18-β Glycyrrhetinic Acid

Anti-Irritant

Skin Conditioning

Flavor Masking

McKinley resources, inc.

18-β Glycyrrhetinic Acid

INCI Name: Glycyrrhetinic Acid

CAS Number: 471-53-4

Description:

Glycyrrhetinic acid, also known as enoxolone, is isolated from the licorice plant, Glycyrrhiza glabra. It's anti-inflammatory activity (via inhibition of TNF-α production and histamine release) provides natural skin soothing benefits. It is also widely used as a flavoring agent and is frequently employed to mask the taste of bitter ingredients such as aloe and quinine.

Technical Data:

Test/Properties:	Specification:
Appearance	White to off-white crystalline powder
Odor	Slight characteristic odor
Loss on Drying, %	≤ 1.0
Melting Point, °C	288 - 297
Residue on ignition, %	0 - 0.1
Glycyrrhetinic Acid Content, %	98.0 - 101.0
Solubility	Soluble in ethanol, insoluble in water
Heavy Metals (as Pb), ppm	≤ 20

Recommended Use Level: 0.5% to 1.0%

Applications:

18-β Glycyrrhetinic Acid can be used in a wide variety of cosmetic products including those for skin soothing, after-sun care, after shave, and more. It can also be used for flavoring.

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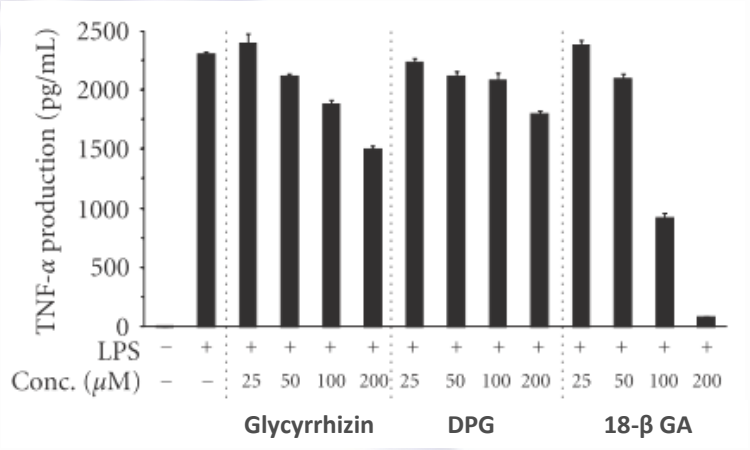
In-vitro 18-β Glycyrrhetinic Acid testing on anti-inflammatory effect[1]

Tumor necrosis factor alpha (TNF-α) is a cell signaling protein involved in inflammation. In this study, macrophages were pretreated with licorice root-derived compounds—glycyrrhizin, dipotassium glycyrrhizate (DPG), or 18-β glycyrrhetinic acid (18-β GA)—for 30 minutes and then treated with 100 ng/mL LPS (to induce an "inflammatory response") for 24 hours. TNF-α concentration was then measured by ELISA.

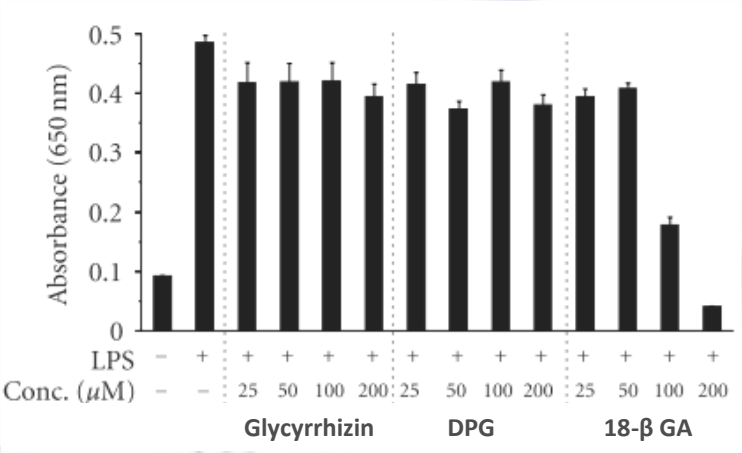
Of the three compounds, 18-β Glycyrrhetinic Acid showed the strongest dose-dependent suppression of LPS-induced TNF-α production.



In-vitro 18-β Glycyrrhetinic Acid testing on anti-inflammatory effect[1]

Nuclear Factor kappa B (NFκB) is a protein complex that can regulate the production of pro-inflammatory compounds. Nuclear translocation of NFκB is an indication of its activation. In this study, HEK293 cells were pretreated for 30 minutes with glycyrrhizin, dipotassium glycyrrhizate (DPG) or 18-β glycyrrhetinic acid (18-β GA) and then treated with 1 ng/mL LPS for 24 hours to induce an "inflammatory response".

Of the three compounds, 18-β Glycyrrhetinic Acid demonstrated the greatest reduction in NFκB nuclear translocation which is associated to anti-inflammatory potential.

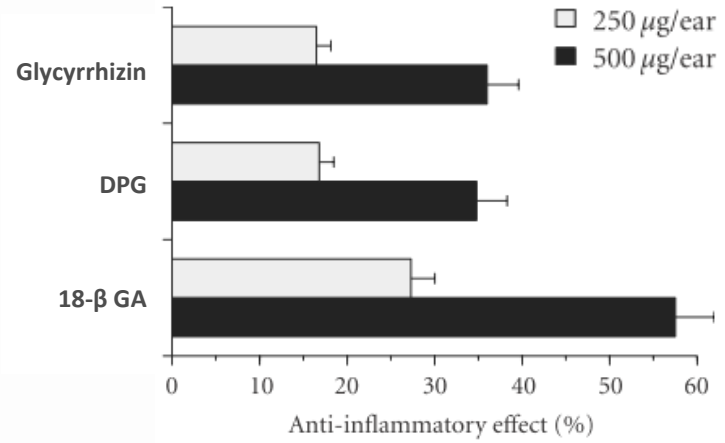


In-vivo 18-β Glycyrrhetinic Acid testing on anti-inflammatory effect[1]

This study examines the anti-inflammatory activity of glycyrrhizin, dipotassium glycyrrhetinate (DPG), and 18-β glycyrrhetinic acid (18-β GA) toward TPA-induced edema of the ear.

Each compound was applied at 250 ug/ear or 500 ug/ear. After 30 minutes, TPA was applied (to induce an "inflammatory response"). Edema was evaluated after 7 hours.

At 500 ug, 18-β Glycyrrhetinic Acid suppressed edema by over 55%



[1]Ishida, et al. Inhibitory Effects of Glycyrrhetinic Acid on DNA Polymerase and Inflammatory Activities. *Evidence-Based Complimentary and Alternative Medicine.* Vol. 2012

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