FTY720 (S)-Phosphate

Cat. No.: HY-15382

CAS No.: 402616-26-6

Molecular Formula: $C_{19}H_{34}NO_5P$

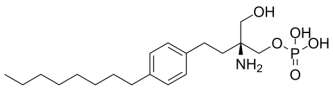
Molecular Weight: 387.45

Target: LPL Receptor

Pathway: GPCR/G Protein

Storage: Powder -20°C 3 years

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 1 mg/mL (2.58 mM; ultrasonic and warming and heat to 80°C)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5810 mL	12.9049 mL	25.8098 mL
5 mM	---	---	---
10 mM	---	---	---

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

In Vivo

1. FTY720 (S)-Phosphate is dissolved in sterile water[2].

BIOLOGICAL ACTIVITY

Description

FTY720 (S)-Phosphate is an agonist of S1P receptor 1 (S1PR1), used in the research of acute inflammatory diseases such as acute lung injury.

IC_{50} & Target

S1PR1[1]

In Vitro

FTY720 (S)-Phosphate is an agonist of S1PR1. FTY720 (S)-Phosphate (Tys, 1 μM) maintains S1PR1 protein expression, enhances the human pulmonary artery endothelial cells barrier via S1PR1, but shows no effect on inducing ubiquitination of S1PR1. FTY720 (S)-Phosphate (0.01-50 μM) also reduces β-arrestin recruitment to S1PR1[1].

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

In Vivo

FTY720 (S)-Phosphate (0.5 mg/kg, i.p.) preserves S1PR1 expression in mouse lungs, is protective in bleomycin-induced acute lung injury (ALI) and attenuates lung tissue leukocyte infiltration in bleomycin-injured mice[1].

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

PROTOCOL

Animal Administration [1]	Mice[1]Male C57BL/6 (20-25 g) mice 8-10 weeks old receive a single intratracheal dose of bleomycin at 0.6 U/kg (or sterile saline) on Day 0 followed immediately by intraperitoneal injection of FTY720 (S)-Phosphate (0.5 mg/kg), FTY720 (0.5 mg/kg), or saline. Additional doses of FTY720 (S)-Phosphate or FTY720 are injected on Days 3 and 6. Bronchoalveolar lavage (BAL) fluid and lungs are then collected on Day 7. BAL fluid is used to detect BAL protein levels, WBC count, and WBC differential count. Lungs are perfused with saline to remove blood for Western blot, tissue albumin, and histopathology evaluation. Peripheral blood is obtained on Day 7 for examination of total cell counts and lymphocytes. Experiments are repeated 3 times. 6-10 mice are used per experimental group[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Front Immunol. 2017 Oct 19;8:1345.

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REFERENCES

[1]. Wang L, et al. FTY720 (s)-phosphonate preserves sphingosine 1-phosphate receptor 1 expression and exhibits superior barrier protection to FTY720 in acute lung injury. Crit Care Med. 2014 Mar;42(3):e189-99.

[2]. Lingling Jia, et al. Clostridium butyricum CGMCC0313.1 Protects against Autoimmune Diabetes by Modulating Intestinal Immune Homeostasis and Inducing Pancreatic Regulatory T Cells. Front Immunol. 2017 Oct 19;8:1345.

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