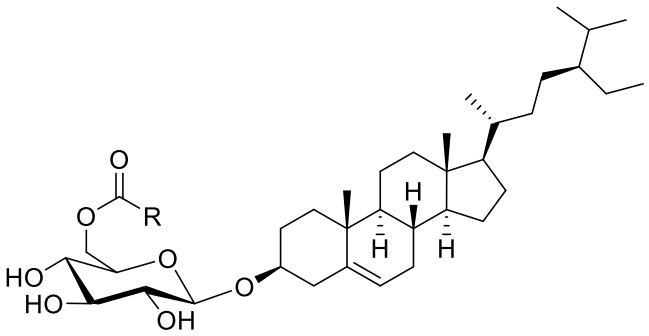
PRODUCT DATA SHEET

Esterified Steryl Glucosides

Catalog number: 1118, 1118-k
Synonyms: Esterified sterolins
Source: natural, plant
Solubility: chloroform, ethyl ether, pyridine
CAS number: N/A
Molecular Formula: $C_{51}H_{90}O_7$

Molecular Weight: 815 (based on *beta*-Sitosteryl glucoside palmitate)
Storage: -20°C
Purity: TLC >98%; identity confirmed by MS
TLC System: chlorform/methanol/water (70:15:2)
Appearance: solid



Application Notes:

This product contains a mixture of esterified steryl glucosides composed of *beta*-sitosteryl glucoside, *beta*-campesteryl glucoside and *beta*-stigmasteryl glucoside. Steryl glucosides are one of several common phytosterol lipid classes found in vegetable oil and other plant materials and 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 in biodiesel 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] Esterified steryl glucosides are activators of two enzymes related to diabetes and affect pancreatic *beta*-cells, suggesting that they could have an important role in treating diabetes.[5]

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*
5. S. Usuki et al. "IGF-1 Induction by Acylated Steryl *beta*-Glucosides Found in a Pre-Germinated Brown Rice Diet Reduces Oxidative Stress in Streptozotocin-Induced Diabetes" *PLoS ONE*, Vol. 6(12) pp. 1-12, *2011*

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.