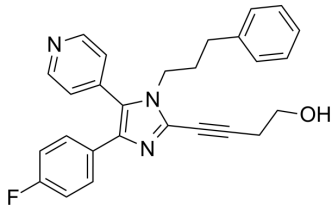
RWJ-67657

Cat. No.:	HY-15505
CAS No.:	215303-72-3
Molecular Formula:	$C_{27}H_{24}FN_3O$
Molecular Weight:	425.5
Target:	p38 MAPK
Pathway:	MAPK/ERK Pathway
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (293.77 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3502 mL	11.7509 mL	23.5018 mL
	5 mM	0.4700 mL	2.3502 mL	4.7004 mL
	10 mM	0.2350 mL	1.1751 mL	2.3502 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: ≥ 2.08 mg/mL (4.89 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (4.89 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.89 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

RWJ-67657 (JNJ 3026582) is an orally active and selective p38α and p38β MAPK inhibitor with IC_{50}s of 1 and 11 μM, respectively. RWJ-67657 displays no activity at p38γ and p38δ, and exhibits cardio protective effect. Anti-inflammatory and anti-tumor activity[1].

IC_{50} & Target	p38α	p38β
	1 μM (IC_{50})	11 μM (IC_{50})

In Vitro

RWJ-67657 inhibits the release of TNF-α by lipopolysaccharide (LPS)-treated human peripheral blood mononuclear cells with an IC_{50} of 3 nM, as well as the release of TNF-α from peripheral blood mononuclear cells treated with the superantigen staphylococcal enterotoxin B, with an IC_{50} value of 13 nM[2].

RWJ67657 (10 μM; 24 hours) decreases colony formation in MCF-7 cells[3].

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

Cell Proliferation Assay[3]

Cell Line:	MCF-7 breast carcinoma cells
Concentration:	10 μM
Incubation Time:	24 hours
Result:	Decreased colony formation.

In Vivo

RWJ-67657 inhibits TNF-alpha production in lipopolysaccharide-injected mice (87% inhibition at 50 mg/kg) and in rats (91% inhibition at 25 mg/kg) after oral administration[2].

RWJ-67657 (50 mg/kg; administered orally; once per day for 7 consecutive days) displays a potent anti-inflammatory effect. By both improving the functioning of endothelial progenitor cells (EPCs) and reducing inflammation, EPC transplantation plus RWJ-67657 administration synergistically promotes angiogenesis and neurogenesis after diabetic stroke[4].

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

Animal Model:	The db/db mice (male, 8 weeks old) with EPCs[4]
Dosage:	50 mg/kg
Administration:	Administered orally; once per day for 7 consecutive days
Result:	Increased angiogenesis and neurogenesis of diabetic mice after cotreatment with EPCs transplantation.

REFERENCES

[1]. Shahin R, et al. Research advances in kinase enzymes and inhibitors for cardiovascular disease treatment. Future Sci OA. 2017 Aug 8;3(4):FSO204.

[2]. Wadsworth SA, et al. RWJ 67657, a potent, orally active inhibitor of p38 mitogen-activated protein kinase. J Pharmacol Exp Ther. 1999 Nov;291(2):680-7.

[3]. Frigo DE, et al. p38 mitogen-activated protein kinase stimulates estrogen-mediated transcription and proliferation through the phosphorylation and potentiation of the p160 coactivator glucocorticoid receptor-interacting protein 1. Mol Endocrinol. 2006 Ma

[4]. Bai YY, et al. Synergistic Effects of Transplanted Endothelial Progenitor Cells and RWJ 67657 in Diabetic Ischemic Stroke Models. Stroke. 2015 Jul;46(7):1938-46.

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