

Glycyrrhetic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Glycyrrhetic acid

Catalog No.: CFN99152

Cas No.: 471-53-4

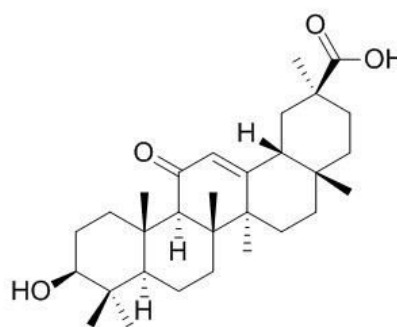
Purity: > 98%

M.F: C₃₀H₄₆O₄

M.W: 470.64

Physical Description: Powder

Synonyms 3β-Hydroxy-11-oxo-18β,20β-olean-12-en-29-oic acid, alpha-Glycyrrhetic acid; Enoxolone; Biogastrone acid; Rhetic acid; Uralenic acid.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Care and daily chemicals;
7. Intermediates & Fine Chemicals;
8. Others.

[Source]

The root of *Glycyrrhize glabra L.*

[Biological Activity or Inhibitors]

Glycyrrhethinic acid, a hydrolysis product of one of the main constituents of licorice, the triterpene glycoside of glycyrrhizic acid, when added to rat liver mitochondria at micromolar concentrations induces swelling, loss of membrane potential, pyridine nucleotide oxidation, and release of cytochrome c and apoptosis inducing factor; indicates that glycyrrhethinic acid is a potent inducer of mitochondrial permeability transition and can trigger the pro-apoptotic pathway.^[1]

Glycyrrhethinic acid and some of its derivatives have anti-inflammatory activities.^[2]

Glycyrrhizic acid shows no significant affinity for mineralocorticoid or glucocorticoid kidney receptor sites, has a low but definite affinity for mineralocorticoid receptors and thus appears to have a direct mineralocorticoid action. ^[3]

Glycyrrhethinic acid inhibits renal 11beta-hydroxysteroid dehydrogenase type 2 (11beta-HSD2) and by that mechanism increases access of cortisol to the mineralocorticoid receptor that causes renal sodium retention and potassium loss, decreases plasma potassium concentrations in patients with anuria, and confers Na(+)-retaining properties on glucocorticoids and amplifies those of aldosterone and deoxycorticosterone. ^[4,5]

Glycyrrhethinic acid has antileukaemic activity.^[6]

Glycyrrhethinic acid (10 microM) induces actin disruption and has tumor cell-selective toxic properties, and that its selectivity is superior to those of all the clinically available antitumor agents tested, suggests that it could be utilized as a promising chemopreventive and therapeutic antitumor agent. ^[7]

[Solvent]

Chloroform, Pyridine, DMSO, Acetone.

[HPLC Method]^[8]

Mobile phase: Methanol-Diethyl ether-H₂O-Acetic acid, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 30 °C;

The wave length of determination: 250 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

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[3] Ulmann A, Menard J, Corvol P. *Endocrinology*, 1975, 97(1):46-51.

[4] Morris D J, Semafuko W E, Latif S A, *et al. Hypertension*, 1992, 20(3):356-60.

[5] Serra A, Uehlinger D E, Ferrari P, *et al. J. Am. Soc. Nephrol.*, 2002, 13(1):191-6.

[6] Logemann W, Lauria F, Cudkowicz G, *et al. Nature*, 1960, 187(187):607-8.

[7] Yamaguchi H, Noshita T, Yu T. *Eur. J. Med. Chem.*, 2010, 45(7):2943-8.

[8] Ren P, Sun G, Ren P, *et al. Asian J. Trad. Med.*, 2008(3):110-6.

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