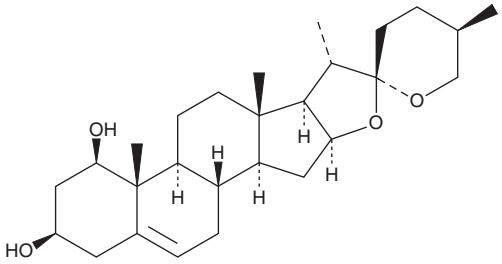
PRODUCT INFORMATION

Ruscogenin

Item No. 25217

CAS Registry No.:	472-11-7
Formal Name:	(1β,3β,25R)-spirost-5-ene-1,3-diol
MF:	$C_{27}H_{42}O_4$
FW:	430.6
Purity:	≥95%
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

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

Ruscogenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ruscogenin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Ruscogenin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ruscogenin is a steroid sapogenin that has been found in *O. japonicus* with diverse biological activities.[1-5] It reduces adhesion of HL-60 cells to ECV304 cells induced by phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) with an IC_{50} value of 7.76 nM and decreases peritoneal leukocyte migration induced by zymosan A (Item No. 21175) in mice when administered at a dose of 5 mg/kg.[1] Oral administration of ruscogenin (12.5 mg/kg) inhibits ADP-induced platelet aggregation in rats.[2] Ruscogenin prevents monocrotaline-induced increases in mean arterial pressure (MAP), expression of IL-1β and TNF in plasma and lung, and endothelial cell apoptosis in pulmonary arterioles in a rat model of pulmonary hypertension.[3] It also reduces proteinuria and renal macrophage infiltration in a rat model of diabetes induced by streptozotocin (Item No. 13104) and decreases gene expression of inflammatory cytokines, dyslipidemia, and liver steatosis in a hamster model of high-fat diet-induced nonalcoholic steatohepatitis (NASH).[4,5]

References

1. Kou, J., Sun, Y., Lin, Y., *et al.* Anti-inflammatory activities of aqueous extract from *Radix Ophiopogon* japonicus and its two constituents. *Biol. Pharm. Bull.* **28(7)**, 1234-1238 (2005).
2. Kou, J., Tian, Y., Yan, J., *et al.* Antithrombotic activities of aqueous extract from *Radix Ophiopogon* japonicus and its two constituents. *Biol. Pharm. Bull.* **29(6)**, 1267-1270 (2006).
3. Bi, L.-Q., Zhu, R., Kong, H., *et al.* Ruscogenin attenuates monocrotaline-induced pulmonary hypertension in rats. *Int. Immunopharmacol.* **16(1)**, 7-16 (2013).
4. Lu, H.-H., Tzeng, T.-F., Liou, S.-S., *et al.* Ruscogenin ameliorates diabetic nephropathy by its anti-inflammatory and anti-fibrotic effects in streptozotocin-induced diabetic rat. *BMC Complement. Altern. Med.* **14:110**, (2014).
5. Lu, H.-J., Tzeng, T.-F., Liou, S.-S., *et al.* Ruscogenin ameliorates experimental nonalcoholic steatohepatitis via suppressing lipogenesis and inflammatory pathway. *Biomed. Res. Int.* 652680 (2014).

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