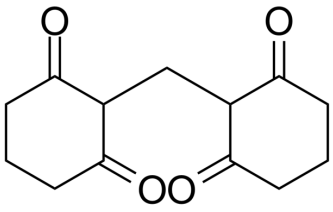
M50054

Cat. No.:	HY-103347
CAS No.:	54135-60-3
Molecular Formula:	$C_{13}H_{16}O_4$
Molecular Weight:	236.26
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

M50054 is a potent inhibitor of apoptosis. M50054 inhibits Etoposide-induced caspase-3 activation of U937 cells with an IC_{50} of 79 μg/mL. M50054 does not directly inhibit the enzymatic activity of caspase-3. M50054 can be used for the research anti-Fas-antibody-induced hepatitis and chemotherapy-induced alopecia[1].

In Vitro

M50054 inhibits the caspase-3 activation by Etoposide in a dose-dependent manner. The IC_{50} value of M50054 against Etoposide-induced caspase-3 activation of U937 cells is 79 μg/mL. However, M50054 does not directly inhibit the enzymatic activity of caspase-3 at all concentrations up to 1000 μg/mL[1].

M50054 (1-300 μg/mL) inhibits soluble human Fas ligand-induced cell death of human Fas-expressing WC8 cells in a dose-dependent manner, and the IC_{50} of 67 μg/mL[1].

M50054 (30-300 μg/mL) inhibits the death of U937 cells induced by etoposide (10 μg/mL) in a dose-dependent manner, and the IC_{50} value of M50054 against Etoposide-induced cell death of U937 cells is 130 μg/mL. The IC_{50} value of M50054 against etoposide-induced DNA fragmentation of U937 cells was 54 μg/mL[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Human Fas-expressing WC8 cells
Concentration:	1, 3, 10, 30, 100, 300 μg/mL
Incubation Time:	Pre-incubated for 30 min
Result:	Inhibited soluble human Fas ligand-induced cell death of human Fas-expressing WC8 cells in a dose-dependent manner, and the IC_{50} of 67 μg/mL.

In Vivo

M50054 (10-300 mg/kg; oral administration 30 min before anti-Fas antibody injection) inhibits the elevation of alanine aminotransferase and aspartate aminotransferase in a dose-dependent manner[1].

M50054 (topical treatment; given daily beginning on day 5 after birth and ending on day 14) significantly improves alopecia (hair loss) symptoms[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female BALB/c mice[1]
Dosage:	10, 30, 100 or 300 mg/kg

Administration:	Orally administered in a volume of 10 mL/kg
Result:	Inhibited the elevation of alanine aminotransferase and aspartate aminotransferase in a dose-dependent manner. Significantly improved these parameters at doses of 100 mg/kg and 300 mg/kg.

Animal Model:	Five-day-old SD rats[1]
Dosage:	
Administration:	Topically applied to the head and back of 5-day-old rats once daily for 10 days
Result:	Alopecia scores significantly decreased throughout the entire observation period compared with the control group.

REFERENCES

[1]. T Tsuda, et al. Inhibitory effect of M50054, a novel inhibitor of apoptosis, on anti-Fas-antibody-induced hepatitis and chemotherapy-induced alopecia. Eur J Pharmacol.2001 Dec 14;433(1):37-45.

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