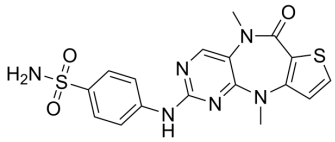
XMU-MP-1

Cat. No.:	HY-100526
CAS No.:	2061980-01-4
Molecular Formula:	$C_{17}H_{16}N_6O_3S_2$
Molecular Weight:	416.48
Target:	Hippo (MST)
Pathway:	Stem Cell/Wnt
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 : 8 mg/mL (19.21 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4011 mL	12.0054 mL	24.0108 mL
5 mM	0.4802 mL	2.4011 mL	4.8022 mL
10 mM	0.2401 mL	1.2005 mL	2.4011 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: ≥ 0.83 mg/mL (1.99 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.83 mg/mL (1.99 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.83 mg/mL (1.99 mM); Clear solution
4. Add each solvent one by one: 5% DMSO >> 95% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.4 mg/mL (0.96 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

XMU-MP-1 is a reversible and selective MST1/2 inhibitor with IC_{50}s of 71.1 and 38.1 nM, respectively[1].

IC_{50} & Target

IC50: 71.1 (MST1), 38.1 nM (MST2)[1]

In Vitro

At concentrations ranging from 0.1 to 10 μM, XMU-MP-1 reduces the phosphorylation of endogenous MOB1, LATS1/2, and

	YAP in HepG2 cells in a dose-dependent manner. XMU-MP-1 treatment inhibits hydrogen peroxide-stimulated MOB1 phosphorylation and MST1/2 autophosphorylation in a variety of cell lines, including mouse macrophage-like cells, human osteosarcoma, human colorectal adenocarcinoma cells. XMU-MP-1 blocks MST1/2 kinase activities, thereby activating the downstream effector Yes-associated protein and promoting cell growth. XMU-MP-1 can potently and reversibly suppress the activities of kinases MST1/2 and enhance their downstream YAP activation in cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	XMU-MP-1 displays excellent in in vivo pharmacokinetics and is able to augment mouse intestinal repair, as well as liver repair and regeneration, in both acute and chronic liver injury mouse models at a dose of 1 to 3 mg/kg via intraperitoneal injection. XMUMP-1 treatment exhibits substantially greater repopulation rate of human hepatocytes in the Fah-deficient mouse model than in the vehicle-treated control, indicating that XMU-MP-1 treatment might facilitate human liver regeneration[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	XMU-MP-1 is dissolved in DMSO (stock concentration, 10 mM). For the in vitro kinase inhibition assays, recombinant GST-tagged MOB1a and various forms of recombinant His-tagged full-length MST1 or MST2 kinase are expressed and purified from Escherichia coli. The assays are performed with the various doses of XMU-MP-1 in the kinase assay buffer for 30 min at 30°C[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nature. 2022 Jan;601(7894):600-605.
- Nat Immunol. 2017 Sep;18(9):973-984.
- Ann Rheum Dis. 2021 Jul;80(7):891-902.
- Nat Commun. 2022 Jun 2;13(1):3075.
- Cancer Commun (Lond). 2023 Apr 2.

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REFERENCES

[1]. Fan F, et al. Pharmacological targeting of kinases MST1 and MST2 augments tissue repair and regeneration. Sci Transl Med. 2016 Aug 17;8(352):352ra108.

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