Ceralifimod

Cat. No.: HY-12685

CAS No.: 891859-12-4

Molecular Formula: $C_{27}H_{33}NO_4$

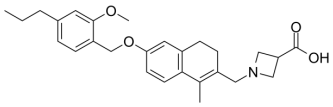
Molecular Weight: 435.56

Target: LPL Receptor

Pathway: GPCR/G Protein

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 : 2.86 mg/mL (6.57 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2959 mL	11.4795 mL	22.9590 mL
	5 mM	0.4592 mL	2.2959 mL	4.5918 mL
	10 mM	---	---	---

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

BIOLOGICAL ACTIVITY

Description

Ceralifimod (ONO-4641) is selective, high potent agonist for sphingosine 1-phosphate receptors 1 and 5, with EC_{50}s of 27.3, 334 pM for human S1P receptor 1 and 5, respectively.

IC_{50} & Target

EC50: 27.3 pM ($hS1P_1$), 334 pM ($hS1P_5$)[1].

In Vitro

Ceralifimod (ONO-4641) has an agonistic action for $S1P_1$ and $S1P_5$, and there is no difference between human and rat in the agonistic action of Ceralifimod (ONO-4641) for $S1P_1$. Ceralifimod (ONO-4641) also induces $S1P_1$ down-regulation in a concentration-dependent manner and by approximately 90% at concentration of 25 nM[1].

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

In Vivo

The clinical scores of the Ceralifimod (ONO-4641) 0.03 and 0.1 mg/kg groups remain lower than that in the control group. The maximum clinical scores decrease dose-dependently in the Ceralifimod (ONO-4641) groups and those in the Ceralifimod (ONO-4641) 0.03 and 0.1 mg/kg groups are significantly lower than that in the control group. Specifically, paralysis is inhibited completely in seven of eight animals in the Ceralifimod (ONO-4641) 0.1 mg/kg group.

In normal NOD mice, the number of peripheral blood lymphocytes is decreased by approximately 20, 60 and 80% at 24 h

after a single oral dose of 0.01, 0.03 and 0.1 mg/kg of Ceralifimod (ONO-4641), respectively. In the control group of the NOD mouse model of relapsing-remitting EAE, the relapse rate is 90.0%, and two of the nine animals die. The cumulative clinical score in the control group is 65.4±18.50. In contrast, none of animals in the Ceralifimod (ONO-4641) 0.1 mg/kg group have a relapse; that is, Ceralifimod completely prevents relapse at a dose of 0.1 mg/kg. In the Ceralifimod (ONO-4641) groups, two of the nine animals in the 0.01 mg/kg die[1].

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

PROTOCOL

Animal Administration [1]

Rats[1]

Female Lewis rats are immunized by subcutaneous administration of the inducer at a volume of 0.1 mL into the footpad. Ceralifimod (ONO-4641: 0.01, 0.03 and 0.1 mg/kg), prednisolone (3 mg/kg) or 0.5% MC is administered orally once daily from immunization days 4-21. More specifically, the severity of paralysis is graded on a scoring scale to determine the clinical score.

Mouse[1]

NOD mice are immunized into the left footpad with the inducer at a volume of 0.05 mL. A second PTX injection is administered 48 h later. Animals that achieve remission after the initial onset are selected and grouped, and Ceralifimod (ONO-4641: 0.01, 0.03 or 0.1 mg/kg) or 0.5% MC is administered orally to each group once daily for 8 weeks. Neurological symptoms are graded according to the degree of paralysis. A clinical score of 5 is assigned to dead animals until the end of observation[1].

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

REFERENCES

[1]. Komiya T, et al. Efficacy and immunomodulatory actions of ONO-4641, a novel selective agonist for sphingosine 1-phosphate receptors 1 and 5, in preclinical models of multiple sclerosis. Clin Exp Immunol. 2013 Jan;171(1):54-62.

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