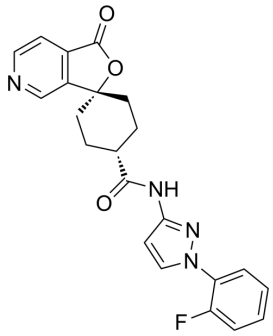
MK-0557

Cat. No.:	HY-15411
CAS No.:	328232-95-7
Molecular Formula:	$C_{22}H_{19}FN_4O_3$
Molecular Weight:	406.41
Target:	Neuropeptide Y Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
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 : 200 mg/mL (492.11 mM; Need ultrasonic)
H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4606 mL	12.3028 mL	24.6057 mL
5 mM	0.4921 mL	2.4606 mL	4.9211 mL
10 mM	0.2461 mL	1.2303 mL	2.4606 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: 5 mg/mL (12.30 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

MK-0557 is a highly selective, orally available neuropeptide Y5 receptor antagonist with a K_i of 1.6 nM.

IC_{50} & Target

NPY Y_5 receptor

In Vitro

Neuropeptide Y (NPY) is a potent orexigenic neuropeptide, and antagonism of NPY Y1 and NPY Y5 receptors (NPYxR) is considered a potentially important anti-obesity drug target. MK-0557 has a K_i=1.3 nM at the human NPY5R, with similar affinities at rhesus, mouse, and rat NPY5R. MK-0557 has no significant binding to the human NPY1R, NPY2R, NPY4R, or mouse NPY6R at concentrations of 10 μM[2].

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

In Vivo

MK-0557 antagonizes the effects of the NPY5R-selective agonist on body-weight gain and hyperphagia in C57BL/6J mice and

	significantly suppresses the body-weight gain in diet-induced obese (DIO) mice. When lean mice on regular chow are switched to a medium high-fat diet (4.2 kcal/g) and treated with MK-0557 at 30 mg/kg PO QD, MK-0557 causes a 40% reduction inbody-weight gain at day 35[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Fichtner M, et al. Discovery and evaluation of spirocyclic derivatives as antagonists of the neuropeptide Y5 receptor. Bioorg Med Chem Lett. 2012 Apr 15;22(8):2738-43.

[2]. Erondu N, et al. Neuropeptide Y5 receptor antagonism does not induce clinically meaningful weight loss in overweight and obese adults. Cell Metab. 2006 Oct;4(4):275-82.

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