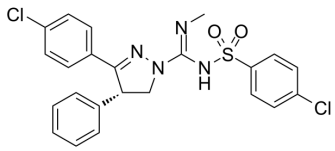
Ibipinabant

Cat. No.:	HY-14791
CAS No.:	464213-10-3
Molecular Formula:	$C_{23}H_{20}Cl_2N_4O_2S$
Molecular Weight:	487.4
Target:	Cannabinoid Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ibipinabant (SLV319) is a potent, selective and orally active antagonist of cannabinoid CB1 receptor, with a K_i of 7.8 nM. Ibipinabant shows more than 1000-fold selectivity for CB1 over CB2 (K_i=7943 nM). Ibipinabant can be used for the research of obesity and diabetic[1][2][3].

IC_{50} & Target	CB1	CB2
	7.8 nM (Ki)	7943 nM (Ki)

In Vitro

SLV319 displaces the specific CP-55940 (CB agonist) binding in CHO cells stably transfected with human CB1 receptor, with a K_i of 7.8 nM[1].

SLV319 concentration dependently antagonizes WIN-55212 (CB1 agonist)-induced arachidonic acid release in CHO cells, with a pA2 of 9.9[1].

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

In Vivo

SLV319 (3 mg/kg/day; p.o. for 28 d) reduces the food intake, body weight, and hormonal/metabolic abnormalities in diet-induced obesity (DIO) mice[2].

SLV319 (3 mg/kg/day, p.o. for 28 d) reverses the HFD-induced increase in adipose tissue leptin mRNA[2].

SLV319 (3-10 mg/kg; daily oral gavage for 56 d) has weight loss-independent antidiabetic effects and attenuates β-cell loss in a rat model of progressive β-cell dysfunction[3].

SLV319 (oral administration) antagonizes CB agonist (CP55940) induced hypotension in rats and hypothermia in mice, with an ED_{50} of 5.5 and 3 mg/kg, respectively[1].

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Animal Model:	Six-week-old male C57Bl/6J mice received a diet containing 60% of calories as fat, resulting in body weights >42 g in 12-14 weeks[2]
Dosage:	3 mg/kg/day
Administration:	P.o. for 28 days
Result:	Caused reductions in food intake, body weight and adiposity in DIO mice.

CUSTOMER VALIDATION

- ACS Bio & Med Chem Au. September 7, 2021.

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REFERENCES

[1]. Lange JHM, et, al. Synthesis, biological properties, and molecular modeling investigations of novel 3,4-diarylpyrazolines as potent and selective CB(1) cannabinoid receptor antagonists. J Med Chem. 2004 Jan 29;47(3):627-43.

[2]. Tam J, et, al. Peripheral cannabinoid-1 receptor inverse agonism reduces obesity by reversing leptin resistance. Cell Metab. 2012 Aug 8;16(2):167-79.

[3]. Rohrbach K, et, al. Ibipinabant attenuates β-cell loss in male Zucker diabetic fatty rats independently of its effects on body weight. Diabetes Obes Metab. 2012 Jun;14(6):555-64.

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