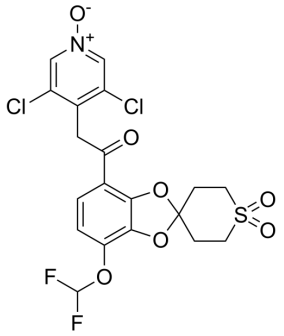
Orismilast

Cat. No.:	HY-117960
CAS No.:	1353546-86-7
Molecular Formula:	$C_{19}H_{15}Cl_2F_2NO_7S$
Molecular Weight:	510.29
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
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 : 100 mg/mL (195.97 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.9597 mL	9.7983 mL	19.5967 mL
5 mM	0.3919 mL	1.9597 mL	3.9193 mL
10 mM	0.1960 mL	0.9798 mL	1.9597 mL

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

BIOLOGICAL ACTIVITY

Description

Orismilast (LEO-32731) is an orally active and selective PDE4 inhibitor used for the research of inflammatory diseases. Orismilast demonstrates potent inhibition of PDE4B and PDE4D subtype splice variants[1][2].

IC_{50} & Target

PDE4B3 3 nM (IC_{50})	PDE4D7 3 nM (IC_{50})	PDE4D5 3 nM (IC_{50})	PDE4B2 6 nM (IC_{50})
PDE4D3 8 nM (IC_{50})	PDE4D4 8 nM (IC_{50})	PDE4D1 9 nM (IC_{50})	PDE4D2 9 nM (IC_{50})
PDE4A4 11 nM (IC_{50})	PDE4B1 16 nM (IC_{50})	PDE4A1 16 nM (IC_{50})	PDE4A10 52 nM (IC_{50})
PDE4C2 104 nM (IC_{50})			

In Vitro

Orismilast inhibits tumour necrosis factor α (TNFα), and the secretion of T-helper (Th)1 (TNFα and IFNγ), Th17 (IL-22 and IL-23), and Th2 (IL-4, IL-5, and IL-13) related cytokines in PBMC[2].

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

Cell Viability Assay[2].

Cell Line:	PBMC.
Concentration:	0-30 nM.
Incubation Time:	72 h.
Result:	Inhibited pro-inflammatory TNFα release. Inhibited the secretion of cytokines across all investigated T-helper cell sublineages, with most the profound effect on Th1-cell effector cytokines but also demonstrates potent inhibition on Th17 cells and Th2 cells related cytokines.

In Vivo

Orismilast (10 and 30mg/kg) significantly reduces ear thickness and inflammation markers ($p<0.0001$, respectively)[2].

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

Animal Model:	Female BALB/cABomTac mice (sensitized to oxazolone on the right ear with a single application of 10 µl oxazolone (0.8% in acetone) on Day 7)[2].
Dosage:	10 and 30mg/kg.
Administration:	Orally.
Result:	Both the 10 mg/kg and 30mg/kg doses of oral orismilast resulted in a significant reduction in ear thickness over time ($p<0.0001$, respectively;) with no impact on bodyweight during the treatment period.

REFERENCES

[1]. Jonathan I Silverberg, et al. Pharmacology of orismilast, a potent and selective PDE4 inhibitor. J Eur Acad Dermatol Venereol. 2023 Apr;37(4):721-729.

[2]. Nielsen,et al.Preparation of benzodioxole or benzodioxepine heterocyclic compounds as phosphodiesterase inhibitors.WO2011160632A1.

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