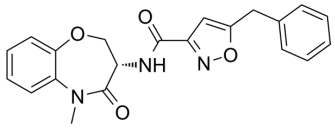
GSK481

Cat. No.:	HY-100131		
CAS No.:	1622849-58-4		
Molecular Formula:	$C_{21}H_{19}N_3O_4$		
Molecular Weight:	377.39		
Target:	RIP kinase		
Pathway:	Apoptosis		
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 : ≥ 35 mg/mL (92.74 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	2.6498 mL	13.2489 mL	26.4978 mL
	5 mM	0.5300 mL	2.6498 mL	5.2996 mL
	10 mM	0.2650 mL	1.3249 mL	2.6498 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: ≥ 2.5 mg/mL (6.62 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (6.62 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

GSK481 is a highly potent, selective, and specific receptor interacting protein 1 (RIP1) kinase inhibitor with an IC_{50} of 1.3 nM, which inhibits Ser^{166} phosphorylation in wild-type human RIP1 (IC_{50}=2.8 nM). GSK481 also exhibits excellent translation in the U937 cellular assay with an IC_{50} of 10 nM[1].

IC_{50} & Target

IC50: 1.3 nM (RIP1), 2.8 nM (Ser^{166} phosphorylation in wild-type human RIP1)[1]

In Vitro	GSK481 (300 nM; 2 hours; Jurkat cells) abrogates the RIP3 up-regulation induces by both TNFa and shikonin in live and dead cells, indicating that necroptosis is in fact induced by both agents[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only. Apoptosis Analysis[2] Cell Line: Jurkat cells Concentration: 300 nM Incubation Time: 2 hours Result: Increased levels of detectable apoptosis induced by TNFa and shikonin.
In Vivo	GSK481 inhibits Ser^{166} phosphorylation in three mouse RIP1 mutants (IC_{50}=18~110 nM) more potently than in wild-type mouse[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Harris PA et al. DNA-Encoded Library Screening Identifies Benzo[b][1,4]oxazepin-4-ones as Highly Potent and Monoselective Receptor Interacting Protein 1 Kinase Inhibitors. J Med Chem, 2016 Mar 10, 59(5):2163-78.

[2]. Lee HL, et al. Simultaneous flow cytometric immunophenotyping of necroptosis, apoptosis and RIP1-dependent apoptosis. Methods. 2018 Feb 1;134-135:56-66.

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