

Rivanicline

Catalog No: tcsc0532



Available Sizes

Size: 10mg

Size: 50mg



Specifications

CAS No:

15585-43-0

Formula:

$C_{10}H_{14}N_2$

Pathway:

Neuronal Signaling;Membrane Transporter/Ion Channel

Target:

nAChR;nAChR

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

RJR-2403;(E)-Metanicotine

Observed Molecular Weight:

162.23

Product Description

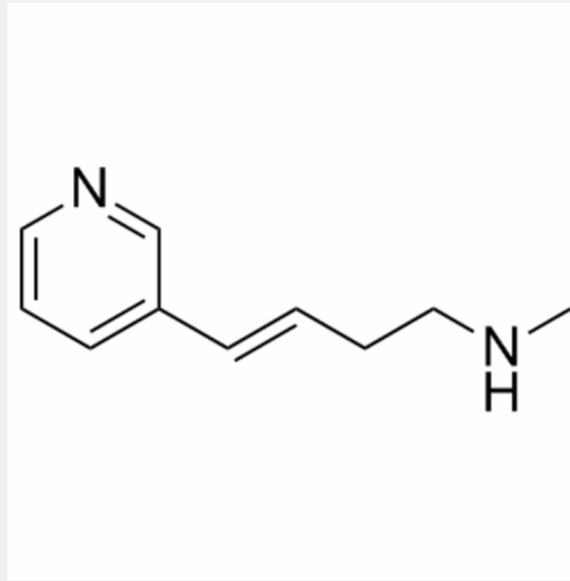
Rivanicline (RJR-2403) is a neuronal nicotinic receptor agonist, showing high selectivity for the $\alpha 4\beta 2$ subtype ($K_i=26$ nM); > 1,000 fold selectivity than $\alpha 7$ receptors($K_i= 36000$ nM).

IC50 value: 26 nM [1]

Target: $\alpha 4\beta 2$ nAChR

in vitro: At concentrations up to 1 mM, Rivanicline does not significantly activate nAChRs in PC12 cells, muscle type nAChRs or muscarinic receptors. Dose-response curves for agonist-induced ileum contraction indicate that Rivanicline is less than one-tenth as potent as nicotine with greatly reduced efficacy. Rivanicline does not antagonize nicotine-stimulated muscle or ganglionic nAChR function (IC50 > 1 mM). Chronic exposure of M10 cells to Rivanicline (10 microM) results in an up-regulation of high-affinity nAChRs phenomenologically similar to that seen with nicotine [1].

in vivo: Rivanicline significantly improved passive avoidance retention after scopolamine-induced amnesia and enhanced both working and reference memory in rats with ibotenic acid lesions of the forebrain cholinergic projection system in an 8-arm radial maze paradigm. By comparison, Rivanicline was 15 to 30-fold less potent than nicotine in decreasing body temperature, respiration, Y-maze rears and crosses and acoustic startle response [2]. Metanicotine was about 5-fold less potent than nicotine in the tail-flick test after s.c administration, but slightly more potent after central administration [3].



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