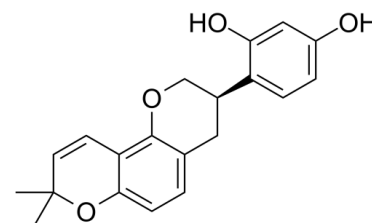


## Data Sheet

<b>Product Name:</b>	Glabridin
<b>Cat. No.:</b>	CS-0008929
<b>CAS No.:</b>	59870-68-7
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>20</sub> O <sub>4</sub>
<b>Molecular Weight:</b>	324.37
<b>Target:</b>	PPAR; Reactive Oxygen Species
<b>Pathway:</b>	Cell Cycle/DNA Damage; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
<b>Solubility:</b>	DMSO : 150 mg/mL (462.43 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

Glabridin is a natural isoflavan from *Glycyrrhiza glabra*, binds to and activates **PPAR $\gamma$** , with an **EC<sub>50</sub>** of 6115 nM. Glabridin exhibits antioxidant, anti-bacterial, anti-nephritic, anti-diabetic, anti-fungal, antitumor, anti-inflammatory, antiosteoporotic, cardiovascular protective, neuroprotective and radical scavenging activities<sup>[1][2]</sup>. **In Vitro:** Glabridin binds to and activates PPAR $\gamma$ , with an EC<sub>50</sub> of 6115 nM<sup>[1]</sup>.

Glabridin (40, 80  $\mu$ M) inhibits the proliferation of SCC-9 and SAS cell lines in a dose- and time-dependent manner after treatment for 24 and 48 h<sup>[2]</sup>.

Glabridin (0-80  $\mu$ M) also induces apoptosis, causes Sub-G1 cell cycle arrest in SCC-9 and SAS cell lines<sup>[2]</sup>.

Glabridin (0, 20, 40, and 80  $\mu$ M) dose-dependently activates caspase-3, -8, and -9 and increases PARP cleavage, significantly phosphorylates ERK1/2, JNK1/2, and p-38 MAPK in SCC-9 cells<sup>[2]</sup>. **In Vivo:** Glabridin (50 mg/kg, p.o. once daily) shows potent anti-inflammatory activity, ameliorates the inflammatory alterations induced by Dextran sodium sulphate (DSS) in rats<sup>[3]</sup>.

### References:

- [1]. Rebhun JF, et al. Identification of glabridin as a bioactive compound in licorice (*Glycyrrhiza glabra* L.) extract that activates human peroxisome proliferator-activated receptor gamma (PPAR $\gamma$ ). *Fitoterapia*. 2015 Oct;106:55-61.
- [2]. Chen CT, et al. Glabridin induces apoptosis and cell cycle arrest in oral cancer cells through the JNK1/2 signaling pathway. *Environ Toxicol*. 2018 Jun;33(6):679-685.
- [3]. El-Ashmawy NE, et al. Downregulation of iNOS and elevation of cAMP mediate the anti-inflammatory effect of glabridin in rats with ulcerative colitis. *Inflammopharmacology*. 2018 Apr;26(2):551-559.

### CAIndexNames:

1,3-Benzenediol, 4-[(3R)-3,4-dihydro-8,8-dimethyl-2H,8H-benzo[1,2-b:3,4-b']dipyran-3-yl]-

### SMILES:

OC1=CC=C([C@H]2CC3=CC=C4C(C=CC(C)(C)O4)=C3OC2)C(O)=C1

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

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