

PRODUCT INFORMATION



Methylprotodioscin

Item No. 36344

CAS Registry No.: 54522-52-0

Formal Name: (3 β ,22 α ,25R)-26-(β -D-glucopyranosyloxy)-22-methoxyfurost-5-en-3-yl O-6-deoxy- α -L-mannopyranosyl-(1 \rightarrow 2)-O- β -D-glucopyranoside

Synonyms: 22-O-Methylprotodioscin, NSC 698790, Smilax Saponin B

MF: C₅₂H₈₆O₂₂

FW: 1,063.2

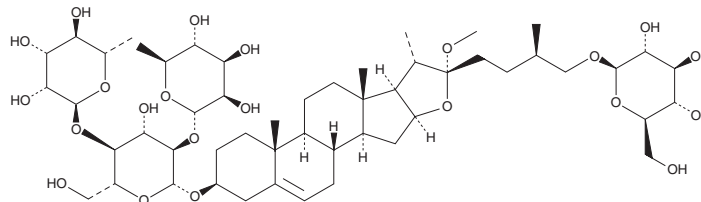
Purity: \geq 98%

Supplied as: A solid

Storage: -20°C

Stability: \geq 4 years

Item Origin: Plant/*Dioscorea opposita*



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

Laboratory Procedures

Methylprotodioscin is supplied as a solid. A stock solution may be made by dissolving the methylprotodioscin in the solvent of choice, which should be purged with an inert gas. Methylprotodioscin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of methylprotodioscin in these solvents is approximately 2 mg/ml.

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 methylprotodioscin can be prepared by directly dissolving the solid in aqueous buffers. The solubility of methylprotodioscin in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Methylprotodioscin is a steroidal saponin that has been found in *A. cochinchinensis* and has diverse biological activities.¹⁻³ It suppresses mucin 5AC (MUC5AC) production induced by EGF or phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) in H292 cells when used at a concentration of 1 μ M.¹ Methylprotodioscin inhibits the proliferation of HeLa cervical cancer cells (IC₅₀ = 18.31 μ M) but has no effect on non-cancerous HEK293 cells.² It also induces production of reactive oxygen species (ROS), apoptosis, and cell cycle arrest at the G₂/M phase in HeLa cells. *In vivo*, methylprotodioscin (50 mg/kg) decreases bone loss and prevents decreases in bone mineral content and bone mineral density in a mouse model of ovariectomy-induced osteoporosis.³

References

1. Lee, H.J., Park, J.S., Yoon, Y.P., et al. *Phytomedicine* **22**(5), 568-572 (2015).
2. Ma, Y.-L., Zhang, Y.-S., Zhang, F., et al. *Food Chem. Toxicol.* **132**, 110655 (2019).
3. Yin, J., Tezuka, Y., Kouda, K., et al. *Planta Med.* **70**(3), 220-226 (2004).

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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