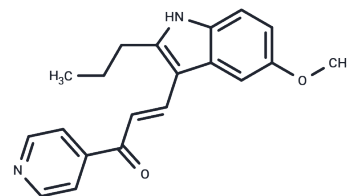


MOPIPP

Chemical Properties

CAS No. : 1485521-76-3
Formula: C₂₀H₂₀N₂O₂
Molecular Weight: 320.39
Appearance: no data available
Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	MOPIPP is a novel indolebased chalcone that can cross the blood-brain barrier. MOPIPP inhibits the tumor progression against glioblastoma cells. MOPIPP induces cellular vacuolization as well as increases autophagosomes numbers. MOPIPP also triggers methuosis and distrupts glucose uptake and glycolytic metabolism [1] [2] [3].
In vitro	MOPIPP, at a concentration of 10 µM, has been observed to induce cellular changes in various cancer cell lines without causing cell death. Specifically, in U251 glioblastoma cells over a 48-hour incubation period, MOPIPP leads to cellular vacuolization reflective of late endosomes, whereas a 24-hour treatment enhances LC3 fluorescence and autophagosome numbers but prevents their fusion with lysosomes. Additionally, this treatment increases exosomal marker protein levels in vesicle fractions from 293T cells. Conversely, MOMIPP disrupts glucose uptake and glycolytic pathways at the same concentration and time frames, driving methuosis in glioblastoma and other cancer types. It also selectively activates JNK1/2 stress kinase pathway features, notably phosphorylating c-Jun, Bcl-2, and Bcl-xL. Immunofluorescence and Western Blot Analyses further detail MOPIPP's and MOMIPP's impacts on U251 cells, from autophagosome marker accumulation and LC3 fluorescent puncta increase to the phosphorylation of Bcl-2 and Bcl-xL, illustrating the activation of JNK and potentially delineating a mechanism for its effects on cancer cell biology.
In vivo	MOMIPP, administered at 80 mg/kg via intraperitoneal injection, effectively crosses the blood-brain barrier in female Swiss Webster mice and, when given once every 24 hours for 15 days, significantly reduces the growth of intracerebral glioblastoma xenografts in female NCR-Foxn1 mice. In the specified animal model, female NCR-Foxn1 mice, 7-8 weeks old and injected with U251-LUC cells, were observed. The consistent dosage and administration led to a notable inhibition of tumor progression, as monitored by Bioluminescence Imaging (BLI) on days 7, 11, and 15, demonstrating the compound's efficacy in suppressing tumor growth.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1212 mL	15.606 mL	31.212 mL
5 mM	0.6242 mL	3.1212 mL	6.2424 mL
10 mM	0.3121 mL	1.5606 mL	3.1212 mL
50 mM	0.0624 mL	0.3121 mL	0.6242 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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

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