CWP232228

Cat. No.: HY-18959

CAS No.: 1144044-02-9

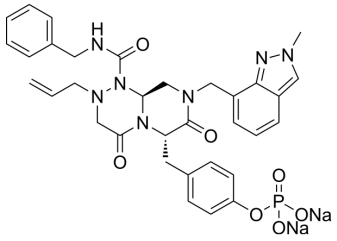
Molecular Formula: $C_{33}H_{34}N_7Na_2O_7P$

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.

In Vivo

1. Add each solvent one by one: PBS
Solubility: 50 mg/mL (69.67 mM); Clear solution; Need ultrasonic

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

- Cell Death Discov. 2022 Oct 1;8(1):404.
- Cell Signal. 2024 Jan 8:111039.
- 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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