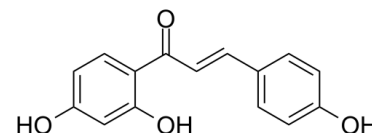


## Data Sheet

<b>Product Name:</b>	Isoliquiritigenin
<b>Cat. No.:</b>	CS-1745
<b>CAS No.:</b>	961-29-5
<b>Molecular Formula:</b>	C <sub>15</sub> H <sub>12</sub> O <sub>4</sub>
<b>Molecular Weight:</b>	256.25
<b>Target:</b>	Aldose Reductase; Apoptosis; Autophagy
<b>Pathway:</b>	Apoptosis; Autophagy; Metabolic Enzyme/Protease
<b>Solubility:</b>	DMSO : ≥ 100 mg/mL (390.24 mM); Ethanol : 100 mg/mL (390.24 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Isoliquiritigenin is an anti-tumor flavonoid from the root of *Glycyrrhiza glabra*, which inhibits **aldose reductase** with an **IC<sub>50</sub>** of 320 nM. **IC<sub>50</sub> & Target:** IC<sub>50</sub>: 320 nM (Aldose reductase) **In Vitro:** Isoliquiritigenin may prevent diabetic complications through inhibiting rat lens aldose reductase with an IC<sub>50</sub> of 320 nM and sorbitol accumulation in human red blood cells with an IC<sub>50</sub> of 2.0 μM<sup>[1]</sup>. Isoliquiritigenin (100 μM) markedly inhibits the hypoxia-induced prolonged TPS and TR90 of cardiomyocytes. Isoliquiritigenin significantly triggers AMPK Thr172 phosphorylation as compared with vehicle group. Isoliquiritigenin treatment also induces extracellular signal-regulated kinase (ERK) signaling pathway in the cardiomyocytes. Isoliquiritigenin treatment significantly decreases the intracellular ROS levels of isolated cardiomyocytes during hypoxia/reoxygenation<sup>[3]</sup>. Isoliquiritigenin not only downregulates IL-6 expression but also significantly decreases levels of phosphorylated ERK and STAT3 and can inhibit phosphorylation levels of ERK and STAT3 induced by recombinant human IL-6, which are critical signaling proteins in IL-6 signaling regulation networks<sup>[4]</sup>. **In Vivo:** Isoliquiritigenin shows concentration-dependent inhibition of the tonic contraction of mouse jejunum induced by various types of stimulants such as CCh (1 mM), KCl (60 mM) and BaCl<sub>2</sub> (0.3 mM) with IC<sub>50</sub> values of 4.96±1.97 mM, 4.03±1.34 mM and 3.70±0.58 mM, respectively<sup>[2]</sup>. Isoliquiritigenin exhibits significant anti-tumor activity in MM xenograft models and synergistically enhances the anti-myeloma activity of adriamycin<sup>[4]</sup>.

### References:

- [1]. Aida K, et al. Isoliquiritigenin: a new aldose reductase inhibitor from glycyrrhizae radix. *Planta Med.* 1990 Jun;56(3):254-8.
- [2]. Sato Y, et al. Isoliquiritigenin, one of the antispasmodic principles of *Glycyrrhiza uralensis* roots, acts in the lower part of intestine. *Biol Pharm Bull.* 2007 Jan;30(1):145-9.
- [3]. Zhang X. Natural antioxidant-isoliquiritigenin ameliorates contractile dysfunction of hypoxic cardiomyocytes via AMPK signaling pathway. *Mediators Inflamm.* 2013;2013:390890.
- [4]. Chen X, et al. Isoliquiritigenin inhibits the growth of multiple myeloma via blocking IL-6 signaling. *J Mol Med (Berl).* 2012 Nov;90(11):1311-9.

### CAIndexNames:

2-Propen-1-one, 1-(2,4-dihydroxyphenyl)-3-(4-hydroxyphenyl)-, (2E)-

### SMILES:

O=C(C1=CC=C(O)C=C1O)/C=C/C2=CC=C(O)C=C2

**Caution: Product has not been fully validated for medical applications. For research use only.**

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