Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Isoalantolactone

Catalog No: tcsc3635

Available Sizes

Size: 10mg

Size: 50mg

Specifications

CAS No:
470-17-7

Formula:
$C_{15}H_{20}O_2$

Pathway:
Apoptosis;Autophagy

Target:
Apoptosis;Autophagy

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Alternative Names:
(+)-Isoalantolactone;Isohelenin

Observed Molecular Weight:
232.32

Product Description

Isoalantolactone is an **apoptosis** inducer, which also acts as an alkylating agent.

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IC50 & Target: Apoptosis[1]

In Vitro: Isoalantolactone exhibits good cytotoxic activity against the K562 human leukaemia cell line (IC_{50}=1.2 μM) [1]. The cytotoxic effect of Isoalantolactone on pancreatic carcinoma is evaluated using PANC-1, BxPC3 and HPAC cell lines. Treatment with Isoalantolactone for 24 h inhibits PANC-1 cell growth in a dose-dependent manner. The inhibition rate is above 90% at 80 μM and the concentration to achieve 50% growth inhibition (IC_{50}) is 40 μM. A similar trend in loss of cell viability is observed in BxPC3 and HPAC cells on Isoalantolactone treatment with IC_{50} values 43 and 48 μM respectively. Pretreatment with 3 mM N-Acetyl Cysteine (NAC), a specific ROS scavenger, restores the viability of cells indicating that Isoalantolactone exerts cytotoxic effect on cell viability through ROS generation[2].

In Vivo: The acute and chronic toxic effects of Isoalantolactone in CD1 mice are assessed by measuring the changes in body weight, blood biochemistry and histopathology of liver and kidneys in comparison with control groups. Isoalantolactone is well tolerated by mice and no mortality or any sign of pharmacotoxicity are found at a dose of 100 mg/kg during both experimental periods (7 & 30 days). Body weight gains and food consumption are comparable for control and treated mice during both experimental periods and there were no drug-related changes in histopathological and blood biochemistry parameters. The histopathological changes in liver and kidneys are assessed using hematoxylin and eosin staining and correlated with liver and renal function biomarkers. No obvious morphological changes are observed in liver and kidney structures of control and treatment groups. There is a slight increase in serum alanine aminotransferase (ALT) and aspartate aminotransferase (AST) level of treatment group at dose day 7 but this increase is not significantly different (P[2].