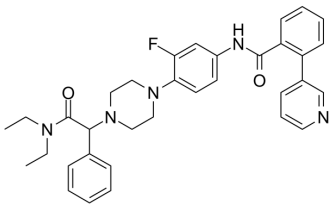
JNJ-31020028

Cat. No.:	HY-14450
CAS No.:	1094873-14-9
Molecular Formula:	$C_{34}H_{36}FN_5O_2$
Molecular Weight:	565.68
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 : 21.5 mg/mL (38.01 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7678 mL	8.8389 mL	17.6778 mL
	5 mM	0.3536 mL	1.7678 mL	3.5356 mL
	10 mM	0.1768 mL	0.8839 mL	1.7678 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 (4.42 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.42 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.42 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

JNJ-31020028 is a selective and brain penetrant antagonist of neuropeptide Y Y2 receptor with pIC_{50} values of 8.07 and 8.22 for human and rat Y2 receptor, respectively. JNJ-31020028 can be used for the research of nervous disease[1].

In Vitro

JNJ-31020028 (0-10 μM) selectively binds with hY2 , rY2 and mY2 with pIC_{50} values of 8.07, 8.22 and 8.21, respectively[1].
JNJ-31020028 (0.1 nM-10 μM; 1 hour) inhibits PYY-induced calcium response with a pK_B value of 8.04[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

JNJ-31020028 (0-20 mg/kg; s.c. once) affects the level of plasma corticosterone and refeeding result in stressed animals[1].

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

Animal Model:	Stressed and nonstressed male Sprague-Dawley rats[1]
Dosage:	0, 3, 10 and 20 mg/kg
Administration:	Subcutaneous injection; 0-20 mg/kg once
Result:	Significantly decreased plasma corticosterone levels in stressed animals, but not significantly affected plasma corticosterone levels in nonstressed animals. Attenuated effects of stress on refeeding.

REFERENCES

[1]. Shoblock JR, et al. In vitro and in vivo characterization of JNJ-31020028 (N-(4-{4-[2-(diethylamino)-2-oxo-1-phenylethyl]piperazin-1-yl}-3-fluorophenyl)-2-pyridin-3-ylbenzamide), a selective brain penetrant small molecule antagonist of the neuropeptide Y

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