

Beta-Sitosterol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Beta-Sitosterol

Catalog No.: CFN99916

Cas No.: 83-46-5

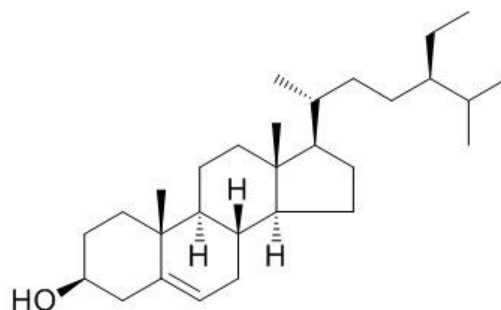
Purity: > 98%

M.F: C₂₉H₅₀O

M.W: 414.69

Physical Description: Cryst.

Synonyms: (3S,8S,9S,10R,13R,14S,17R)-17-[(2R,5R)-5-ethyl-6-methylheptan-2-yl]-10,13-dimethyl-2,3,4,7,8,9,11,12,14,15,16,17-dodecahydro-1H-cyclopenta[a]phenanthren-3-ol; Sitosterol; 22,23-Dihydrostigmasterol.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

[Source]

The herbs of *Anemone cathayensis* Kitag.

[Biological Activity or Inhibitors]

Beta-Sitosterol a main dietary phytosterol found in plants, may have the potential for prevention and therapy for human cancer, β -sitosterol induces apoptosis in HT116 cells is associated with a decreased expression of the anti-apoptotic Bcl-2 protein and mRNA and a concomitant increase of the pro-apoptotic Bax protein and mRNA, and with release of cytochrome c from the mitochondria into the cytosol. ^[1]

Beta-Sitosterol (LD50>3 g/kg i.p. in mice, minimum ulcerogenic dose was 600 mg/kg i.p. in rats) has potent anti-inflammatory activity, similar to hydrocortisone and oxyphenbutazone when administered intraperitoneally; possesses antipyretic activity, similar to acetylsalicylic acid. ^[2]

Beta-Sitosterol shows a potent angiogenic activity in the chorioallantoic membrane (CAM) assay, it stimulates neovascularization in the mouse Matrigel plug assay and the motility of human umbilical vein endothelial cells in an in vitro wound migration assay in the presence of heparin, thus β -sitosterol is a novel plant-derived angiogenic factor which may have potential pharmaceutical applications for the management of chronic wounds. ^[3]

Beta-Sitosterol can inhibit proliferation and induce apoptosis in human solid tumors such as colon and breast cancers, it potently induces apoptosis in U937 cells and induces apoptosis is related to the selective activation of caspase-3 and induction of Bax/Bcl-2 ratio. ^[4]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method] ^[5]

HPLC-ELSD:

Mobile phase: Methanol -H₂O=95:5 ;

Flow rate: 1.0 ml/min;

Column temperature: 23 \pm 1 $^{\circ}$ C;

The wave length of determination: 210 nm.

Emitting scattering detector drift tube temperature: 100 °C;

Nebulizer flow rate: 0.7 L/min.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Choi Y H, Kong K R, Kim Y A, *et al. Int .J. Oncol.*, 2003, 23(6):1657-62.
- [2] Gupta MB, Nath R, *et al. Srivastava Planta Medica*, 1980, 39(2):157-63
- [3] Moon E J, You M L, Lee O H, *et al. Angiogenesis*, 1999, 3(2):117-23.
- [4] Park C, Moon D O, Rhu C H, *et al. Biol .Pharm. Bull.*, 2007, 30(7):1317-23.
- [5] Nair V D, Kanfer I, Hoogmartens J. *J. Pharmaceut .Biomed.* , 2006, 41(3):731-7.

[Contact]

Address:

S5-3 Building, No. 111, Dongfeng Rd.,
Wuhan Economic and Technological Development Zone,
Wuhan, Hubei 430056,
China

Email: info@chemfaces.com

Tel: +86-27-84237783

Fax: +86-27-84254680

Web: www.chemfaces.com

Tech Support: service@chemfaces.com