For Research Use Only

PRIMA-1

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Catalog Number: CM05712

产品信息

Catalog Number:
CM05712

CAS号:
5608-24-2

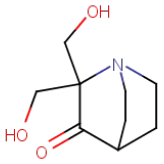
分子式:
$C_9H_{15}NO_3$

分子量:
185.22

溶解度:
Ethanol:35 mg/mL (189 mM);H2O:18.5 mg/mL (100 mM);DMSO:50 mg/mL (269.95 mM)

主要靶点:
Autophagy|Ferroptosis|Apoptosis|Others

主要通路:
凋亡|凋亡|自噬



体外活性

PRIMA-1 is converted to compounds that form adducts with thiols in mutant p53. Modification of thiol groups in mutant p53 by PRIMA-1 conversion products is sufficient to restore its tumor suppressor activity.[2]. PRIMA-1 inhibits the growth of pancreatic cancer cell lines and induces cell cycle arrest and decreases DNA synthesis. It selectively induces apoptosis and cell death in mutant p53-expressing pancreatic cancer cells and also leads to activation of p53-dependent apoptotic pathways. PRIMA-1 enhances the cytotoxicity of chemotherapeutic agents active against mutant p53 pancreatic cancer cells[1]. PRIMA-1 has antileukemic properties in acute promyelocytic leukemia-derived NB4 cells. PRIMA-1-triggered apoptosis is in a dose-dependent and time-dependent manner as indicated by the MTT assay and annexin-V staining. Apoptosis induction by PRIMA-1 is associated with caspase-9, caspase-7 activation and PARP cleavage. PRIMA-1 does not show any significant apoptotic effect in normal human peripheral blood mononuclear cells[4].

体内活性

Intravenous (i.v.) injections of PRIMA-1 in mice does not cause any obvious changes in weight or behavior compared with untreated animals. PRIMA-1 has in vivo antitumor activity in this animal tumor model. It suppresses in vivo tumor growth in a mutant p53-dependent manner[3].

细胞实验

Cells are kept at a temperature of 37 °C, a minimum relative humidity of 95 %, and an atmosphere of 5 % CO2 in air. Cell viability is measured by MTT assay after treatment with PRIMA-1. Briefly, cells are seeded in each well of 96-well plates in 100 µl culture medium and incubated overnight at 37 °C in an atmosphere of 5 % CO2. The next day, the medium is removed and cells washed with PBS and treated with vehicle control(DMSO, dimethylsulfoxide) or different concentrations of PRIMA-1 for 12 to 48 h; the medium is replaced with MTT solution diluted in medium once the treatment is completed. The plates are further incubated at 37 °C under 5 % CO2 for 4 h and then left at room temperature until completely dry. DMSO was then added and the absorbance is read at 492 nm using a microplate enzyme-linked immunoassay reader (ELISA). The relative growth activity is determined as the percentage absorbance of treated cells compared to that of vehicle treated cells (control).(Only for Reference)

储存

Powder: -20°C for 3 years | In solvent: -80°C for 1 year | Shipping with blue ice.