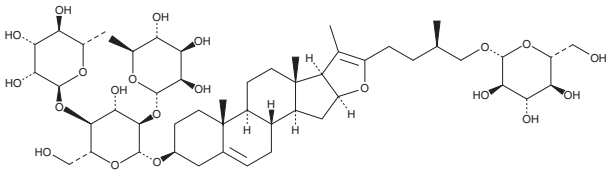
PRODUCT INFORMATION

Pseudoprotodioscin

Item No. 33215

CAS Registry No.:	102115-79-7
Formal Name:	(3β,25R)-26-(β-D-glucopyranosyloxy)furosta-5,20(22)-dien-3-yl O-6-deoxy-α-L-mannopyranosyl-(1→2)-O-[6-deoxy-β-D-glucopyranoside
MF:	$C_{51}H_{82}O_{21}$
FW:	1,031.2
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Dioscorea polystachya*



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

Laboratory Procedures

Pseudoprotodioscin is supplied as a crystalline solid. A stock solution may be made by dissolving the pseudoprotodioscin in the solvent of choice, which should be purged with an inert gas. Pseudoprotodioscin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of pseudoprotodioscin in these solvents is approximately 10 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 pseudoprotodioscin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of pseudoprotodioscin in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Pseudoprotodioscin is a steroidal saponin that has been found in *D. panthaica* and has diverse biological activities.[1-3] It is cytotoxic to A375, L929, and HeLa cancer cells (IC_{50}s = 5.73, 5.09, and 3.32 µM, respectively).[1] Pseudoprotodioscin (2 µM) increases nuclear accumulation of estrogen receptor α (ERα) in 3T3-L1 preadipocytes cultured in differentiation medium.[2] It inhibits LPS-induced increases in NF-κB activity in reporter assays using isolated mouse peritoneal macrophages and human umbilical vein endothelial cells (HUVECs) when used at a concentration of 2.5 µM.[3] Pseudoprotodioscin (1, 2.5, and 5 mg/kg) reduces atherosclerotic plaque area and inhibits increases in serum total cholesterol and triglyceride levels in ovariectomized *ApoE*$^{-/-}$ mice fed a high-cholesterol diet.

References

1. Dong, M., Feng, X.-Z., Wu, L.-J., *et al.* Two new steroidal saponins from the rhizomes of *Dioscorea panthaica* and their cytotoxic activity. *Planta Med.* **67(9)**, 853-857 (2001).
2. Xiao, J., Wang, N.-L., Sun, B., *et al.* Estrogen receptor mediates the effects of pseudoprotodiocsin on adipogenesis in 3T3-L1 cells. *Am. J. Physiol. Cell Physiol.* **299(1)**, C128-C138 (2010).
3. Sun, B., Yang, D., Yin, Y.-Z., *et al.* Estrogenic and anti-inflammatory effects of pseudoprotodioscin in atherosclerosis-prone mice: Insights into endothelial cells and perivascular adipose tissues. *Eur. J. Pharmacol.* **869**, 172887 (2020).

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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