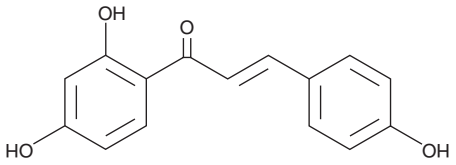
PRODUCT INFORMATION

Isoliquiritigenin

Item No. 10739

CAS Registry No.:	961-29-5
Formal Name:	1-(2E,4-dihydroxyphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one
Synonyms:	GU, ISL
MF:	$C_{15}H_{12}O_4$
FW:	256.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 372 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

Isoliquiritigenin is supplied as a crystalline solid. A stock solution may be made by dissolving the Isoliquiritigenin in the solvent of choice. Isoliquiritigenin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of Isoliquiritigenin in ethanol is approximately 5 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Isoliquiritigenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Isoliquiritigenin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Isoliquiritigenin has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Isoliquiritigenin is a flavonoid that is found in *Glycyrrhizae* species and has diverse biological activities including anticancer, anti-steatotic, antioxidant, anti-inflammatory, gastroprotective, and estrogenic properties.[1-5] It reduces tumor growth in an NCI-H1975 non-small cell lung cancer (NSCLC) mouse xenograft model when administered at doses of 1 and 5 mg/kg.[1] Isoliquiritigenin (10 mg/kg per day) inhibits hepatic steatosis, as indicated by reduced hepatic fat and triglyceride accumulation, and increases in hepatic thiobarbituric acid-reactive substances (TBARS), inducible nitric oxide synthase (iNOS), and COX-2 levels in mice fed a high-fat diet.[4] It also inhibits LPS-induced increases in IL-1β and IL-6 levels in J774A.1 murine macrophages (IC_{50}s = 7.2 and 7.16 µM, respectively).[2] Isoliquiritigenin (5 and 10 mg/kg) reduces gastric acid secretion and gastric ulcer formation in pylorus-ligated rats.[3] It is an estrogen receptor α (ERα) and ERβ agonist (IC_{50}s = 16 and 7.8 µM, respectively) and induces estrogen-responsive alkaline phosphatase activity in Ishikawa endometrial cancer cells (EC_{50} = 2.7 µM).[5] Isoliquiritigenin is also a histamine H_2 receptor and liver X receptor α (LXRα) antagonist.[3,4]

References

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2. Thiyagarajan, P., Chandrasekaran, C.V., Deepak, H.B., *et al. Inflammopharmacology* **19(4)**, 235-241 (2011).
3. Kim, D.C., Choi, S.-Y.S., Kim, S.H., *et al. Mol. Pharmacol.* **70(2)**, 493-500 (2006).
4 Kim, Y.M., Kim, T.H., Kim, Y.W., *et al. Free Radic. Bio. Med.* **49(11)**, 1722-1734 (2010).
5. Hajirahimkhan, A., Simmler, C., Yuan, Y., *et al. PLoS One* **8(7)**, e67947 (2013).

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