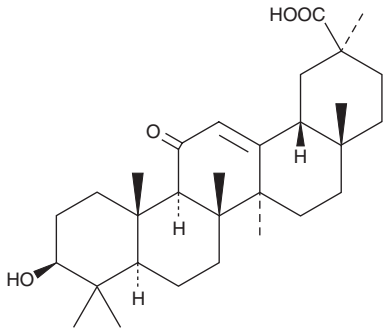
PRODUCT INFORMATION

18β-Glycyrrhetinic Acid

Item No. 11845

CAS Registry No.:	471-53-4
Formal Name:	(20β)-3β-hydroxy-11-oxo-olean-12-en-29-oic acid
Synonyms:	Arthrodont, Biosone, Enoxolone, α-Glycyrrhetinic Acid, GM 1658, NSC 35347, PO 12, STX 352
MF:	$C_{30}H_{46}O_4$
FW:	470.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 248 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

18β-Glycyrrhetinic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 18β-glycyrrhetinic acid in the solvent of choice. 18β-Glycyrrhetinic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 18β-glycyrrhetinic acid in these solvents is approximately 20, 16, and 13 mg/ml.

18β-Glycyrrhetinic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 18β-glycyrrhetinic acid should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 18β-Glycyrrhetinic acid has a solubility of approximately 0.13 mg/ml in a 1:7 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

18β-Glycyrrhetinic acid is a major metabolite of glycyrrhizin (Item No. 11847), one of the main constituents of licorice. Both 18β-glycyrrhetinic acid and glycyrrhizin have been shown to exhibit anti-ulcerative, anti-inflammatory, and immunomodulatory properties. 18β-Glycyrrhetinic acid is an inhibitor of the complement pathway (IC_{50} = 35 µM).[1] At 100 mg/kg/day, 18β-glycyrrhetinic acid is protective against diabetes complications by reducing lipid peroxidation and increasing antioxidant activity in diabetic rats.[2] 18β-Glycyrrhetinic acid inhibits mammalian DNA polymerases α, γ, κ, and λ with IC_{50} values of 16.1, 19.3, 15.8, and 13.7 µM, respectively.[3] At 100-200 µM, 18β-glycyrrhetinic acid suppresses LPS-induced TNF-α production and NF-κB activation in mouse macrophages.[3]

References

1. Kroes, B.H., Beukelman, C.J., van den Berg, A.J.J., *et al.* Inhibition of human complement by β-glycyrrhetinic acid. *Immunology* **90**, 115-120 (1997).
2. Kalaiarasi, P. and Pugalendi, K.V. Protective effect of 18β-glycyrrhetinic acid on lipid peroxidation and antioxidant enzymes in experimental diabetes. *Journal of Pharmacy Research* **4(1)**, 107-111 (2011).
3. Ishida, T., Mizushina, Y., Yagi, S., *et al.* Inhibitory effects of glycyrrhetinic acid on DNA polymerase and inflammatory activities. *Evid. Based Complement. Alternat. Med.* **2012**, (2012).

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