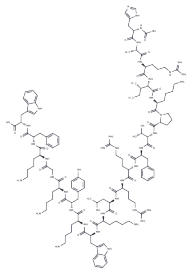
Data Sheet (Cat.No.TP3708)

TargetMol

CIGB-552

Chemical Properties



CAS No. : 1630763-23-3

Formula: C131H198N38O24

Molecular Weight: 2689.21

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 is a cell-penetrating peptide with antitumor properties, exhibiting an IC50 of 23 μM in H460 cells. It increases the level of COMMD1 protein and significantly inhibits the NF-κB signaling pathway. Furthermore, CIGB-552 promotes apoptosis (apoptosis) of tumor cells and induces accumulation of reactive oxygen species (ROS) within them. Additionally, it possesses anti-inflammatory and anti-angiogenic effects. CIGB-552 is applicable in research related to lung and colon cancer.
Targets(IC50)	Apoptosis,NF-κB,ROS
In vitro	CIGB-552, when applied at concentrations of 20-60 μM for 5 hours, increases the protein levels of the tumor suppressor COMMD1. At 25 μM for 0-12 hours, it facilitates the ubiquitin-mediated degradation of RelA and suppresses NF-κB signaling in H460 cells. With 25 μM exposure over 0-24 hours, CIGB-552 elevates pro-apoptotic proteins and reduces anti-apoptotic proteins in H460 cells. Administering CIGB-552 at 25 μM for 24-48 hours induces apoptosis in lung cancer cells. Additionally, at 25 μM for 8 hours, it decreases the antioxidant capacity of H460 cells, leading to oxidative damage of proteins and lipids. In a 37.5 μM dose for 1 hour, it induces the accumulation of reactive oxygen species (ROS) by inhibiting SOD1 activity, selectively killing tumor cells. At 75-150 μM for 24 hours, CIGB-552 significantly inhibits TNF-α-induced NF-κB activation. Furthermore, using 2.5-25 μM for 24 hours, it exerts anti-angiogenic effects by inhibiting hypoxia-induced HIF-1 activation through COMMD1.
In vivo	CIGB-552, administered at 1 mg/kg through subcutaneous injection three times a week for three weeks, significantly impedes tumor growth in mice with lung cancer and extends survival time without notable toxicity. Additionally, CIGB-552, delivered at doses of 0.2-1.4 mg/kg via subcutaneous injection twice weekly for two weeks, effectively suppresses tumor growth in mice with colon cancer and exhibits anti-angiogenic properties.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.3719 mL	1.8593 mL	3.7186 mL
5 mM	0.0744 mL	0.3719 mL	0.7437 mL
10 mM	0.0372 mL	0.1859 mL	0.3719 mL
50 mM	0.0074 mL	0.0372 mL	0.0744 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.