

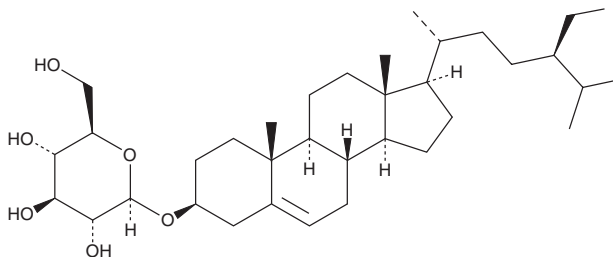
# PRODUCT INFORMATION



## $\beta$ -Sitosterol-D-glucoside

Item No. 11906

**CAS Registry No.:** 474-58-8  
**Formal Name:** (3 $\beta$ )-stigmast-5-en-3-yl  $\beta$ -D-glucopyranoside  
**Synonyms:** BSSG, Daucosterol, NSC 165962, Stigma-5-en-3-O- $\beta$ -glucoside  
**MF:** C<sub>35</sub>H<sub>60</sub>O<sub>6</sub>  
**FW:** 576.9  
**Purity:**  $\geq 90\%$   
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq 4$  years  
**Item Origin:** Plant/*Dioscorea nipponica* Makino



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

### Laboratory Procedures

$\beta$ -Sitosterol-D-glucoside is supplied as a solid. A stock solution may be made by dissolving the  $\beta$ -sitosterol-D-glucoside in the solvent of choice, which should be purged with an inert gas.  $\beta$ -Sitosterol-D-glucoside is soluble in the organic solvent methanol.

### Description

$\beta$ -Sitosterol-D-glucoside is a sterol glycoside that has been found in *P. pseudotaimingasa* and has diverse biological activities.<sup>1-4</sup> It is active against *E. coli* and *S. aureus*.<sup>1</sup>  $\beta$ -Sitosterol-D-glucoside inhibits  $\alpha$ -amylase and  $\alpha$ -glucosidase and scavenges DPPH (Item No. 14805) radicals (IC<sub>50</sub>s = 46.4, 17, and 155  $\mu$ M, respectively).<sup>2</sup> It inhibits the proliferation of HepG2 and SMMC-7721 hepatocellular carcinoma cells (IC<sub>50</sub>s = 143.4 and 138.73  $\mu$ g/ml, respectively) and migration and invasion in the same cells when used at concentrations of 50 or 100  $\mu$ g/ml.  $\beta$ -Sitosterol-D-glucoside (200  $\mu$ l of a 200  $\mu$ g/ml solution) increases survival and decreases the number of kidney colony-forming units (CFUs) in a mouse model of candidiasis induced by *C. albicans*.<sup>4</sup>

### References

1. Cho, E.J., Choi, J.Y., Lee, K.H., et al. Isolation of antibacterial compounds from *Parasenecio pseudotaimingasa*. *Hort. Environ. Biotechnol.* **53**(6), 561-564 (2012).
2. Dehghan, H., Salehi, P., and Amiri, M.S. Bioassay-guided purification of  $\alpha$ -amylase,  $\alpha$ -glucosidase inhibitors and DPPH radical scavengers from roots of *Rheum turkestanicum*. *Ind. Crops Prod.* **117**, 303-309 (2018).
3. Zeng, J., Liu, X., Li, X., et al. Daucosterol inhibits the proliferation, migration, and invasion of hepatocellular carcinoma cells via Wnt/ $\beta$ -catenin signaling. *Molecules* **22**(6), 862 (2017).
4. Lee, J.-H., Lee, J.Y., Park, J.H., et al. Immunoregulatory activity by daucosterol, a  $\beta$ -sitosterol glycoside, induces protective Th1 immune response against disseminated Candidiasis in mice. *Vaccine* **25**(19), 3834-3840 (2007).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/25/2023

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM