Data Sheet (Cat.No.T211674)

TargetMol

MRC-G-001

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	MRC-G-001 is a Genipin derivative with an IC50 value of 117 μM against A549 cancer cells. It inhibits the phosphorylation of EGFR, JAK1, and STAT3, and modulates the expression of proteins related to epithelial-mesenchymal transition (EMT), thereby suppressing cell migration and invasion. MRC-G-001 induces cell cycle arrest and apoptosis (apoptosis) and is applicable in studies of cancers, including non-small cell lung cancer.
Targets(IC50)	Apoptosis,EGFR,STAT,JAK
In vitro	MRC-G-001 (Compound 2b) significantly reduces the viability of A549 cells in a dose- and time-dependent manner at concentrations of 0-500 μM over 24-72 hours, exhibiting greater cytotoxicity than Genipin. It effectively suppresses the long-term proliferation of A549 cells at 0-100 μM over 7 days and robustly induces cell cycle arrest at the G1/S phase at 0-250 μM. Within 24 hours at concentrations of 0-250 μM, MRC-G-001 induces apoptosis in A549 cells more effectively than Genipin and inhibits the EGFR and JAK1/STAT3 signaling pathways. At 100 μM, over 0-24 hours, it inhibits migration and invasion of A549 cells by interfering with the TGF-β-induced EMT signaling pathway. Though it does not inhibit ATP-dependent EGFR kinase activity in A549 cells, MRC-G-001 binds to the extracellular domain (domain III) of EGFR, suggesting it may exert its effects through an alternative, ATP-independent mechanism, possibly related to disrupting EGF binding.

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