

Danshensu Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Danshensu

Catalog No.: CFN99539

Cas No.: 22681-72-7

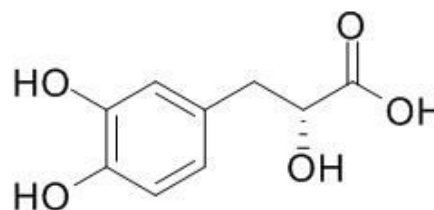
Purity: > 98%

M.F: C₉H₁₀O₅

M.W: 198.17

Physical Description: White cryst.

Synonyms: 2-(3,4-Dihydroxyphenyl)-2-hydroxypropanoic acid.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

[Source]

The root of *Salvia miltiorrhiza* Bge.

[Biological Activity or Inhibitors]

Danshensu from the aqueous extract of *Salvia miltiorrhiza* (Danshen), has protective effects against homocysteine-induced endothelial dysfunction.^[1]

Shenge, made of puerarin (isolated from *Pueraria lobata* Ohwi., also called Kudzu) and Danshensu (isolated from the Chinese herb, *Salvia miltiorrhiza*), exerts significant cardioprotective effects against acute ischemic myocardial injury in rats, likely through its antioxidant and anti-lipid peroxidation properties, and thus may be an effective and promising medicine for both prophylaxis and treatment of ischemic heart disease.^[2]

Danshensu and salvianolic acid B are efficient radical scavengers and antioxidants, and salvianolic acid B is superior to danshensu, their radical scavenging and antioxidant properties might have potential applications in food and healthcare industry.^[3]

Danshensu has neuroprotective effects, it may provide a potential alternative for the prevention of cognitive impairment associated with diabetes by attenuating AGE-mediated neuroinflammation; it can enhance HO-1 expression to suppress 6-OHDA-induced oxidative damage via PI3K/Akt/Nrf2 signaling pathways, and 6-OHDA-induced dopaminergic neuronal loss in zebrafish could be reduced by danshensu, further supporting the neuroprotective potential of danshensu.^[4,5]

Danshensu could provide significant cardioprotection against MI/R injury, and the potential mechanisms might to suppression of cardiomyocytes apoptosis through activating the PI3K/Akt and ERK1/2 signaling pathways.^[6]

Danshensu exerts its anxiolytic-like properties, in part, through dopaminergic neurotransmitter signaling.^[7]

Chronic treatment with danshensu can prevent/attenuate the formation of atherosclerosis, the potential mechanisms include inhibited expression of representative proinflammatory cytokines and adhesion molecules in arterial endothelia, and changes in homocysteine and circulating molecules that control vascular contraction/relaxation via endothelial cells (eg, endothelin and NO) .^[8]

[Solvent]

Pyridine, DMSO, Methanol, Acetone, etc.

[HPLC Method]^[9]

Mobile phase: Methanol - 0.5% Acetic acid H₂O, gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 281 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Chan K, Chui S H, Wong D Y L, *et al. Life Sci.*, 2004, 75(26):3157-71.
- [2] Wu L, Qiao H, Li Y, *et al. Phytomedicine*, 2007, 14(10):652-8.
- [3] Zhao G R, Zhang H M, Ye T X, *et al. Food Chem. Toxicol.*, 2008, 46(1):73-81.
- [4] Tian W, Fu F, Bing H, *et al. J. Neuroimmunol.*, 2012, 245(1-2):79-86.
- [5] Chong C M, Zhou Z Y, Razmovski-Naumovski V, *et al. Neurosci. Lett.*, 2013, 543: 121-5.
- [6] Yin Y, Guan Y, Duan J, *et al. Eur .J. Pharmacol.*, 2013, 699(1-3):219-26.
- [7] Kwon G, Kim H J, Park S J, *et al. Life Sci.*, 2014, 101(1-2):73-8.
- [8] Yang R X, Huang SY, Yan FF, *et al. Acta Pharmacol. Sin.*, 2010, 31(10):1395-400.
- [9] Li X L , Li XR , Wang L J, *et al. Chinese Traditional Patent Medicine*, 2008, 30(1):77-80.

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