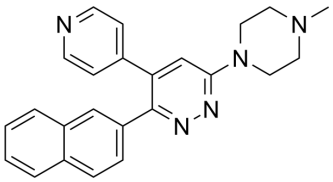
MW-150

Cat. No.:	HY-120111
CAS No.:	1628502-91-9
Molecular Formula:	$C_{24}H_{23}N_5$
Molecular Weight:	381.47
Target:	p38 MAPK; Autophagy
Pathway:	MAPK/ERK Pathway; Autophagy
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 : 40 mg/mL (104.86 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6214 mL	13.1072 mL	26.2144 mL
5 mM	0.5243 mL	2.6214 mL	5.2429 mL
10 mM	0.2621 mL	1.3107 mL	2.6214 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: ≥ 3 mg/mL (7.86 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3 mg/mL (7.86 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (7.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MW150 (MW01-18-150SRM) is a selective, CNS penetrant, and orally active inhibitor of p38α MAPK with a K_i of 101 nM. MW-150 inhibits the ability of the endogenous p38α MAPK to phosphorylate an endogenous substrate MK2 in activated glia[1].

IC_{50} & Target

p38α
101 nM (Ki)

In Vitro

MW-150 inhibits in a concentration-dependent manner the ability of the endogenous p38α MAPK to phosphorylate an

endogenous substrate MK2 in activated glia[1].
MW-150 blocks in a concentration-dependent manner the increased IL-1β production by activated glia. The IC_{50} values are 332 nM and 936 nM for MK2 and IL-1β, respectively[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

MW-150 (2.5 mg/kg; oral daily for 3-4 months) improves the APP/PS1 transgenic (Tg) mice performance in radial arm water maze (RAWM) and contextual fear conditioning tests[1].
MW-150 (2.5 mg/kg; given i.p.; daily for 14 days) treatment in $APP^{NLh/NLh} \times PS^{P264L/P264L}$ knock-in mouse (with no overexpression of the amyloid precursor protein) exhibits RAWM behavior indistinguishable from WT mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	APP/PS1 transgenic (Tg) mouse (overexpresses amyloid-beta)[1]
Dosage:	2.5 mg/kg
Administration:	Oral daily; 3-4 months (until cognitive impairment is present)
Result:	Improved the Tg mice performance in radial arm water maze (RAWM) and contextual fear conditioning tests.

REFERENCES

[1]. Roy SM, et al. Targeting human central nervous system protein kinases: An isoform selective p38αMAPK inhibitor that attenuates disease progression in Alzheimer's disease mouse models. ACS Chem Neurosci. 2015 Apr 15;6(4):666-80.

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