Tachysterol 3

Cat. No.: HY-130705A

CAS No.: 17592-07-3

Molecular Formula: $C_{27}H_{44}O$

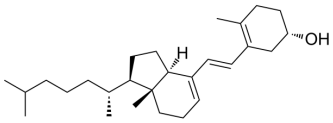
Molecular Weight: 384.64

Target: VD/VDR; Endogenous Metabolite

Pathway: Vitamin D Related/Nuclear Receptor; Metabolic Enzyme/Protease

Storage: -80°C, protect from light, stored under nitrogen

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 3.25 mg/mL (8.45 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3.25 mg/mL (8.45 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.25 mg/mL (8.45 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tachysterol 3 is a photoproduct of Previtamin D_3 (HY-130705)[1][2].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Tachysterol 3 can be hydroxylated by CYP11A1 and CYP27A1[2].
Tachysterol 3 is detected in human serum at a concentration of 7.3 ± 2.5 ng/mL[2].
Tachysterol 3 hydroxyderivatives show high-affinity binding to the ligan-binding domain (LBD) of the liver X receptor (LXR) α and β, and the peroxisome proliferator-activated receptor γ (PPARγ) in LanthaScreen TR-FRET coactivator assays[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Slominski AT, et al. Metabolic activation of tachysterol3 to biologically active hydroxyderivatives that act on VDR, AhR, LXRs, and PPARγ receptors. FASEB J. 2022 Aug;36(8):e22451.

[2]. Cecilia Cisneros, et al. The Role of Tachysterol in Vitamin D Photosynthesis - A Non-Adiabatic Molecular Dynamics Study. Phys Chem Chem Phys. 2017 Feb 22;19(8):5763-5777.

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

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