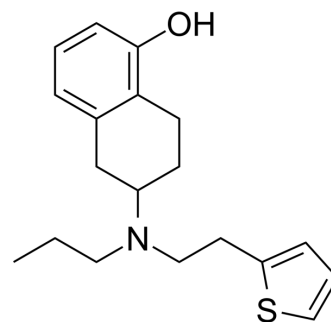


(Rac)-Rotigotine

Cat. No.:	HY-15394A
CAS No.:	92206-54-7
Molecular Formula:	C ₁₉ H ₂₅ NOS
Molecular Weight:	315.47
Target:	Adrenergic Receptor; 5-HT Receptor; Dopamine Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	4°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



BIOLOGICAL ACTIVITY

Description	(Rac)-Rotigotine (N-0437) is a racemate of Rotigotine. Rotigotine is a full agonist of dopamine receptor, a partial agonist of the 5-HT _{1A} receptor, and an antagonist of the α _{2B} -adrenergic receptor, with K _i s of 0.71 nM, 4-15 nM, and 83 nM for the dopamine D ₃ receptor and D ₂ , D ₅ , D ₄ receptors, and dopamine D ₁ receptor.
IC₅₀ & Target	Ki: Dopamine receptor; 5-HT receptor ^{[1][2]}
In Vitro	<p>Rotigotine has a 10-fold selectivity for D₃ (pK_i=9.2) receptors compared with D₂, D₄ and D₅ (pK_i=8.5-8.0) and a 100-fold selectivity compared with D₁ receptors (pK_i=7.2). In functional studies, Rotigotine behaves as full agonist at all dopamine receptors but notably the potency for stimulation of D₁ receptors is similar to that for D₂ and D₃ receptors (pEC₅₀ respectively: 9.0, 9.4-8.6, 9.7)^[1].</p> <p>Rotigotine (10 μM) decreases the number of THir neurons by 40% in primary mesencephalic cell culture. Rotigotine (0.01 μM) slightly protects dopaminergic neurons against MPP⁺ toxicity, significantly protects dopaminergic neurons against rotenone-induced cell death, and significantly inhibits ROS production by rotenone^[4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Wood M, et al. Rotigotine is a potent agonist at dopamine D₁ receptors as well as at dopamine D₂ and D₃ receptors. *Br J Pharmacol.* 2015 Feb;172(4):1124-35.
- [2]. Scheller D, et al. The in vitro receptor profile of rotigotine: a new agent for the treatment of Parkinson's disease. *Naunyn Schmiedebergs Arch Pharmacol.* 2009 Jan;379(1):73-86.
- [3]. Fenu S, et al. In vivo dopamine agonist properties of rotigotine: Role of D₁ and D₂ receptors. *Eur J Pharmacol.* 2016 Oct 5;788:183-91.
- [4]. Radad K, et al. Neuroprotective effect of rotigotine against complex I inhibitors, MPP⁺ and rotenone, in primary mesencephalic cell culture. *Folia Neuropathol.* 2014;52(2):179-86.

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

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