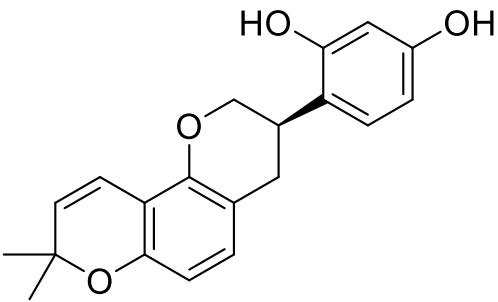


# Product data sheet



MedKoo Cat#: 540177 Name: Glabridin CAS#: 59870-68-7 Chemical Formula: C <sub>20</sub> H <sub>20</sub> O <sub>4</sub> Exact Mass: 324.1362 Molecular Weight: 324.376	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

## 1. Product description:

Glabridin is a GABA-A receptor positive modulator found in Glycyrrhiza. It promotes fatty acid oxidation, suppresses adipogenesis, improves learning and memory, and inhibits Rho signaling by decreasing FAK and Src activation.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	92.49
DMF:PBS (pH 7.2) (1:6)	0.14	0.43
DMSO	36.33	112.01
Ethanol	20.0	61.66

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.08 mL	15.41 mL	30.83 mL
5 mM	0.62 mL	3.08 mL	6.17 mL
10 mM	0.31 mL	1.54 mL	3.08 mL
50 mM	0.06 mL	0.31 mL	0.62 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Aung KH, Liu H, Ke Z, Jiang S, Huang J. Glabridin Attenuates the Retinal Degeneration Induced by Sodium Iodate In Vitro and In Vivo. *Front Pharmacol.* 2020 Oct 15;11:566699. doi: 10.3389/fphar.2020.566699. PMID: 33178017; PMCID: PMC7593553.
2. Heo JS, Lee SG, Kim HO. The Flavonoid Glabridin Induces OCT4 to Enhance Osteogenic Potential in Mesenchymal Stem Cells. *Stem Cells Int.* 2017;2017:6921703. doi: 10.1155/2017/6921703. Epub 2017 Nov 14. PMID: 29348759; PMCID: PMC5733956.

### In vivo study

1. Parlar A, Arslan SO, Çam SA. Glabridin Alleviates Inflammation and Nociception in Rodents by Activating BKCa Channels and Reducing NO Levels. *Biol Pharm Bull.* 2020 May 1;43(5):884-897. doi: 10.1248/bpb.b20-00038. Epub 2020 Mar 6. PMID: 32147624.
2. Huang K, Liu Y, Tang H, Qiu M, Li C, Duan C, Wang C, Yang J, Zhou X. Glabridin Prevents Doxorubicin-Induced Cardiotoxicity Through Gut Microbiota Modulation and Colonic Macrophage Polarization in Mice. *Front Pharmacol.* 2019 Feb 15;10:107. doi: 10.3389/fphar.2019.00107. PMID: 30833897; PMCID: PMC6387923.

# Product data sheet



## 7. Bioactivity

### Biological target:

Glabridin is a natural isoflavan from *Glycyrrhiza glabra*, binds to and activates PPAR $\gamma$ , with an EC<sub>50</sub> of 6115 nM.

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### In vitro activity

The results showed that treatment of 1200 $\mu$ g/ml Sodium iodate (NaIO<sub>3</sub>) significantly reduced the cell viability compared with the control group, while treatment with 2, 4, and 8 $\mu$ M Glab (glabridin) significantly attenuated NaIO<sub>3</sub>-induced cell death compared with the NaIO<sub>3</sub> group (Figure 1B).

Reference: Front Pharmacol. 2020 Oct 15;11:566699. <https://pubmed.ncbi.nlm.nih.gov/33178017/>

### In vivo activity

Western blot analysis revealed that GLA (glabridin) suppressed DOX-induced cleaved-caspase 3 and cleaved-caspase 9 activation. While DOX suppressed expression of anti-apoptotic proteins HAX-1 and Bcl-2, GLA dramatically upregulated the proteins expression of HAX-1 and Bcl-2 (Figure 1G). These results suggest that GLA is effective in protecting against DOX-induced cardiotoxicity in mice.

Reference: Biol Pharm Bull. 2020 May 1;43(5):884-897. <https://pubmed.ncbi.nlm.nih.gov/32147624/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*