Cryptotanshinone
Item No. 16987

CAS Registry No.: 35825-57-1
Formal Name: (1R)-1,2,6,7,8,9-hexahydro-1,6,6-trimethylphenanthro[1,2-b]fur-an-10,11-dione
MF: C_{19}H_{20}O_{3}
FW: 296.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ_{max} 220, 264, 271, 361, 439 nm

Laboratory Procedures
For long term storage, we suggest that cryptotanshinone be stored as supplied at -20°C. It should be stable for at least two years.

Cryptotanshinone is supplied as a crystalline solid. A stock solution may be made by dissolving the cryptotanshinone in the solvent of choice. Cryptotanshinone is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of cryptotanshinone in these solvents is approximately 0.25 and 1 mg/ml, respectively.

Cryptotanshinone is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Cryptotanshinone is a natural quinoid diterpene first isolated from S. miltiorrhiza roots, which are used in traditional Chinese medicine for a variety of conditions. Cryptotanshinone, at 10-20 µM, stimulates AMP-activated protein kinase in C2C12 myotubes and activates p38 MAPK in DU145 cells. It inhibits the protein tyrosine phosphatase SHP2 in vitro (IC_{50} = 22.5 µM) and, at 4-8 µM, blocks phosphorylation of STAT3 in MC-3 cells. Cryptotanshinone has a variety of anti-cancer actions, including inhibition of cell proliferation, induction of apoptosis, and reduction in angiogenesis. However, it is poorly absorbed and has low bioavailability in vivo.

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/16987

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your email at your institution.

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