Web: www.taiclone.com
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Topotecan

Catalog No: tcsc2887

Available Sizes

Size: 10mg

Size: 50mg

Specifications

CAS No:
123948-87-8

Formula:
$C_{23}H_{23}N_3O_5$

Pathway:
Cell Cycle/DNA Damage;Autophagy

Target:
Topoisomerase;Autophagy

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Alternative Names:
SKF 104864A; NSC 609669

Observed Molecular Weight:
421.45

Product Description

Topotecan (SKF 104864A; NSC 609669) is a **Topoisomerase I** inhibitor. The **IC_{50}** values of Topotecan at 24 h are 2.73±0.25 μM of U251 cells, 2.95±0.23 μM of U87 cells, 5.46±0.41 μM of GSCs-U251 and 5.95±0.24 μM of GSCs-U87.

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IC50 & Target: Topoisomerase I[1]

In Vitro: Topotecan (SKF104864) obviously inhibits proliferation of not only human glioma cells but also glioma stem cells (GSCs) in a dose- and time-dependent manner. According to the IC_{50} values at 24 h, 3 μM of Topotecan (SKF104864) is selected as the optimal administration concentration. In addition, Topotecan (SKF104864) induces cell cycle arrest in G0/G1 and S phases and promoted apoptosis. Results show that the cell viability is inhibited by Topotecan (SKF104864) in a dose-dependent manner. 2, 20 and 40 μM of Topotecan obviously inhibits the cell viability compared with the control groups. The IC_{50} values of Topotecan (SKF104864) at 24 h are 2.73±0.25 μM of U251 cells, 2.95±0.23 μM of U87 cells, 5.46±0.41 μM of GSCs-U251 and 5.95±0.24 μM of GSCs-U87. Thus 3 μM of Topotecan is selected as the optimal administration concentration in the subsequent experiments[1].

In Vivo: NUB-7 metastatic model, the animals belonging to all the 4 groups are sacrificed after 14 days treatment. Compared with the control, Low dose metronomic (LDM) Topotecan (TP) and TP+Pazopanib (PZ) liver weights are significantly lower in TP+PZ-treated animals, compared with PZ. Microscopic tumors are visible in the livers of mice belonging to all the groups except TP+PZ confirming the ability of TP+PZ to control liver metastasis. In a previous dose-response study, the daily dose of oral metronomic Topotecan (0.5, 1.0, and 1.5 mg/kg) causes greater reduction in microvascular density compared with weekly maximum-tolerated dose regimen (7.5 and 15 mg/kg) in an ovarian cancer model, but the mice treated with 1.5 mg/kg daily, oral Topotecan show decreased food intake, and a lesser antitumor effect[2].