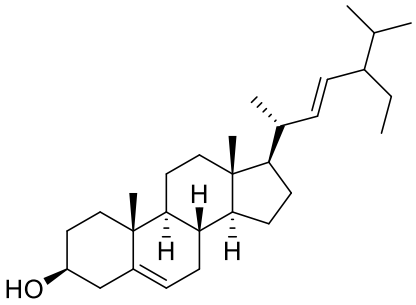
PRODUCT DATA SHEET

Stigmasterol

Catalog number: 1121, 1121-k
Common Name: 5,22-Cholestadien-24-*beta*-ethyl-23-*beta*-ol
Source: synthetic
Solubility: chloroform
CAS number: 83-48-7

Molecular Formula: 413
Molecular Weight: $C_{29}H_{48}O$
Storage: -20°C
Purity: TLC >95%, GC >95%
TLC System: hexane/ethyl acetate, (60:40 by vol.)
Appearance: solid



Application Notes:

Stigmasterol is a plant sterol often found in plant oils. It may have beneficial effects as a therapeutic agent in certain cancers[1] and it has been found to inhibit inflammation and to have antioxidant properties. Plant sterols are important components of membranes and have a particular role in the plasma membrane, mitochondrial outer membrane, and endoplasmic reticulum. Plant sterols will complex with glycosphingolipids in raft-like sub-domains and can affect many cellular functions including membrane fluidity, permeability, activity of membrane-bound enzymes, cellular differentiation, cellular signaling, and cellular proliferation. They can be esterified, glycoslilated, and acylated to form steryl esters, steryl glycosides, and acylated steryl glycosides. Sterol esters are usually found only in small amounts naturally but sterol glycosides account for most of the common plant sterols. Plant sterols have been used extensively in humans to attempt to lower cholesterol and treat certain cancers.[2] When plant sterols are consumed by animals it can lead to a dysfunction of metabolism and result in sitosterolemia, a high plasma plant sterol concentration.[3]

Selected References:

1. Y. Kasahara et al. "Carthami flos extract and its component, stigmasterol, inhibit tumour promotion in mouse skin two-stage carcinogenesis" *Phytotherapy Research*, Vol. 8(6), pp. 327–331, *1994*
2. A. de Jong, J. Plat, R. Mensink "Metabolic effects of plant sterols and stanols (Review)" *Journal of Nutritional Biochemistry*, Vol. 14:7 pp. 362-369, *2003*
3. J. Kruit et al. "Plant Sterols Cause Macrothrombocytopenia in a Mouse Model of Sitosterolemia" Journal of Biological Chemistry, Vol. 283 pp. 6281-6287, 2008