463) is unknown, it may be related to cholesterol metabolism or anti-inflammatory effects (via interference with prostaglandin metabolism). Beta-Sitosterol (SKF 14463) induces apoptosis and activates key caspases in MDA-MB-231 human breast cancer cells.
Targets(IC50)	Apoptosis,Lipase,Endogenous Metabolite
In vitro	Bioactivity-guided isolation afforded three compounds from the hexane fraction of E. indica, namely, Beta-Sitosterol (β-sitosterol), Stigmasterol, and Lutein respectively. Both compounds are found to possess very low PPL inhibition activity, that is, 2.99±0.80% (Beta-Sitosterol) of inhibition at 100 μg/mL (242 μM) and 2.68±0.38% (Stigmasterol) of inhibition at 100 μg/mL (243 μM), respectively. Weak PPL inhibition activity of Beta-Sitosterol and Stigmasterol isolated from Alpinia zerumbet with IC50 value of 99.99±1.86 μg/mL and 125.05±4.76 μg/mL, respectively, in comparison with the inhibition shown by Curcumin (IC50=4.92±0.21 μg/mL) and Quercetin (IC50=18.60±0.86 μg/mL) which are used as positive controls in their study. Beta-Sitosterol and Stigmasterol are recorded with weak PPL inhibitory activity of only 3.0±0.8% and 2.7±0.4% at 100 μg/mL, respectively, (i.e., 242 μM and 243 μM) in contrast (34.5±5.4% at 100 μg/mL), which are comparatively lower than that recorded in literature (i.e., 50% PPL inhibition at 100 μg/mL)[1]. Sitosterol is an important compound extracted from the leaves of Aloe vera. It inhibits the growth of promastigotes of L. donovani which is a causative agent for life threatening visceral leishmaniasis disease[2].
In vivo	Beta-Sitosterol (β-sitosterol) treatment markedly decreased immobility times in mice across all tested doses (10, 20, and 30 mg/kg) in both Forced Swim Test (FST) and Tail Suspension Test (TST), indicating a notable antidepressant effect. The efficacy of β-sitosterol at 30 mg/kg was comparable to that of the positive control, fluoxetine (20 mg/kg), demonstrating the most robust antidepressant effect against the control group ($P < 0.001$). This effect was consistently observed across the varying doses in the TST, with percentage decrease in immobility (DID) values for FST and TST being 39.27%, 51.23%, and 57.48% for 10, 20, and 30 mg/kg respectively, and 31.63%, 43.95%, and 53.38% for the same doses in TST. These findings confirm the dose-dependent antidepressant activity of Beta-Sitosterol in animal models, highlighting its potential in

	depressive disorder management.

Solubility Information

Solubility	Ethanol: 3.32 mg/mL (8 mM),Sonication is recommended. DMSO: Insoluble (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4113 mL	12.0566 mL	24.1132 mL
5 mM	0.4823 mL	2.4113 mL	4.8226 mL
10 mM	0.2411 mL	1.2057 mL	2.4113 mL
50 mM	0.0482 mL	0.2411 mL	0.4823 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

Fan Y, et al. β-Sitosterol Suppresses Lipopolysaccharide-Induced Inflammation and Lipogenesis Disorder in Bovine Mammary Epithelial Cells. Int J Mol Sci. 2023 Sep 27;24(19):14644.