Natural Products

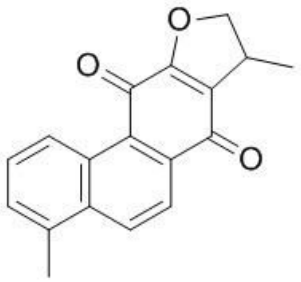
ChemFaces

Dihydrotanshinonel Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Dihydrotanshinone I



Catalog No.: CFN90162

Cas No.: 20958-18-3

Purity: > 98%

M.F: $C_{18}H_{14}O_3$

M.W: 278.30

Physical Description: Red powder

Synonyms:

4,8-dimethyl-8,9-dihydronaphtho[2,1-f]benzofuran-7,11-dione

[Intended Use]

1. Reference standards;

2. Pharmacological research;

3. Synthetic precursor compounds;

4. Intermediates & Fine Chemicals;

5. Others.

[Source]

The roots of *Salvia miltiorrhiza*

[Biological Activity or Inhibitors]

Dihydrotanshinone I and cryptotanshinone, constituents of a medicinal plant, Salvia miltiorrhiza Bunge, have antibacterial activity against a broad range of Gram positive bacteria, they have non-selectively inhibition against DNA, RNA, and protein syntheses in B. subtilis, suggest that superoxide radicals are important in the antibacterial actions of the agents.[1]

Dihydrotanshinone I induces topoisomerase I-mediated DNA cleavage as strongly as camptothecin; and inhibits the catalytic activity of topoisomerase I by the formation of a cleavable complex and at least in part through the intercalation into DNA.[2]

Dihydrotanshinone I (DI) has cytotoxicity to a variety of tumor cells, DI (with an IC 50 value of approximately 1.28 ug/ml) could inhibit angio-genesis through suppressing endothelial cell proliferation, migration, invasion and tube formation, indicating that DI has a potential to be developed as a novel anti-angiogenic agent.[3]

Dihydrotanshinone I as an inhibitor of NF-κB activation through our research on Salvia miltiorrhiza Bunge, it significantly inhibits the expression of NF-κB reporter gene induced by TNF-α in a dose-dependent manner, also inhibits TNF-α induced phosphorylation and degradation of IκBα, phosphorylation and nuclear translocation of p65; it suppresses the growth of HeLa cells in a xenograft tumor model, which could be correlated with its modulation of TNF-α production, taken together, dihydrotanshinone I could be a valuable candidate for the intervention of NF-κB-dependent pathological conditions such as inflammation and cancer.[4]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method][5]

Mobile phase: Acetonitrile- H2O= 55:45 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 245 nm.

[Storage]

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

[References]

[1] Lee D S, Lee S H, Noh J G, *et al. Biosci. Biotechn. Bioch., 2014, 63(12):2236-9.*

[2] Lee D S, Lee S H, Kwon G S, *et al. Biosci. Biotechn. Bioch., 1999, 63(8):1370-3.*

[3]Weipeng, Bian, Chen, *et al. Acta Bioch. Et. Bioph. Sin., 2008, 40(1):1-6.*

[4] Wang F, Ma J, Wang KS, *et al. Int. Immunopharmacol., 2015, 28(1):764-72.*

[5] Zhu D, Tan S. *China Pharmacist, 2008, 11(03):301-3.*

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