

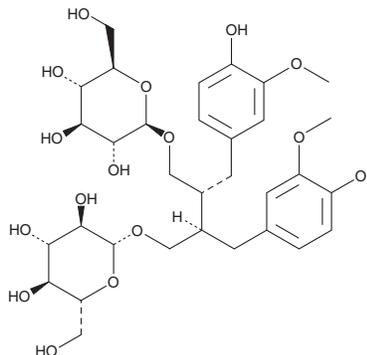
PRODUCT INFORMATION



Secoisolariciresinol Diglucoside

Item No. 24974

CAS Registry No.: 158932-33-3
Formal Name: (2R,3R)-2,3-bis[(4-hydroxy-3-methoxyphenyl)methyl]-1,4-butanediyl bis-β-D-glucopyranoside
Synonym: SDG
MF: C₃₂H₄₆O₁₆
FW: 686.7
Purity: ≥98%
UV/Vis.: λ_{max}: 227, 279 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Secoisolariciresinol diglucoside (SDG) is supplied as a crystalline solid. A stock solution may be made by dissolving the SDG in the solvent of choice, which should be purged with an inert gas. SDG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of SDG in these solvents is approximately 2, 5, and 10 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of SDG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of SDG in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

SDG is a lignan that has been found in flaxseed with antioxidant, antiproliferative, antidiabetic, and cardioprotective biological activities.¹⁻⁶ It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals (IC₅₀ = 78.9 μg/ml) in a cell-free assay and dose-dependently inhibits the growth of SW480 human colon cancer cells *in vitro*.^{2,3} Dietary administration of SDG reduces the number of proliferating tumor cells in an MCF-7 human breast cancer mouse xenograft model in the presence of circulating estrogen.⁴ It also increases insulin and decreases glucose serum levels in rats with diabetes induced by streptozotocin (Item No. 13104) when administered at a dose of 20 mg/kg.⁵ SDG (20 mg/kg per day) decreases infarct size in rats with myocardial infarction induced by permanent occlusion of the left anterior descending coronary artery.⁶

References

1. Imran, M., Ahmad, N., Anjum, F.M., et al. *Nutr. J.* **14**:71, (2015).
2. Moree, S.S. and Rajesha, J. *Mol. Cell Biochem.* **373**(1-2), 179-187 (2013).
3. Ayella, A., Lim, S., Jiang, Y., et al. *Nutr. Res.* **30**(11), 762-769 (2010).
4. Truan, J.S., Chen, J.-M., and Thompson, L.U. *Nutr. Cancer* **64**(1), 65-71 (2012).
5. Moree, S.S., Kavishankar, G.B., and Rajesha, J. *Phytomedicine* **20**(3-4), 237-245 (2013).
6. Penumathsa, S.V., Koneru, S., Zhan, L., et al. *J. Mol. Cell. Cardiol.* **44**(1), 170-179 (2008).

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.

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