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: C30H46O4
FW: 470.7
Purity: ≥98%
UV/Vis.: \( \lambda_{\text{max}} \) 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