Data Sheet (Cat.No.TP4265)

TargetMol

CIGB-552 TFA

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from moisture
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	CIGB-552 TFA is a cell-penetrating peptide with antitumor properties, exhibiting an IC50 of 23 μM in H460 cells. It enhances COMMD1 protein levels and significantly inhibits the NF-κB signaling pathway. Additionally, CIGB-552 TFA promotes apoptosis in tumor cells and induces reactive oxygen species (ROS) accumulation. It possesses anti-inflammatory and anti-angiogenic effects and is applicable in lung and colon cancer research.
Targets(IC50)	Apoptosis,NF-κB
In vitro	CIGB-552 TFA enhances the protein content of the antitumor-related protein COMMD1 at concentrations of 20-60 μM over 5 hours. It facilitates ubiquitination and degradation of RelA and inhibits NF-κB signaling in H460 cells at 25 μM for 0-12 hours. At the same concentration over 0-24 hours, it increases pro-apoptotic protein levels and reduces anti-apoptotic protein content in H460 cells. CIGB-552 TFA induces apoptosis in lung cancer cells at 25 μM for 24-48 hours and decreases antioxidant capacity in H460 cells at 25 μM over 8 hours, leading to protein and lipid oxidation damage. At 37.5 μM for 1 hour, it induces ROS accumulation and selectively kills tumor cells by inhibiting SOD1 activity. CIGB-552 TFA significantly inhibits TNF-α-induced NF-κB activation at 75-150 μM for 24 hours. Additionally, its anti-angiogenic effects are exhibited by inhibiting hypoxia-induced HIF-1 activation via COMMD1 at 2.5-25 μM over 24 hours.
In vivo	CIGB-552 TFA administered subcutaneously at a dosage of 1 mg/kg three times a week for three weeks significantly inhibits tumor growth in mice with lung cancer and prolongs survival without causing notable toxicity. At doses ranging from 0.2 to 1.4 mg/kg, given twice a week for two weeks, it markedly suppresses tumor growth in colon cancer mice and exhibits anti-angiogenic properties.

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