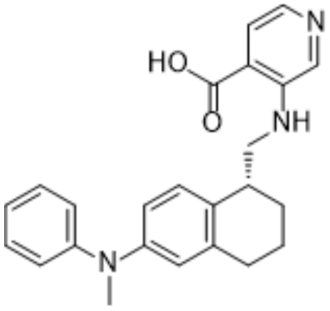
QC6352

Cat. No.:	HY-104048
CAS No.:	1851373-36-8
Molecular Formula:	$C_{24}H_{25}N_3O_2$
Molecular Weight:	387
Target:	Histone Demethylase
Pathway:	Epigenetics
Storage:	4°C, protect from light * In solvent : -80°C, 2 years; -20°C, 1 year (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (43.07 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	2.5840 mL	12.9199 mL	25.8398 mL
	5 mM	0.5168 mL	2.5840 mL	5.1680 mL
	10 mM	0.2584 mL	1.2920 mL	2.5840 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 10 mg/mL (25.84 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (4.32 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 1.67 mg/mL (4.32 mM); Suspended solution; Need ultrasonic
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (4.32 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

QC6352 is an orally active KDM4 inhibitor with anti-tumor and anti-proliferative activity. QC6352 has in vivo inhibitory effects on PDX models of breast and colon cancer and reduces the number of chemoresistant cell populations. QC6352 inhibits KDM4 different isoforms with IC_{50}s of 104 nM (KDM4A), 56 nM (KDM4B), 35 nM (KDM4C), and 104 nM (KDM4D), respectively. QC6352 has moderate inhibitory activity against KDM5 with an IC_{50} of 750 nM (KDM5B)[1][2].

IC_{50} & Target	KDM4	KDM5B	KDM4A	KDM4B
		750 nM (IC_{50})	104 nM (IC_{50})	56 nM (IC_{50})

	KDM4C 35 nM (IC_{50})	KDM4D 104 nM (IC_{50})
In Vitro	QC6352 is a potent KDM4C inhibitor with an IC_{50} of 35±8 nM[1]. In a concentration-dependent manner QC6352 dramatically reduces the sphere-forming capacity of BCSC1 and BCSC2. QC6352 blocks proliferation and self-renewal of BCSCs. As shown by western blot analysis the protein levels of (Epidermal growth factor receptor) EGFR are reduced in both BCSC1 and BCSC2 upon treatment with QC6352[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	QC6352 strongly affects tumor growth and final tumor weight of both BCSC1 and BCSC2 xenografts. Treatment with QC6352 is well tolerated and does not affect body weight of the mice. Results demonstrate that treatment with the KDM4 inhibitor QC6352 blocks BCSC xenograft tumor growth[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

PROTOCOL

Cell Assay [2]	Cells are detached by Accutase and counted. 1×10^3 single BCSC1 and BCSC2 cells are seeded as triplicates in 50% Matrigel into individual wells of 24-well ultra-low attachment plates in serum-free MSC medium. After 7 days, spheres over 50 μm diameter are counted for QC6352- and QC6688-treated and control cells and spheres over 20 μm diameter are counted for paclitaxel-treated and control cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	Mice: When tumors reach a palpable size of 3 mm^3, mice are treated with vehicle (control) or QC6352. The inhibitor is administered daily to mice via oral gavage at 10 mg/kg. Control animals receive vehicle only. Animals are monitored twice weekly for weight and tumor growth[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Mol Cell. 2021 May 20;81(10):2148-2165.e9.
- Acta Pharmacol Sin. 2021 Apr 13.
- J Med Chem. 2024 Jan 31.

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REFERENCES

[1]. Chen YK, et al. Design of KDM4 Inhibitors with Antiproliferative Effects in Cancer Models. ACS Med Chem Lett. 2017 Jul 27;8(8):869-874.

[2]. Metzger E, et al. KDM4 inhibition targets breast cancer stem-like cells. Cancer Res. 2017 Sep 7. pii: canres.1754.

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

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