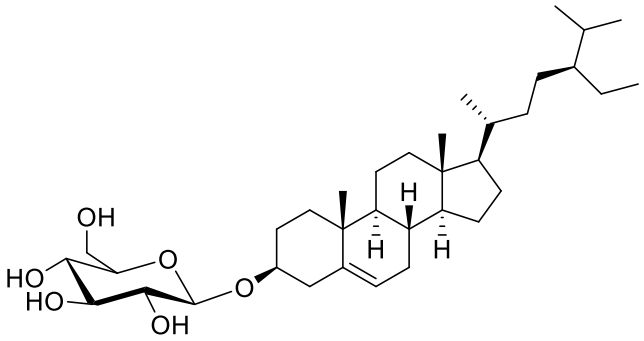
PRODUCT DATA SHEET

Steryl Glucosides

Catalog number: 1117, 1117-k
Synonyms: Sterolins
Source: natural, plant
Solubility: chloroform/methanol/water (2:1:0.1), warm
CAS number: N/A
Molecular Formula: $C_{35}H_{60}O_6$

Molecular Weight: 577 (based on *beta*-sitosteryl glucoside)
Storage: -20°C
Purity: TLC >98%; identity confirmed by MS
TLC System: chloroform/methanol/water (70:15:2 by vol.)
Appearance: solid



beta-sitosteryl glucoside (major component)

Application Notes:

This product contains a mixture of non-esterified steryl glucosides composed of approximately 56% *beta*-sitosteryl glucoside, 25% *beta*-campesteryl glucoside, 18% *beta*-stigmasteryl glucoside, and 1% *beta-delta*-5-avenosteryl glucoside. These percentages are approximate and may change from lot to lot. Steryl glucosides are one of several common phytosterol lipid classes found in vegetable oil and other plant materials. A significant amount of the sterols that are present in dietary foods originate from steryl glucosides.[1] During the production of biodiesel some of the esterified steryl glucosides are esterified, making them less soluble, and both forms cause a problem as an engine fuel by clogging fuel filters. Sterols have demonstrated cholesterol lowering, anticarcinogenic, and immune-modulating properties.[2] Steryl glycosides and esterified steryl glycosides serve as membrane components, storage forms of sterols, transporters, and signaling molecules in plants.[3] A report has indicated that steryl glucosides are neurotoxic to motor neurons and are the main contributor to amyotrophic lateral sclerosis-parkinsonism dementia complex manifested by the consumption of cycad seeds.[4]

Selected References:

1. K. Phillips et al. "Analysis of Steryl Glucosides in Foods and Dietary Supplements by Solid-Phase Extraction and Gas Chromatography" *Journal of Food and Lipids*, Vol. 12 pp. 124-140, *2005*
2. R. Moreau et al. "Phytosterols, phytostanols, and their conjugates in foods: Structural diversity, quantitative analysis, and health-promoting uses" *Prog. Lipid Res.* Vol. 41 pp. 457-500, *2002*
3. S. Grille et al. "The functions of steryl glycosides come to those who wait: Recent advances in plants, fungi, bacteria and animals" *Prog Lipid Res*, Vol. 49 pp. 262-288, *2010*
4. R. Tabata et al. "Chronic Exposure to Dietary Sterol Glucosides is Neurotoxic to Motor Neurons and Induces an ALS-PDC Phenotype" *Neuromolecular Med*., Vol. 10(1) pp. 24, *2008*

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