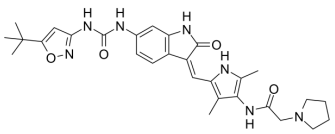
PXB17

Cat. No.:	HY-158050
Molecular Formula:	$C_{29}H_{35}N_7O_4$
Molecular Weight:	545.63
Target:	c-Fms
Pathway:	Protein Tyrosine Kinase/RTK
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

PXB17 can inhibit CSF1R (IC_{50} = 1.7 nM) by blocking the activation of PI3K/ AKT/mTORC1 signaling. PXB17 is orally effective. PXB17 significantly inhibits the growth of CRC, improves PD-1 mAb efficacy and reduces tumor recurrence in CRC[1].

In Vitro

PXB17 (30 - 3000 nM; 4 h) dose-dependently can increase stability of CSF1R[1].
PXB17 (30, 100 nM; 24 h) halts cholesterol biosynthesis and prevent CRC development by blocking PI3K-AKT-mTORC1 signaling to induce conversion of the M2 phenotype to the M1 phenotype[1].
PXB17 (10, 30, 100 nM; 72 h) increases CD69 expression in $CD8^+$ T cells. Also blocks CRC cell growth by enhancing anti-tumor immunity[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Real Time qPCR[1]

Cell Line:	BMDMs
Concentration:	10, 30, 100nM
Incubation Time:	24 h
Result:	PXB17 shifted macrophages from an M2-like to an M1-like phenotype, indicated by changes in marker gene expression. The ability of PXB17 to reprogram macrophages suggests a role in enhancing anti-tumor immunity by converting immunosuppressive M2 macrophages into pro-inflammatory M1 macrophages, which are more capable of attacking tumor cells.

Immunofluorescence[1]

Cell Line:	BMDMs
Concentration:	10, 30,100 nM
Incubation Time:	4 h
Result:	PXB17 significantly inhibited CSF1R phosphorylation across all tested concentrations.

In Vivo

PXB17 (10, 20 mg/kg; p.o.; daily) effectively inhibits tumor growth in C57BL/6 mice were inoculated with MC-38 cell[1].
PXB17 (20 mg/kg ;p.o.; daily) not only influences tumor cell survival and proliferation by directly inhibiting CSF1R and

modulating cholesterol biosynthesis pathways, but also remodels the tumor microenvironment by altering the phenotype of macrophages in C57BL/6, BALB/c mice were inoculated with MC-38 cell[1].

PXB17 (20 mg/kg ;p.o.; daily) Concomitant use with PD-1 mAb can improve anti-tumor efficacy and reduce recurrence in CT-26 (MSS), MC-38 (MSI-H) mice[1].

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

Animal Model:	mice were inoculated with MC-38 cell [1]
Dosage:	10,20 mg/kg; daily
Administration:	p.o.
Result:	PXB17 significantly inhibited tumor growth and showed stronger anti-tumor effects at a dose of 20 mg/kg compared with PLX3397 (HY-16749). Meanwhile, tumor cell apoptosis was significantly increased in the PXB17-treated group, reprogramming of M2-type to M1-type macrophages, and enhanced activation and infiltration of $CD8^+$ T cells.

Animal Model:	mice were inoculated with CT-26 cell [1]
Dosage:	5, 10,20 mg/kg
Administration:	p.o.
Result:	PXB17 significantly inhibited CT-26 tumor growth at all doses. tumor tissues showed an increased proportion of M1-type macrophages, while decreasing the proportion of M2-type macrophages and enhancing $CD8^+$ cell responses.

REFERENCES

[1]. Qi L et al. CSF1R inhibition reprograms tumor-associated macrophages to potentiate anti-PD-1 therapy efficacy against colorectal cancer Pharmacological Research 202 (2024) 107126.

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