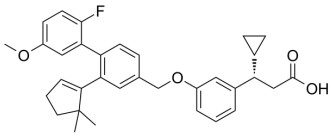
AM-1638

Cat. No.:	HY-13467
CAS No.:	1142214-62-7
Molecular Formula:	$C_{33}H_{35}FO_4$
Molecular Weight:	514.63
Target:	Free Fatty Acid 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 : 100 mg/mL (194.31 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9431 mL	9.7157 mL	19.4314 mL
	5 mM	0.3886 mL	1.9431 mL	3.8863 mL
	10 mM	0.1943 mL	0.9716 mL	1.9431 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.86 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AM-1638 is a potent and orally bioavailable GPR40/FFA1 full agonist with an EC_{50} of 0.16 μM.

IC_{50} & Target

IC50: 0.16 μM (GPR40/FFA1)[1]

In Vivo

AM-1638 exhibits moderate cross-species plasma clearance and volume of distribution, resulting in plasma half-lives suitable for evaluation of its antidiabetic properties in mouse, rat, and cynomologus monkey. Moreover, oral administration of full agonist AM-1638 demonstrates excellent oral bioavailability (mouse, >100%; rat, 72%; and cyno, 71%). AM-1638exhibits antidiabetic activity in BDF/DIO mice[1].

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

PROTOCOL

Animal Administration [1]

Mice[1]

On the morning of the experiment, Male B6D2F1/J mice are fasted for four hours and body weight and blood glucose levels are measured. Animals are randomized into treatment groups based on these two parameters. Treatments are administered by oral gavage and sixty minutes later, the mice received a 2 g/kg glucose challenge dose by oral gavage (defined as t=0 min). Blood samples are collected at -60, 0, 15, 30, 60, 90 and 120 minutes via tail vein relative to the glucose challenge. Glucose levels are monitored with a glucometer. Plasma insulin is measured using a mouse insulin ELISA[1].

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

CUSTOMER VALIDATION

- J Cell Physiol. 2022 Jul 8.

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REFERENCES

[1]. Brown SP, et al. Discovery of AM-1638: A Potent and Orally Bioavailable GPR40/FFA1 Full Agonist. ACS Med Chem Lett. 2012 Aug 15;3(9):726-30.

Caution: Product has not been fully validated for medical applications. For research use only.

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