

XSJ81

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	XSJ81 is an orally active anticancer agent. It significantly inhibits the proliferation of ampullary cancer (AC) DPC-X3 cells, with an IC50 of 0.655 μM . XSJ81 suppresses colony formation and arrests the cell cycle at the G2/M phase while inhibiting cell migration. Additionally, XSJ81 induces DNA damage and apoptosis in DPC-X3 cells. In mouse models with DPC-X3 xenograft tumors, XSJ81 exhibits notable antitumor efficacy. This compound is applicable for research on ampullary cancer.
Targets(IC50)	Apoptosis,Bcl-2 Family,Topoisomerase
In vitro	XSJ81 exhibits significant antiproliferative effects on ampullary cancer (AC) DPC-X3 cells with an IC50 of 0.655 μM over 48 hours at concentrations ranging from 0.35 to 40 μM . It reduces EdU fluorescence in DPC-X3 cells in a dose-dependent manner at 0.35-1.4 μM over 48 hours and inhibits colony formation in a dose-dependent way at much lower concentrations (0.003-0.011 μM) over two weeks. XSJ81 also causes G2/M phase arrest, induces apoptosis, and inhibits cell migration in DPC-X3 cells at 0.35-1.4 μM for 24-48 hours. Additionally, XSJ81 triggers dose-dependent $\gamma\text{-H2AX}$ foci formation in the nuclei of DPC-X3 cells at 0.35-1.4 μM within 24 hours. At higher concentrations (200-500 μM), it blocks Topo I-mediated relaxation of supercoiled pBR322 plasmid DNA, maintaining it in a supercoiled state and promoting the proteasomal degradation of the Topo I protein. Furthermore, XSJ81 induces time- and dose-dependent cytotoxicity in adenoid cystic carcinoma organoids (ACOs) at 100-1000 nM over a period of 0-72 hours.
In vivo	A single oral administration of XSJ81 (100 mg/kg) over 3 to 14 days in 6-week-old female BALB/c mice resulted in no mortality. XSJ81 (5-10 mg/kg), administered intraperitoneally every 48 hours for 14 days, demonstrated significant antitumor activity in nude mice with DPC-X3 xenograft tumors.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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