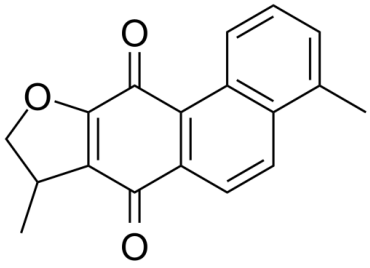
Data Sheet

Product Name:	Dihydroisotanshinone I
Cat. No.:	CS-6505
CAS No.:	20958-18-3
Molecular Formula:	C18H14O3
Molecular Weight:	278.30
Target:	STAT
Pathway:	JAK/STAT Signaling; Stem Cell/Wnt
Solubility:	DMSO : 6 mg/mL (21.56 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Dihydroisotanshinone I is a bioactive compound present in a widely used traditional Chinese medicine named danshen. **In Vitro:** Dihydroisotanshinone I can inhibit the migration of both androgen-dependent and androgen-independent prostate cancer cells. Dihydroisotanshinone diminishes the ability of prostate cancer cells to recruit macrophages and reduces the secretion of chemokine (C-C motif) ligand 2 (CCL2) from both macrophages and prostate cancer cells in a dose-dependent manner. It inhibits the protein expression of p-STAT3 and decreases the translocation of STAT3 into nuclear chromatin. It also suppresses the expression of tumor epithelial-mesenchymal transition genes, including RhoA and SNAI1[1]. Pretreating the cells with dihydroisotanshinone I at concentrations ranging from 2.5 μM to 20 μM for 24 hours cause dose-dependent protection against hepatotoxicity induced by menadione. Adding dihydroisotanshinone I to freshly isolated hepatocytes at concentrations between 50 nM to 200 nM inhibit NADH-induced superoxide production dose-dependently[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [2]Dihydroisotanshinone I is dissolved in ethyl acetate and mixed with the culture medium. The final concentration of ethyl acetate is 0.1% (v/v). Cell are treated with 2.5, 5, 10, and 20 μM dihydroisotanshinone I for 24 hours. The cell viability is measured using the MTT assay[2].

References:

[1]. Wu CY, et al. Anti-cancer effect of danshen and dihydroisotanshinone I on prostate cancer: targeting the crosstalk between macrophages and cancer cells via inhibition of the STAT3/CCL2 signaling pathway. Oncotarget. 2017 Feb 1.

[2]. Ip SP, et al. Dihydroisotanshinone I protects against menadione-induced toxicity in a primary culture of rat hepatocytes. Planta Med. 2002 Dec;68(12):1077-81.

CAIndexNames:

Phenanthro[3,2-b]furan-7,11-dione, 8,9-dihydro-4,8-dimethyl-

SMILES:

O=C1C2=C(C3=C(C=C2)C(C)=CC=C3)C(C4=C1C(C)CO4)=O

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

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