Fucosterol
Item No. 21858

CAS Registry No.: 17605-67-3
Formal Name: (3β,24E)-stigmasta-5,24(28)-dien-3-ol
Synonym: trans-24-ethylidene Cholesterol
MF: C_{29}H_{48}O
FW: 412.7
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Fucosterol is supplied as a crystalline solid. A stock solution may be made by dissolving the fucosterol in the solvent of choice, which should be purged with an inert gas. Fucosterol is soluble in organic solvents such as ethanol and dimethyl formamide. The solubility of fucosterol in these solvents is approximately 0.25 and 1 mg/ml, respectively.

Description

Fucosterol is a plant sterol found in algae that has diverse biological activities including antioxidant, anti-inflammatory, anticancer, and antidiabetic properties among others.  

1. It decreases markers of oxidative damage and increases antioxidative enzyme activity in vitro.  
2. It reduces the expression of TNF-α and IL-6 following LPS administration by halting NF-κB and p38 MAPK signaling in RAW 264.7 murine macrophages.  
3. In HEK293, MCF-7, and SiHa cells, fucosterol decreases proliferation (IC_{50} = 185.4, 43.3, and 34.0 µg/ml, respectively).  
4. It also has anticancer activity in HL-60 leukemia cells, where it inhibits cell growth, halts the cell cycle at the G_{2}/M transition, and induces apoptosis with maximally increased caspase-9, -8, and -3 expression at 68.8 µM.  
5. In a streptozotocin rat model of diabetes, it decreases serum glucose concentrations when administered at 30 mg/kg.

References