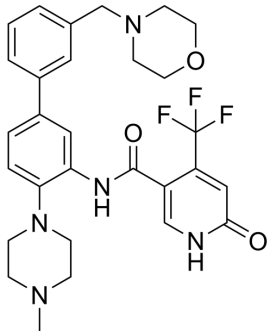
OICR-9429

Cat. No.:	HY-16993
CAS No.:	1801787-56-3
Molecular Formula:	$C_{29}H_{32}F_3N_5O_3$
Molecular Weight:	555.59
Target:	Histone Methyltransferase; Apoptosis
Pathway:	Epigenetics; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 32 mg/mL (57.60 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7999 mL	8.9994 mL	17.9989 mL
5 mM	0.3600 mL	1.7999 mL	3.5998 mL
10 mM	0.1800 mL	0.8999 mL	1.7999 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.50 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

OICR-9429 is high affinity WD repeat domain 5 (WDR5) inhibitor, competitively blocks WDR5 interaction with MLL protein via binding the central peptide-binding pocket of WDR5. OICR-9429 can suppress histone H3K4 trimethylation and can be used for the research of various cancers including non-MLL-rearranged leukaemia, colon, pancreatic, prostate cancer and bladder cancer (BCa) [1].

IC_{50} & Target

IC50: 67.74 μM (T24 cell); 0.41 μM (UM-UC-3 cell); 121.42 μM (TCCSUP) [1]

In Vitro

OICR-9429 (0-10 μM, 48 h) shows high sensitivity for T24, UM-UC-3 with IC_{50} values of 67.74 μM and 70.41 μM, respectively[1].
OICR-9429 (0-10 μM, 48 h) shows low sensitivity for TCCSUP with IC_{50} values of 121.42 μM[1].
OICR-9429 (70 μM, 120 μM, 140 μM and 240 μM; 48 h) reduces BCa cell viability by decreasing WDR5-mediated H3K4me3[1].
OICR-9429 (70 μM, 120 μM, 140 μM and 240 μM; 48 h) inhibits the proliferation of BCa cells by regulating the G1/S phase transition[1].
OICR-9429 (70 μM, 120 μM, 140 μM and 240 μM; 24 h) enhances apoptosis of BCa cells in a time-dependent and dose-dependent manner and promotes cisplatin chemosensitivity in BCa cells[1].
OICR-9429 (70 μM, 120 μM, 140 μM and 240 μM; 24 h, 48 h) suppresses the metastatic behaviour of bladder cancer cells[1].
OICR-9429 (70 μM, 120 μM, 140 μM and 240 μM; 48 h) suppresses PD-L1 expression induced by IFN-γ in BCa cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	5 days
Result:	Had a low proliferation rate and remarkably reduced the number of colonies formed by the three BCa cell lines in a dose-dependent manner.

Cell Cytotoxicity Assay[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	0-10 μM
Incubation Time:	48 h
Result:	Inhibited cell viability in a dose-dependent manner in BCa cell lines.

Apoptosis Analysis[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	24 h
Result:	Showed no obvious apoptotic cells for 24 h but the apoptotic rate was significantly increased at 72 h and upregulated caspase 3/7 activity.

Cell Migration Assay [1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	24 h, 48 h
Result:	Reduced the migratory speed and decreased the migration of the three BCa cell lines.

Cell Invasion Assay[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	24 h, 48 h

Result:	Decreased the invasion of the three BCa cell lines.

Western Blot Analysis[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	48 h
Result:	Showed significant downregulation of H3K4me3 in treated cells but not WDR5 or total H3. Reduced the expression of PD-L1 induced by IFN-γ in a dose-dependent manner at both the RNA and protein levels.

RT-PCR[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	48 h
Result:	Downregulated some genes related to the cell cycle, such as CDK1, PLK1, CCNE2, CCNB1, CCNA2, AURKA, and E2F1, genes related to apoptosis and DNA repair, such as BIRC5, XRCC2, AURKA, E2F1, and MCM2, and genes related to metastasis, such as AURKA and FOXM1.

Cell Cycle Analysis[1]

Cell Line:	BCa cell lines (T24, UM-UC-3 and TCCSUP)
Concentration:	70 μM, 120 μM, 140 μM and 240 μM
Incubation Time:	48 h
Result:	Increased the cell population in the G0/G1 phase of three BCa cells and reduced cell population in the S and G2/M phases.

In Vivo

OICR-9429 (30 mg/kg or 60 mg/kg, i.p) targeting WDR5 not only suppressed tumour proliferation and enhance the efficacy of cisplatin for BCa cells in vivo but also reduced the toxicity and side effects for normal tissues[1].

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

Animal Model:	xenograft mouse model[1]
Dosage:	30 mg/kg, 60 mg/kg
Administration:	30 mg/kg, 60 mg/kg, i.p.
Result:	Suppressed tumour growth, small tumours and enhanced tumour sensitivity.

CUSTOMER VALIDATION

- Nat Commun. 2019 Aug 21;10(1):3761.

- J Exp Clin Cancer Res. 2022 May 7;41(1):168.
- Clin Transl Med. 2024 Jan;14(1):e1539.
- Cell Rep. 2023 Apr 21;42(5):112423.
- Acta Pharmacol Sin. 2021 Apr 13.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Jingtong Zhang, et al. Targeting WD repeat domain 5 enhances chemosensitivity and inhibits proliferation and programmed death-ligand 1 expression in bladder cancer. J Exp Clin Cancer Res. 2021 Jun 21;40(1):203.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA