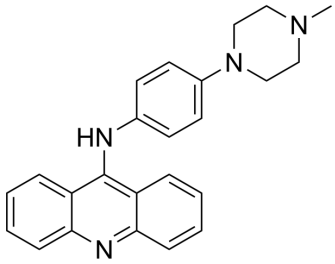
JP1302

Cat. No.:	HY-103213A
CAS No.:	80259-18-3
Molecular Formula:	$C_{24}H_{24}N_4$
Molecular Weight:	368.47
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	JP1302 is a potent, selective, high affinity antagonist of the α_{2C}-adrenoceptor, with a K_b of 16 nM and a K_i of 28 nM for the human α_{2C}-receptor. JP1302 shows antidepressant and antipsychotic-like effects. JP1302 can be used for neuropsychiatric disorders and renal dysfunction research[1][2][3].			
IC_{50} & Target	human α2C-adrenoceptor 28±2 nM (Ki)	human α2B-adrenoceptor 1470±130 nM (Ki)	human α2A-adrenoceptor 3150±50 nM (Ki)	rodent α2D-adrenoceptor 1700±200 nM (Ki)
In Vitro	JP1302 shows about 100-fold higher affinity than for α_{2A} or α_{2B}[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.			
In Vivo	JP1302 (1-10 μmol/kg) decreases immobility time in the FST to a level similar to that seen with 10-30 μmol/kg of the antidepressant Desipramine (HY-B1272A)[1]. JP1302 (5 μmol/kg, once) is capable of complete reversal of the impairment in PPI induced in Sprague-Dawley rats by the psychotomimetic NMDA receptor antagonist, phencyclidine and similar results are found in Wistar rats[1]. JP1302 (3 mg/kg, IV, once) significantly ameliorates renal dysfunction[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.			

Animal Model:	Male Sprague Dawley rats (8 weeks old)[3]
Dosage:	3 mg/kg
Administration:	IV, pre-treatment: administered 5 min before the induction of ischemia, post-treatment: injected 45 min after the initiation of reperfusion
Result:	Significantly ameliorated renal dysfunction in the rats at 24 h after reperfusion. post-ischemic administration of JP-1302 significantly ameliorated renal dysfunction, histological damage and reduced apoptotic cells and pro-inflammatory cytokine mRNA expression.

REFERENCES

[1]. Tricklebank MD, et al. JP-1302: a new tool to shed light on the roles of alpha2C-adrenoceptors in brain. Br J Pharmacol. 2007 Feb;150(4):381-2.

[2]. Sallinen J, et al. Pharmacological characterization and CNS effects of a novel highly selective alpha2C-adrenoceptor antagonist JP-1302. Br J Pharmacol. 2007 Feb;150(4):391-402.

[3]. Shimokawa T, et al. Post-treatment with JP-1302 protects against renal ischemia/reperfusion-induced acute kidney injury in rats. J Pharmacol Sci. 2019 Mar;139(3):137-142.

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