

RIP1-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	RIP1-IN-1 is an orally bioavailable RIP1 inhibitor with a high binding affinity (Kd: 110 nM). This compound exhibits significant activity against necroptosis and effectively suppresses necrosome formation by inhibiting the phosphorylation of RIP1, RIP3, and MLKL pathways. RIP1-IN-1 can inhibit necroptosis and is applicable in research on acute liver injury.
Targets(IC50)	Necroptosis,RIP kinase
In vitro	RIP1-IN-1 (Compound N-1) is a potent inhibitor of necroptosis in both HT-29 and U937 cells induced by Z-VAD-FMK, demonstrating dose-dependent effects at concentrations of 0-1.6 μ M over 5-24 hours. In HT-29 cells, RIP1-IN-1 exhibits strong antinecrototic activity with a CC ₅₀ of over 50 μ M and an EC ₅₀ of 8.8 nM. It effectively inhibits the phosphorylation of RIP1 and RIP3 at 0.4 μ M within 2-6 hours, showing a time-dependent suppression of the downstream target MLKL. Additionally, RIP1-IN-1 (0.097-400 nM for 5 hours) displays dose-responsive inhibition of RIP1/3 and MLKL phosphorylation. At 400 nM for 6 hours, it suppresses necrosome formation induced by TSZ in HT-29 cells via blocking the phosphorylation pathway of RIP1/RIP3/MLKL, thereby exhibiting antinecrototic activity.
In vivo	RIP1-IN-1 (Compound N-1) exhibits antinecrototic properties in mice with systemic inflammatory response syndrome (SIRS) when administered orally at doses of 1, 3, and 5 mg/kg. Additionally, at a dose of 3 mg/kg administered orally once daily for 14 consecutive days, it shows protective effects against acute liver injury in a carbon tetrachloride (CCl ₄)-induced mouse model. Lastly, RIP1-IN-1 demonstrates a short half-life and high clearance rate when given orally at 10 mg/kg to Sprague-Dawley rats.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481