Cholest-5-ene-3ß,22(S)-diol

Cat. No.: HY-137307

CAS No.: 22348-64-7

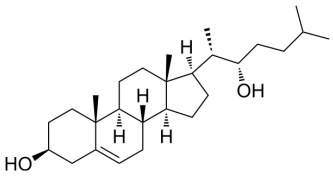
Molecular Formula: $C_{27}H_{46}O_2$

Molecular Weight: 402.65

Target: Others

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Cholest-5-ene-3ß,22(S)-diol ((22S)-Hydroxycholesterol) is an orally active oxysterol with no significant cytotoxic, oxidative, or inflammatory effects on human prokaryotic leukemia cells. Cholest-5-ene-3ß,22(S)-diol inhibits weight gain and increased serum triacylglycerol (TAG) levels in rat models[1][2].

In Vitro

Cholest-5-ene-3ß,22(S)-diol (10 μg/mL, 20 μg/mL; 24 h) shows no effect on phosphatidylserine externalization, mitochondrial transmembrane potential, cellular permeability to propidium iodide, and morphological nuclear changes in U937 cells[1].

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

In Vivo

Cholest-5-ene-3ß,22(S)-diol (30 mg/kg; p.o.; added in diet, treated for 3 weeks) reduces body weight gain and abolishes high-fat diet-induced increase of triacylglycerol (TAG) levels in serum[2].

Pharmacokinetic Analysis in Rats[2]

Route	Dose (mg/kg)	C_{max} (ng/mL)	T_{max} (h)	AUC_t (ng·h/mL)	AUC (ng·h/mL)	$T_{1/2}$ (h)	Extent of tritium exchange (%)
i.v.	50	22.4	0.08	174	195	8.1	2.8
p.o.	50	7.5	4	95.2	104	6.4	1.2

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

Animal Model:	Male rats injected with Pentobarbital (20 mg, 50 mg/mL; i.p.)[2]
Dosage:	30 mg/kg/day
Administration:	Oral gavage; 3 weeks consecutively
Result:	Decreased body weight gain significantly after 1 week treatment. Increased gene expression of Ucp3 and Cpt2 in liver and skeletal muscle, and increased

	protein level of Ucp3 in skeletal muscle after 3 weeks treatment.

REFERENCES

[1]. Lemaire-Ewing S, et al. Comparison of the cytotoxic, pro-oxidant and pro-inflammatory characteristics of different oxysterols. Cell Biol Toxicol. 2005 Mar;21(2):97-114.

[2]. Tranheim Kase E, et al. Dietary supplementation with 22-S-hydroxycholesterol to rats reduces body weight gain and the accumulation of liver triacylglycerol. Lipids. 2012 May;47(5):483-93.

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