# p38 MAPK-IN-1

**Cat. No.:** HY-12839

**CAS No.:** 1006378-90-0

**Molecular Formula:** $C_{21}H_{15}F_2N_2O$

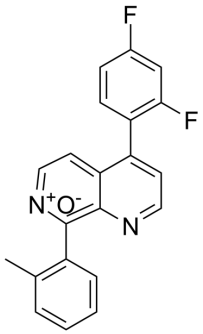
**Molecular Weight:** 349.35

**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 : 33.33 mg/mL (95.41 mM; ultrasonic and warming and heat to 60°C)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.8625 mL | 14.3123 mL | 28.6246 mL |
| 5 mM | 0.5725 mL | 2.8625 mL | 5.7249 mL |
| 10 mM | 0.2862 mL | 1.4312 mL | 2.8625 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 (2.38 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.83 mg/mL (2.38 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.83 mg/mL (2.38 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

p38 MAPK-IN-1 (Compound 4) is a novel potent and selective inhibitor of p38 MAPK with $IC_{50}$ of 68 nM. p38 MAPK-IN-1 shows sustained levels, low clearance and good bioavailability.

**$IC_{50}$ & Target**

p38 MAPK
68 nM ($IC_{50}$)

**In Vivo**

p38 MAPK-IN-1 (Compound 4; 1 mg/kg for iv and 10 mg/kg for po) has a $t_{1/2}$ of 7.4 hours and CL of 2.7 mL/min/kg for iv, and a

$C_{max}$ of 5.3 μM for po in male wistar rats[1].
p38 MAPK-IN-1 dose-dependently inhibits TNFα production with an $ED_{50}$ of 0.5 mg/kg[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Male wistar rats[1] |
| Dosage: | 10 mg/kg for po and 1 mg/kg for iv (Pharmacokinetic Analysis) |
| Administration: | Po and iv |
| Result: | Had a $t_{1/2}$ of 7.4 hours and CL of 2.7 mL/min/kg for iv, and a $C_{max}$ of 5.3 μM for po. |

## CUSTOMER VALIDATION

- Cell Commun Signal. 2023 May 1;21(1):86.
- J Agric Food Chem. 2022 Feb 16;70(6):1996-2009.
- Stem Cell Rev Rep. 2023 Jun 24.
- Front Oncol. 2021 Aug 23;11:733763.
- Oxid Med Cell Longev. 16 Jun 2022.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Lumeras W, et al. 1,7-Naphthyridine 1-oxides as novel potent and selective inhibitors of p38 mitogen activated protein kinase. J Med Chem. 2011 Nov 24;54(22):7899-910.



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