CYM-5520

Cat. No.: HY-100953

CAS No.: 1449747-00-5

Molecular Formula: $C_{21}H_{19}N_3O_2$

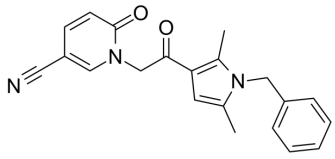
Molecular Weight: 345.39

Target: LPL Receptor

Pathway: GPCR/G Protein

Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (144.76 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8953 mL	14.4764 mL	28.9528 mL
	5 mM	0.5791 mL	2.8953 mL	5.7906 mL
	10 mM	0.2895 mL	1.4476 mL	2.8953 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.24 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CYM-5520 is a selective and allosteric sphingosine 1-phosphate receptor 2 (S1PR2) agonist with an EC_{50} of 480 nM. CYM-5520 does not activate S1PR1, S1PR3, S1PR4 and S1PR5 receptors. CYM-5520 can co-bind in the S1PR2 receptor with S1P. CYM-5520 can be used for osteoporosis research[1][2].

In Vitro

CYM-5520 (EC_{50} of 1.6 μM) is a full agonist for wild type S1PR2. Stimulation of cells expressing the triple mutant S1PR2 with S1P does not elicit a rise in luciferase activity, whereas the CYM-5520 is an agonist with an EC_{50} of 1.5 μM[1].

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

In Vivo

CYM-5520 (10 mg/kg; i.p.; 5 consecutive days per week; for 6 weeks) treatment clearly increases long bone and vertebral bone mass in osteopenic ovariectomized mice. CYM-5520 also increases osteoblast number, osteoid surface and alkaline phosphatase, and plasma concentrations of the osteoanabolic marker procollagen I C-terminal propeptide are also elevated [2].

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

Animal Model:	Ovariectomized 12 weeks old C57Bl6J mice[2]
Dosage:	10 mg/kg
Administration:	i.p.; 5 consecutive days per week; for 6 weeks
Result:	Corrected ovariectomy-induced osteopenia in mice by inducing new bone formation.

REFERENCES

[1]. Hideo Satsu, et al. A sphingosine 1-phosphate receptor 2 selective allosteric agonist. Bioorg Med Chem. 2013 Sep 1;21(17):5373-82.

[2]. Sarah Weske, et al. Agonist-induced activation of the S1P receptor 2 constitutes a novel osteoanabolic therapy for the treatment of osteoporosis in mice. Bone. 2019 Aug;125:1-7.

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