

Cryptotanshinone

Catalog No: tcsc3276



Available Sizes

Size: 10mg

Size: 50mg



Specifications

CAS No:

35825-57-1

Formula:

$C_{19}H_{20}O_3$

Pathway:

Autophagy;JAK/STAT Signaling;Stem Cell/Wnt

Target:

Autophagy;STAT;STAT

Purity / Grade:

>98%

Solubility:

DMSO : 8.33 mg/mL (28.11 mM; Need ultrasonic)

Alternative Names:

Cryptotanshinon;Tanshinone c

Observed Molecular Weight:

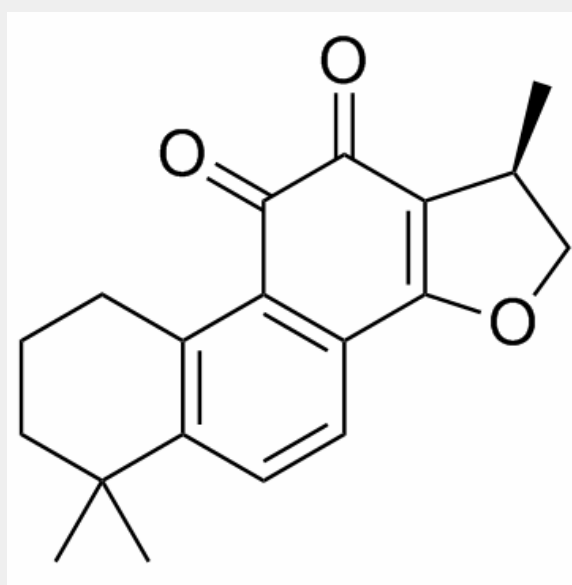
296.36

Product Description

Cryptotanshinone is a potent **STAT3** inhibitor with **IC₅₀** of 4.6 μ M, and inhibits STAT3 Tyr705 phosphorylation in DU145 prostate cancer cells.

In Vitro: Cryptotanshinone significantly inhibits STAT3-dependent luciferase activity, the STAT3 Tyr705 phosphorylation and the dimerization of STAT3, compared to tanshinone IIA which exhibits no activity. Cryptotanshinone (7 μ M) dramatically blocks STAT3 Tyr705 phosphorylation but not STAT3 Ser727 phosphorylation in DU145 cells, and significantly inhibits JAK2 phosphorylation with IC₅₀ of appr 5 μ M without affecting the phosphorylation of upstream kinases c-Src and EGFR, suggesting the inhibition of STAT3 Tyr705 phosphorylation might due to a direct mechanism probably by binding to the SH2 domain of STAT3. Cryptotanshinone significantly inhibits the proliferation of DU145 prostate cancer cells harboring constitutively active STAT3 with GI₅₀ of 7 μ M by blocking STAT3 activity, which leads to the down-regulation of cyclin D1, Bcl-xL, and survivin, subsequently the accumulation in the G0-G1 phase. Cryptotanshinone exhibits less growth inhibitory effect on PC3, LNCaP and MDA-MB-468 cells^[1]. Cryptotanshinone significantly attenuates the in vitro hormonal effects of DEX on ovaries, as indicated by a significant decrease in T and an increase in P levels in the culture medium. Cryptotanshinone significantly increases the levels of phosphorylated AKT2 and GSK3 β in the DEX-treated ovaries^[2]. Cotreatment with imatinib and Cryptotanshinone shows a significant synergistic killing effect in both imatinib sensitive and resistant CML cell lines, as well as primary CML cells^[3].

In Vivo: Cryptotanshinone reverses the ovarian IR and significantly increases 2-deoxy-D-[1,2-³H]-glucose uptake in all examined tissues from the DEX-treated mice. Cryptotanshinone significantly reduces the ovulation rate and plasma E2 and P levels^[2]. Cryptotanshinone administration significantly reduces the body weight and food intake of ob/ob mice (C57BL/6J-Lepob) and diet-induced obese (DIO) mice in a dose-dependent manner. Cryptotanshinone causes noticeably less fat in the adipose tissues, significant reductions of serum triglycerides and cholesterol levels, and 2.5- to 3-fold higher AMPK activity of the skeletal muscles than in the control mice. Oral administration of Cryptotanshinone at 600 mg/kg/day produces dramatic reductions in blood glucose levels of ob/ob mice (C57BL/6J-Lepob), db/db mice (C57BL/KsJ-Leprdb), and ZDF rats, which occur after 3 days and persist over the entirety of the monitoring period^[4].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!