Natural Products

ChemFaces

Tanshinone I Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Tanshinone I

Catalog No.: CFN98953

Cas No.: 568-73-0

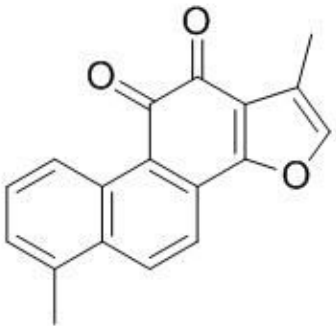
Purity: 98%

M.F: $C_{18}H_{12}O_3$

M.W: 276.3

Physical Description: Red powder

Synonyms: Tanshinone A, Tanshinquinone I.



[Intended Use]

1. Reference standards;

2. Pharmacological research;

3. Food and cosmetic research;

4. Synthetic precursor compounds;

5. Others.

[Source]

The root of *Salvia miltiorrhiza Bge.*

[Biological Activity or Inhibitors]

Tanshinone I, a major active principle of Salvia miltiorrhiza (Danshen), has been shown to

overcome tumor drug resistance and metastasis, it inhibits angiogenesis, inhibits proliferation, migration and tube formation of vascular endothelial cells, rat aortic ring sprouting and the neovascularization of the chick chorioallantoic membrane in a concentration-dependent manner; it as promising angiogenesis inhibitors.[1]

Tanshinone I can suppress growth and invasion of human breast cancer cells, MDA-MB-231, through regulation of adhesion molecules.[2]

Tanshinone I, tanshinone IIA and cryptotanshinone, can protect against liver toxicity in vivo and in vitro due to its antioxidant effects.[3]

Tanshinone I exerts neuroprotection in cerebrovascular diseases including transient ischemic attack, it can promote neurogenesis in the mouse DG and that the neurogenesis is related with increases of Wnt-3, p-GSK-3β and β-catenin immunoreactivities.[4]

Tanshinone I can effectively induce apoptosis in estrogen receptor-positive (MCF-7) and estrogen receptor-negative (MDA-MB-231) breast cancer cells; it has growth inhibition and apoptosis induction in human colon cancer Colo 205 cells.[5]

Tanshinone I enhances learning and memory, and ameliorates memory impairment in mice via the extracellular signal-regulated kinase signalling pathway.[6,7]

[Solvent]

Chloroform, Dichloromethane, Ethyl acetate, Acetone.

[HPLC Method][8]

Mobile phase: Methanol- Tetrahydrofuran-H2O- Glacial acetic acid =20:35:44:1;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

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

[References]

[1] Wang Y, Li J X, Wang Y Q, *et al. Oncotarget, 2015, 6(18):16031-42.*

[2] Nizamutdinova I T, Lee G W, Lee J S, *et al. Carcinogenesis, 2008, 29(10):1885-92.*

[3] Park E J, Zhao Y Z, Kim Y C, *et al. Food Chem. Toxicol. , 2009, 47(11):2742-8.*

[4] Bai H C, Park J H, Cho J H, *et al. Neurochem. Res., 2016,41(8):1958-68.*

[5] Nizamutdinova IT, Lee GW, Son KH, *et al. Int. J. Oncol., 2008, 33(3):485-91.*

[5] Su C C, Chen G W, Lin J G. *Int. J. Mol. Med., 2008, 22(5):613-8.*

[6] Dong H K, Kim S, Su J J, *et al. Brit. J. Pharmacol., 2009, 158(4):1131-42.*

[7] Shi Z, He J, Yao T, *et al. J. Pharm. Biomed. Anal., 2005, 37(3):481-6.*

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