CWP232228

Cat. No.: HY-18959

CAS No.: 1144044-02-9

Molecular Formula: $C_{33}H_{34}N_7Na_2O_7P$

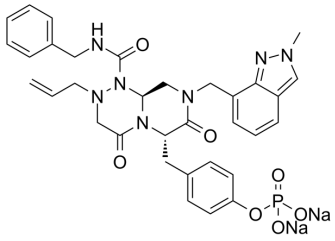
Molecular Weight: 717.62

Target: β-catenin; Wnt

Pathway: Stem Cell/Wnt

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 62.5 mg/mL (87.09 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3935 mL	6.9675 mL	13.9350 mL
	5 mM	0.2787 mL	1.3935 mL	2.7870 mL
	10 mM	0.1393 mL	0.6967 mL	1.3935 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

CWP232228, a highly potent selective Wnt/β-catenin signaling inhibitor, antagonizes binding of β-catenin to T-cell factor (TCF) in the nucleus. CWP232228 suppresses tumor formation and metastasis without toxicity through the inhibition of the growth of breast and liver cancer stem cells (CSCs)[1].

IC_{50} & Target

Wnt/β-catenin[1]

In Vitro

CWP232228 (0.01-100 μM; 48 hours) inhibits cell proliferation with IC_{50} values are 2 and 0.8 μM in mouse (4T1) and human (MDA-MB-435) breast cancer cell lines, respectively[1].

CWP232228 (0.01-10 μM; 48 hours) inhibits cell proliferation with IC_{50}s of 2.566, 2.630, and 2.596 μM in Hep3B, Huh7 and HepG2 cells, respectively[2].

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

Cell Proliferation Assay[1]

Cell Line:	Mouse (4T1) and human (MDA-MB-435) breast cancer cell lines
Concentration:	0.01, 0.1, 1, 10, 100 μM

Incubation Time:	48 hours
Result:	IC_{50}s were 2 and 0.8 μM for 4T1 and MDA-MB-435 cell lines, respectively.

Cell Proliferation Assay[2]

Cell Line:	Hepatocellular carcinoma cell lines HepG2, Huh7, and Hep3B
Concentration:	0.01, 0.1, 0.5, 1, 5, 10 μM
Incubation Time:	48 hours
Result:	IC_{50}s were 2.566, 2.630, and 2.596 μM for Hep3B, Huh7 and HepG2 cells, respectively.

In Vivo

CWP232228 (100 mg/kg, administered i.p.; daily; 21days for mice bearing 4T1 cell tumors; 60 days for mice bearing MDA-MB-435 cell tumors) results in a significant reduction in tumor volume[1].

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

Animal Model:	7-week-old female Balb/c and NOD/SCID mice bearing 4T1 or MDA-MB-435 cell tumors[1]
Dosage:	100 mg/kg
Administration:	Administered i.p.; daily; 21days for mice bearing 4T1 cell tumors, 60 days for mice bearing MDA-MB-435 cell tumors
Result:	Treatment resulted in a significant reduction in tumor volume.

CUSTOMER VALIDATION

- Front Physiol. 2021 Mar 3;12:626248.
- Research Square Preprint. 2020 Jun.

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REFERENCES

[1]. Jang GB, et al. Wnt/β-Catenin Small-Molecule Inhibitor CWP232228 Preferentially Inhibits the Growth of Breast Cancer Stem-like Cells. Cancer Res. 2015 Apr 15;75(8):1691-702.

[2]. Kim JY, et al. Oncotarget. 2016 Apr 12;7(15):20395-409. CWP232228 targets liver cancer stem cells through Wnt/β-catenin signaling: a novel therapeutic approach for liver cancer treatment.

Caution: Product has not been fully validated for medical applications. For research use only.

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