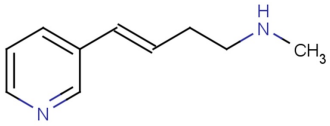
# Data Sheet (Cat.No.T12738L)

TargetMol
A DRUG SCREENING EXPERT

Rivanicline

## Chemical Properties



| | |
|---|---|
| CAS No.: | 15585-43-0 |
| Formula: | C10H14N2 |
| Molecular Weight: | 162.23 |
| Appearance: | N/A |
| Storage: | 0-4℃ for short term (days to weeks), or -20℃ for long term (months). |

## Biological Description

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|---|---|
| Description | Rivanicline is a neuronal nicotinic receptor agonist, showing high selectivity for the α4β2 subtype (Ki=26 nM). It show > 1,000 fold selectivity than α7 receptors(Ki= 36000 nM and IC50 : 26 nM). |
| Targets($IC_{50}$) | Others: None |
| In vitro | 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. 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 [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. 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 [2][3]. |

## Solubility Information

| | |
|---|---|
| Solubility | < 1 mg/ml refers to the product slightly soluble or insoluble |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 6.164 mL | 30.82 mL | 61.641 mL |
| 5 mM | 1.233 mL | 6.164 mL | 12.328 mL |
| 10 mM | 0.616 mL | 3.082 mL | 6.164 mL |
| 50 mM | 0.123 mL | 0.616 mL | 1.233 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Bencherif M, et al. RJR-2403: a nicotinic agonist with CNS selectivity I. In vitro characterization. J Pharmacol Exp Ther. 1996 Dec;279(3):1413-21.

2. Lippiello PM, et al. RJR-2403: a nicotinic agonist with CNS selectivity II. In vivo characterization. J Pharmacol Exp Ther. 1996 Dec;279(3):1422-9.

3. Damaj MI, et al. Antinociceptive and pharmacological effects of metanicotine, a selective nicotinic agonist. J Pharmacol Exp Ther. 1999 Oct;291(1):390-8.



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