Data Sheet (Cat.No.T211773)

TargetMol

Topoisomerase I/II-IN-1

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	TopoisomeraseI/II-IN-1 is a dual inhibitor of Topoisomerase I and II. It induces G2/M cell cycle arrest and apoptosis (apoptosis) in cancer cells by increasing the levels of p53, p21, Bax mRNA, and caspase-3 proteins, as well as the Bax/Bcl-2 ratio, while decreasing Bcl-2 levels. This compound is useful for research on various cancers such as melanoma, renal cancer, colorectal cancer, and breast cancer.
Targets(IC50)	Apoptosis,Bcl-2 Family,Caspase,Topoisomerase,MDM-2/p53
In vitro	Topoisomerase I/II-IN-1 (Compound 5j) at a concentration of 10 μM demonstrates inhibitory effects on various cancer cells, with a growth inhibition (GI) rate of -93.46% for melanoma LOX IMVI cells. For colorectal cancer cells—HCT-116, HCT-15, and SW-620—the GI rates are -59.51%, -40.12%, and -43.01%, respectively. The GI for breast cancer MDA-MB-468 cells is -24.45%, and for renal cancer cells 786-0, RXF 393, and UO-31, the GI rates are -11.21%, -12.44%, and -29.74%, respectively. Topoisomerase I/II-IN-1 inhibits Topo I and Topo IIβ enzyme activity in LOX IMVI cells by 61.58% and 75.51%, and in HCT-116 colon cancer cells by 56.42% and 76.39%. After 24 hours, Topoisomerase I/II-IN-1 induces cancer cell G2/M arrest and apoptosis by upregulating p53, p21, Bax mRNA levels, cleaved caspase-3 protein levels, and the Bax/Bcl-2 ratio, while downregulating Bcl-2 in HCT-116 and LOX IMVI cells.