

# PRODUCT INFORMATION



## Disogluside

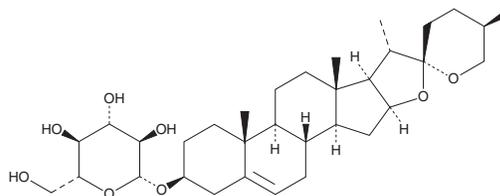
Item No. 34746

**CAS Registry No.:** 14144-06-0  
**Formal Name:** (3 $\beta$ ,25R)-spirost-5-en-3-yl  $\beta$ -D-glucopyranoside  
**Synonyms:** Diosgenin 3-O- $\beta$ -D-Glucopyranoside,  
Diosgenin Glucoside,  
Diosgenyl  $\beta$ -D-Glucopyranoside

**MF:** C<sub>33</sub>H<sub>52</sub>O<sub>8</sub>  
**FW:** 576.8  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years

**Item Origin:** Plant/*Trillium tschonoskii* Maxim Root

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



### Laboratory Procedures

Disogluside is supplied as a solid. A stock solution may be made by dissolving the disogluside in the solvent of choice, which should be purged with an inert gas. Disogluside is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of disogluside in these solvents is approximately 1 mg/ml.

Disogluside is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, disogluside should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Disogluside has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Disogluside is a steroidal saponin that has been found in *T. tschonoskii* and has diverse biological activities.<sup>1-5</sup> It is an inhibitor of UDP-glucuronosyltransferase (UGT) isoform UGT1A4 (IC<sub>50</sub> = 10.5  $\mu$ M).<sup>1</sup> Disogluside is cytotoxic to K562 chronic myeloid leukemia (CML) cells (IC<sub>50</sub> = ~7.5  $\mu$ M).<sup>2</sup> It improves neurological function and decreases neuronal damage in a rat model of spinal cord injury when administered at a dose of 100 mg/kg.<sup>3</sup> Disogluside (50 mg/kg) decreases serum levels of glucose, insulin, and triglycerides in diabetic *db/db* mice.<sup>4</sup> It reduces serum malondialdehyde (MDA) levels and stomach myeloperoxidase (MPO) activity in a mouse model of ethanol-induced gastric ulcers.<sup>5</sup>

### References

1. Xu, M., Dong, P., Tian, X., *et al.* Drug interaction study of natural steroids from herbs specifically toward human UDP-glucuronosyltransferase (UGT) 1A4 and their quantitative structure activity relationship (QSAR) analysis for prediction. *Pharmacol. Res.* **110**, 139-150 (2016).
2. Liu, M.-J., Wang, Z., Ju, Y., *et al.* The mitotic-arresting and apoptosis-inducing effects of diosgenyl saponins on human leukemia cell lines. *Biol. Pharm. Bull.* **27(7)**, 1059-1065 (2004).
3. Chen, X.-B., Wang, Z.-L., Yang, Q.-Y., *et al.* Diosgenin glucoside protects against spinal cord injury by regulating autophagy and alleviating apoptosis. *Int. J. Mol. Sci.* **19(8)**, 2274 (2018).
4. Wu, Y., Ye, F., Lu, Y., *et al.* Diosgenin glucoside protects against myocardial injury in diabetic mice by inhibiting RIP140 signaling. *Am. J. Transl. Res.* **10(11)**, 3742-3749 (2018).
5. Chen, T., Jiang, W., Zhang, H., *et al.* Protective effect of trillin against ethanol-induced acute gastric lesions in an animal model. *RSC Adv.* **6**, 20081-20088 (2016).

#### 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, 11/04/2022

#### 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