L755507

Cat. No.: HY-19334

CAS No.: 159182-43-1

Molecular Formula: $C_{30}H_{40}N_4O_6S$

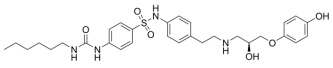
Molecular Weight: 584.73

Target: Adrenergic Receptor; CRISPR/Cas9

Pathway: GPCR/G Protein; Neuronal Signaling; Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (171.02 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7102 mL	8.5510 mL	17.1019 mL
5 mM	0.3420 mL	1.7102 mL	3.4204 mL
10 mM	0.1710 mL	0.8551 mL	1.7102 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

L755507 is a potent, selective agonist of β_3-AR with an IC_{50} of 35 nM. L755507 enhances the homology-directed repair (HDR)-mediated genome editing in CRISPR/Cas9 nickase system[1][2][3].

IC_{50} & Target

IC50: 35 nM (β_3-AR)[1]

In Vitro

L755507 causes a robust concentration-dependent increase in cAMP accumulation (pEC_{50} values of 8.5 and 12.3,

respectively). Maximal cAMP accumulation with zinterol and L755507 is increased after pretreatment with pertussis toxin. In contrast to cAMP, zinterol, L755507 and L748337 increase phosphorylation of extracellular signal-regulated kinase 1/2 (Erk1/2) with very high potency (pEC_{50} values of 10.9, 11.7 and 11.6)[1]. L755507 and Scr7 do not reduce cell viability significantly. Scr7 does not affect cell cycle distribution in a range of 10 to 200 μM. L755507 significantly decreases the proportion of cells in the G2/M phase at 10 μM or 40 μM and increases the S-phase cells at 10 μM compare with the DMSO-treated cells[2].

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

PROTOCOL

Cell Assay [1]

The cytosensor microphysiometer is used to measure β_3-AR-mediated increases in ECAR . In brief, CHO β_3 cells are seeded into 12-mm Transwell inserts at 5×10^5 cells/cup and left to adhere overnight. On the day of experiment, cells are equilibrated for 2 h, and cumulative concentration-response curves to L755507, zinterol, or L748337 are constructed in paired sister cells with each concentration of drug exposed to cells for 14 min. Results are expressed as a percentage of the maximal response to L755507. In experiments examining the effect of inhibitors, cells are treated for 30 min before stimulation with appropriate drugs. All drugs are diluted in modified RPMI 1640 medium. These results are expressed as a percentage of the maximal response to L755507, zinterol, or L748337 over basal[1].

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

CUSTOMER VALIDATION

- Cell Commun Signal. 2023 Sep 30;21(1):268.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Sato M, et al. The beta3-adrenoceptor agonist 4-[[(Hexylamino)carbonyl]amino]-N-[4-[2-[[(2S)-2-hydroxy-3-(4-hydroxyphenoxy)propyl]amino]ethyl]-phenyl]-benzenesulfonamide (L755507) and antagonist (S)-N-[4-[2-[[3-[3-(acetamidomethyl)phenoxy]-2-hydroxypropyl]amino]-ethyl]phenyl]benzenesulfonamide (L748337) activate different signaling pathways in Chinese hamster ovary-K1 cells stably expressing the human beta3-adrenoceptor. Mol Pharmacol. 2008 Nov;74(5):1417-28.

[2]. Guoling Li, et al. Small molecules enhance CRISPR/Cas9-mediated homology-directed genome editing in primary cells. Sci Rep. 2017; 7: 8943.

[3]. Murakami Y, et al. An effective double gene knock-in strategy using small-molecule L755507 in the medaka fish (Oryzias latipes). Genesis. 2022;60(1-2):e23465.

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