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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Fucosterol

Cat. No.: HY-N4103

CAS No.: 17605-67-3

Molecular Formula: $C_{29}H_{48}O$

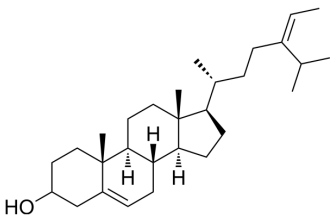
Molecular Weight: 412.69

Target: PARP; Endogenous Metabolite

Pathway: Cell Cycle/DNA Damage; Epigenetics; 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

Ethanol : 16.67 mg/mL (40.39 mM; Need ultrasonic)

DMSO : < 1 mg/mL (insoluble or slightly soluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	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: 10 mg/mL (24.23 mM); Clear solution; Need ultrasonic and warming and heat to 45°C
2. Add each solvent one by one: 17% Solutol HS-15 in Saline
   Solubility: 6.25 mg/mL (15.14 mM); Suspended solution; Need ultrasonic and warming and heat to 42°C
3. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (4.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fucosterol is a sterol isolated from algae, seaweed or diatoms. Fucosterol exhibits various biological activities, including antioxidant, anti-adipogenic, blood cholesterol reducing, anti-diabetic and anti-cancer activities[1][2]. Fucosterol regulates adipogenesis via inhibition of PPARα and C/EBPα expression and can be used for anti-obesity agents development research [1].

IC_{50} & Target

PPARα; C/EBPα[1]

In Vitro

Fucosterol (0-50 μM; 7 days) suppresses the expression of PPARα and C/EBPα when compared to fully differentiated control

adipocytes[1]. Fucosterol shows cytotoxicity against T47D and HT29 cell lines with IC_{50} values of 27.94 and 70.41 μg/ml, respectively[3].
Fucosterol decreases cell HEK293, MCF-7, and SiHa cells proliferation with IC_{50} values of 185.4, 43.3, and 34.0 μg/ml, respectively[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	3T3-L1 adipocytes
Concentration:	0 μM; 25 μM; 50 μM
Incubation Time:	7 days
Result:	Inhibited PPARα and C/EBPα expression.

In Vivo

Fucosterol (oral adminstratin; 30mg/kg) causes a significant decrease in serum glucose concentrations, and exhibits an inhibition of sorbitol accumulations in the lenses[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Jung HA, et al. Anti-adipogenic activity of the edible brown alga Ecklonia stolonifera and its constituent fucosterol in 3T3-L1 adipocytes. Arch Pharm Res. 2014 Jun;37(6):713-20.

[2]. Lee YS, et al. Anti-diabetic activities of fucosterol from Pelvetia siliquosa. Arch Pharm Res. 2004 Nov;27(11):1120-2.

[3]. Khanavi M, et al. Cytotoxicity of fucosterol containing fraction of marine algae against breast and colon carcinoma cell line. Pharmacogn Mag. 2012 Jan;8(29):60-4.

[4]. Caamal-Fuentes E, et al. Cytotoxic and antiproliferative constituents from Dictyota ciliolata, Padina sanctae-crucis and Turbinaria tricostata. Pharm Biol. 2014 Oct;52(10):1244-8.

[5]. Qudeer Ahmed Abdul, et al. Health benefit of fucosterol from marine algae: a review. J Sci Food Agric. 2016 Apr;96(6):1856-66

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