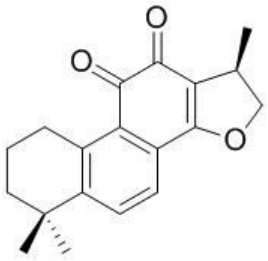
Natural Products

ChemFaces

Cryptotanshinone Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Cryptotanshinone

Catalog No.: CFN98478

Cas No.: 35825-57-1

Purity: > 98%

M.F: $C_{19}H_{20}O_3$

M.W: 296.4

Physical Description: Red cryst.

Synonyms:

(1R)-1,6,6-trimethyl-2,7,8,9-tetrahydro-1H-naphtho[1,2-g]benzofuran-10,11-dione.

[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]

Cryptotanshinone9(CT), the major tanshinone isolated from Salvia miltiorrhiza Bunge, can suppress Bcl-2 expression and augment Fas sensitivity in DU145 cells, and JNK and p38 MAPK act upstream of Bcl-2 expression in Fas-treated DU145 cells; CT significantly blocks activation of these kinases and sensitizes several tumor cells to a broad range of anti-cancer agents; suggests that CT has therapeutic potential in the treatment of human prostate cancer.[1]

Cryptotanshinone has an inhibitory effect on MMP-9 production and migration of human aortic smooth muscle cells treated with TNF-alpha in a dose-dependent manner, suggests that CT has anti-atherosclerosis and anti-neointimal formation activity.[2]

Cryptotanshinone enhances TNF-α-induced apoptosis in chronic myeloid leukemia KBM-5 cells, in comparison with the treatment with either drug alone, the treatment with cryptotanshinone further suppressed TNF-α-mediated expression of c-FLIP.[3]

Cryptotanshinone as an AR inhibitor to suppress androgen/AR-mediated cell growth and PSA expression by blocking AR dimerization and the AR-coregulator complex formation; and CT effectively inhibits CWR22Rv1 cell growth and expressions of AR target genes in the xenograft animal model; the previously un-described mechanisms of CT may explain how CT inhibits the growth of prostate cancer (PCa)cells and help us to establish new therapeutic concepts for the treatment of PCa.[4]

Cryptotanshinone induces ER stress-mediated apoptosis in HepG2 and MCF7 cells , also evidences sensitizing effects to a broad range of anti-cancer agents including Fas/Apo-1, TNF-α, cisplatin, etoposide or 5-FU through inducing ER stress, highlighting the therapeutic potential in the treatment of human hepatoma and breast cancer.[5]

Cryptotanshinone protects primary cortical neurons from -induced neurotoxicity through the activation of /pathway, such neuroprotective effects may be of interest in AD and other .[6]

Cryptotanshinone can inhibits cyclooxygenase-2 enzyme activity.[7]

[Solvent]

Chloroform, Dichloromethane, Diethyl ether, DMSO, Acetone, etc.

[HPLC Method][8]

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

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 252 nm.

[Storage]

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

[References]

[1] Park I J, Kim M J, Park O J, *et al. Cancer Lett., 2010, 298(1):88-98.*

[2] Suh S J, Jin U H, Choi H J, *et al. Biochem. Pharmacol., 2007, 72(12):1680-9.*

[3] Kim J H, Jeong S J, Kwon T R, *et al. Apoptosis, 2011, 16(7):696-707.*

[4] Xu D, Lin T H, Li S, *et al. Cancer Lett., 2012, 316(1):11-22.*

[5] Park I J, Kim M J, Park O J, *et al. Apoptosis An Int. J. Programmed. Cell Death, 2012, 17(3):248-57.*

[6] Zhang F, Zheng W, Pi R, *et al. Exp. Brain Res., 2008, 193(1):109-18.*

[7] Jin D Z, Yin L L, Ji X Q, *et al. Eur. J .Pharmacol., 2006, 549(1-3):166-72.*

[8] Li X L, Li X R, Wang L J, *et al. Chinese Trad Patent Med, 2008, 30(1):77-80.*

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