Product Name: Plumbagin

Revision Date: 6/30/2016

Product Data Sheet

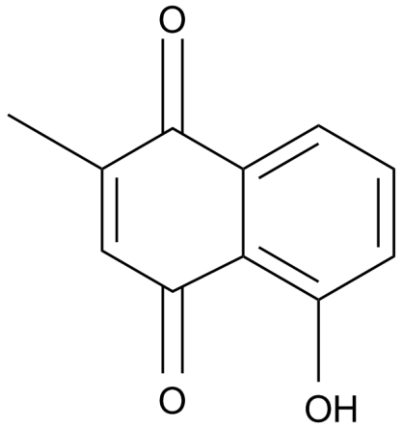
Chemical Properties

Product Name: Plumbagin

Cas No.: 481-42-5

M.Wt: 188.18

Formula: C11H8O3



Chemical Name: 5-hydroxy-2-methylnaphthalene-1,4-dione

Canonical SMILES: CC1=CC(=O)C2=C(C1=O)C=CC=C2O

Solubility: Soluble in DMSO > 10 mM

Storage: Store at -20°C

General tips: For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20° C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

Biological Activity

Targets : Apoptosis

Pathways: Apoptosis Inducers

Description:

IC50: 11.69 μM for A549 cells
Plumbagin, a quinonoid constituent isolated from the root of Plumbago zeylanica L., has been shown to exert anticarcinogenic, antiatherosclerotic, and antimicrobial effects.
In vitro: Plumbagin exhibited effective cell growth inhibition via inducing cancer cells to undergo G2/M phase arrest and apoptosis. Blockade of cell cycle was associated with increased levels of

p21 and reduced amounts of Cdc2, Cdc25C and cyclinB1. Plumbagin treatment also found to enhance the levels of inactivated phosphorylated Cdc2 and Cdc25C. Blockade of p53 activity partially decreased plumbagin-induced apoptosis and G2/M arrest, indicating it might be operated by p53-dependent and independent pathway [1].
In vivo: To determine whether plumbagin inhibited the in vivo tumor growth, A549 cells were injected into nude mice. Tumor growth inhibition was most evident in mice treated with plumbagin at 2 mg/kg/day, where around 80% reductions in tumor size were observed, in contrast with mice treated with the vehicle. No sign of toxicity was observed in plumbagin-treated mice as judged by monitoring body weight [1].
Clinical trial: N/A

***Reference**:*

[1] Hsu YL,Cho CY,Kuo PL,Huang YT,Lin CC. Plumbagin (5-hydroxy-2-methyl-1,4-naphthoquinone) induces apoptosis and cell cycle arrest in A549 cells through p53 accumulation via c-Jun NH2-terminal kinase-mediated phosphorylation at serine 15 in vitro and in vivo. J Pharmacol Exp Ther.2006 Aug;318(2):484-94.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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