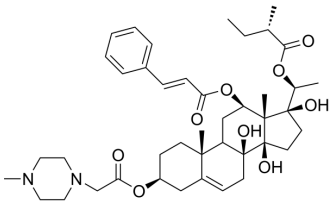
GLI1-IN-1

Cat. No.:	HY-161459
CAS No.:	2923907-92-8
Molecular Formula:	$C_{42}H_{60}N_2O_9$
Molecular Weight:	736.93
Target:	Apoptosis; Hedgehog; Gli
Pathway:	Apoptosis; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	GLI1-IN-1 (CBC-1) is a GLI-1 inhibitor with excellent water solubility and anticancer activity. GLI1-IN-1 can induce apoptosis and suppress the growth of colorectal cancer by inhibiting the Hedgehog(HH) (IC_{50}=1.3 μM) pathway[1].
IC_{50} & Target	IC50: 1.3 μM (Hedgehog)[1].

In Vitro

GLI1-IN-1 (CBC-1) (5-40 μM; 24-48 h) exhibits anticancer activity by inhibiting cell proliferation through suppressing the mRNA and protein expression of the HH pathway in HT-29, SW-480, and HCT-116 cells, with IC_{50} values of 7.13, 15.31, and 3.33 μM, respectively. GLI1-IN-1 (5-40 μM; 24 h) can also induce apoptosis in HT-29 cells[1].

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

Apoptosis Analysis[1]

Cell Line:	HT-29
Concentration:	5, 10, 20, 40 μM;
Incubation Time:	24 h
Result:	Increased the number of apoptotic cells in a concentration-dependent manner.

RT-PCR[1]

Cell Line:	HT-29
Concentration:	5, 10, 20, 40 μM;
Incubation Time:	24 h, 48 h
Result:	Decreased the mRNA expression of SHH, SMO, GLI1, and PTCH in a concentration- and time-dependent manner. Significantly reduced the mRNA expression levels of the apoptosis-related factor BCL-2 and increased the levels of the apoptosis-promoting factor BAX in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	HT-29
Concentration:	5, 10, 20, 40 μM;
Incubation Time:	24 h
Result:	Decreased the protein expression of SHH, SMO and GLI1 in a concentration-dependent manner.

In Vivo

CBC-1 (50 mg/kg; i.p.; once daily for 16 days) can effectively inhibit tumor growth in xenograft models, with a remarkable tumor inhibition rate of 68% in BALB/c/nu/nu nude mice[1].

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

Animal Model:	Tumour xenograft BALB/c/nu/nu nude mice model[1].
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection (i.p.); Once daily for 16 days
Result:	Significantly reduced the size and weight of HT29 tumor xenografts. Decreased the protein expression of GLI -1.

REFERENCES

[1]. Chen J, et al. CBC-1 as a Cynanbungeigenin C derivative inhibits the growth of colorectal cancer through targeting Hedgehog pathway component GLI 1. Steroids. Published online April 11, 2024.

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