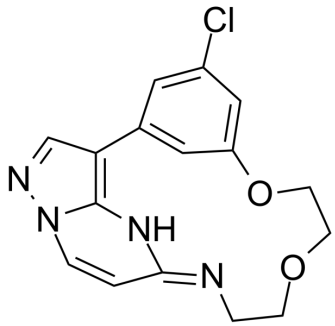
OD36

Cat. No.:	HY-19628
CAS No.:	1638644-62-8
Molecular Formula:	$C_{16}H_{15}ClN_4O_2$
Molecular Weight:	330.77
Target:	TGF-β Receptor; RIP kinase
Pathway:	TGF-beta/Smad; Apoptosis
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 : 33.33 mg/mL (100.76 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0232 mL	15.1162 mL	30.2325 mL
5 mM	0.6046 mL	3.0232 mL	6.0465 mL
10 mM	0.3023 mL	1.5116 mL	3.0232 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

OD36 is a RIPK2 inhibitor with an IC_{50} of 5.3 nM. OD36 is a macrocyclic inhibitor with potent binding to the ALK2 kinase ATP pocket. OD36 shows ALK2-directed activity with K_Ds of 37 nM[1][2].

IC_{50} & Target

RIPK2 5.3 nM (IC_{50})	ACVR1 37 nM (Kd)	ACVR1 47 nM (IC_{50})	ALK2 R206H 22 nM (IC_{50})

In Vitro

OD36 also inhibits ALK2 and ALK2 R206H with IC_{50}s of 47 and 22 nM, respevtively[1].
OD36 shows activity against ALK1 with a K_D of 90 nM[2].
OD36 potently antagonize mutant ALK2 signaling and osteogenic differentiation[2].
OD36 (0.1-1 μM; 24 h) efficiently inhibits BMP-6 (50 ng/mL)-induced p-Smad1/5 in KS483 cells[2].
Preincubation of fibrodysplasia ossificans progressiva (FOP) endothelial colony-forming cells (ECFCs) with OD36 (0.5 μM) completely prevents the activation of Smad1/5 and gene targets ID-1 and ID-3 in response to activin A[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	KS483 cells
Concentration:	0.1, 0.2, and 1 μM
Incubation Time:	
Result:	Inhibited BMP-6 induced p-Smad1/5.

In Vivo

OD36 (6.25 mg/kg; i.p.; once) alleviates inflammation in an acute peritonitis mice model[3].

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

Animal Model:	C57BL/6 mice, muramyl dipeptide (MDP)-induced model of peritonitis[3]
Dosage:	6.25 mg/kg
Administration:	Intraperitoneal injection, 30 min prior to MDP
Result:	Inhibited the recruitment of inflammatory cells to the peritoneum, specifically that of neutrophils, and, to a lesser extent, lymphocytes. Decreased RIPK2-specific genes as well as inflammatory cytokine and chemokine gene expression.

REFERENCES

[1]. Tigno-Aranjuez JT, et al. In vivo inhibition of RIPK2 kinase alleviates inflammatory disease. J Biol Chem. 2014 Oct 24;289(43):29651-64.

[2]. Gonzalo Sánchez-Duffhues, et al. Development of Macrocycle Kinase Inhibitors for ALK2 Using Fibrodysplasia Ossificans Progressiva-Derived Endothelial Cells. JBMR Plus. 2019 Oct 7;3(11):e10230.

[3]. Justine T Tigno-Aranjuez, et al. In vivo inhibition of RIPK2 kinase alleviates inflammatory disease. J Biol Chem. 2014 Oct 24;289(43):29651-64.

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