

## Glicoricone

## Chemical Properties

CAS No.:	161099-37-2
Formula:	C <sub>21</sub> H <sub>20</sub> O <sub>6</sub>
Molecular Weight:	368.4
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

## Biological Description

Description	Glicoricone acts as a partial estrogen antagonist. Glicoricone inhibited the monoamine oxidase with the IC <sub>50</sub> values of $6.0 \times 10^{-5}$ - $1.4 \times 10^{-4}$ M.
Targets(IC <sub>50</sub> )	Estrogen receptor: None MAO: None Progesterone receptor: None
In vitro	Licorice root extracts are often consumed as botanical dietary supplements by menopausal women as a natural alternative to pharmaceutical hormone replacement therapy. In addition to their components liquiritigenin (Liq) and isoliquiritigenin (Iso-Liq), known to have estrogenic activity, licorice root extracts also contain a number of other flavonoids, isoflavonoids, and chalcones. METHODS AND RESULTS: We have investigated the estrogenic activity of 7 of these components, obtained from an extract of Glycyrrhiza glabra powder, namely Glabridin (L1), Calycosin (L2), Methoxychalcone (L3), Vestitol (L4), Glyasperin C (L5), Glycycomarin (L6), and Glicoricone (L7), and compared them with Liq, Iso-Liq, and estradiol (E2). All components, including Liq and Iso-Liq, have low binding affinity for estrogen receptors (ERs). Their potency and efficacy in stimulating the expression of estrogen-regulated genes reveal that Liq and Iso-Liq and L2, L3, L4, and L6 are estrogen agonists. Interestingly, L3 and L4 have an efficacy nearly equivalent to E2 but with a potency ca. 10,000-fold less. The other components, L1, L5 and L7, acted as partial estrogen antagonists. All agonist activities were reversed by the antiestrogen, ICI 182,780, or by knockdown of ER $\alpha$ with siRNA, indicating that they are ER dependent. In HepG2 hepatoma cells stably expressing ER $\alpha$ , only Liq, Iso-Liq, and L3 stimulated estrogen-regulated gene expression, and in all cases gene stimulation did not occur in HepG2 cells lacking ER $\alpha$ . CONCLUSIONS: Collectively, these findings classify the components of licorice root extracts as low potency, mixed ER agonists and antagonists, having a character akin to that of selective estrogen receptor modulators or SERMs.

## Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.714 mL	13.572 mL	27.144 mL
5 mM	0.543 mL	2.714 mL	5.429 mL
10 mM	0.271 mL	1.357 mL	2.714 mL
50 mM	0.054 mL	0.271 mL	0.543 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

## Reference

1. Licorice root components in dietary supplements are selective estrogen receptor modulators with a spectrum of estrogenic and anti-estrogenic activities. Steroids. 2016 Jan;105:42-9.

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