Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Rotigotine

Catalog No: tcsc0376

Available Sizes

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
99755-59-6

Formula:
$C_{19}H_{25}NOS$

Pathway:
GPCR/G Protein;Neuronal Signaling;GPCR/G Protein;Neuronal Signaling;GPCR/G Protein

Target:
Dopamine Receptor;Dopamine Receptor;Adrenergic Receptor;5-HT Receptor;5-HT Receptor

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Alternative Names:
N-0437;N-0923

Observed Molecular Weight:
315.47

Product Description

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Rotigotine is a full agonist of **dopamine receptor**, a partial agonist of the **5-HT1A receptor**, and an antagonist of the **α2B-adrenergic receptor**, with **K_i**s of 0.71 nM, 4-15 nM, and 83 nM for the dopamine D3 receptor and D2, D5, D4 receptors, and dopamine D1 receptor.

IC50 & Target: Ki: 0.71 nM (dopamine D3 receptor), 4-15 nM (D2, D5, D4 receptors), 83 nM (dopamine D1 receptor)[1][2], 176 nM (α1A), 273 nM (α1B), 338 nM (α2A), 27 nM (α2B), 30 nM (5-HT1A), 86 nM (5-HT7)[2]

In Vitro: 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 (pEC_{50} respectively: 9.0, 9.4-8.6, 9.7)[1]. 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].

In Vivo: In primed rats, Rotigotine (0.035, 0.1 and 0.35 mg/kg) induces contralateral turning behavior in a dose dependent manner. In drug naive rats, the turning behavior induced by Rotigotine, either alone or in combination with SCH 39166, is reduced compared to primed rats[3].