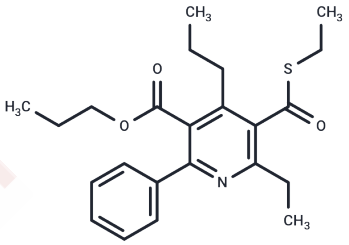
Data Sheet (Cat.No.T16135)

TargetMol

MRS 1523

Chemical Properties



CAS No. : 212329-37-8

Formula: C23H29NO3S

Molecular Weight: 399.55

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	MRS 1523 can exert an antihyperalgesic effect through N-type Ca channel block and action potential inhibition in isolated rat dorsal root ganglion (DRG) neurons. MRS 1523 is an effective and selective adenosine A3 receptor antagonist Ki: 18.9 nM and 113 nM for human and rat A3 receptors, respectively). In rat this corresponds to selectivities of 140- and 18-fold vs A1 and A2A receptors, respectively.
Targets(IC50)	Others,Calcium Channel,Adenosine Receptor
In vitro	NECA-induced migration is blocked in dose-response fashion by MRS 1523 with calculated Ki of 147 nM[4]. When human endothelial progenitor cells (hEPC) are co-incubated with MRS 1523 (1 nM), a partial blockade of the adenosine-5'-N-ethylcarboxamide (NECA)-induced migration is observed. Furthermore, in 3-days hEPC, the treatment with MRS 1523 100 nM inhibits the NECA-induced migration by 70%. MRS 1523 (0.1-1 μM) treatment obviously antagonizes cell numbers to 40.7% and 57.4% of the control values, respectively, 30 min before the addition of cordycepin (60 μM). MRS1523 (1 μM) alone has any effect on tumor cell growth[3].
In vivo	Current-clamp recordings demonstrated that neuronal firing of rat DRG neurons was also significantly reduced by A3AR activation in a MRS 1523-sensitive but PD173212-insensitive manner. The endogenous agonist adenosine reduces N-type Ca currents, and its effect is inhibited by 56% in the presence of A3AR antagonist MRS 1523 [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5028 mL	12.5141 mL	25.0282 mL
5 mM	0.5006 mL	2.5028 mL	5.0056 mL
10 mM	0.2503 mL	1.2514 mL	2.5028 mL
50 mM	0.0501 mL	0.2503 mL	0.5006 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Li AH, et al. Structure-activity relationships and molecular modeling of 3, 5-diacyl-2,4-dialkylpyridine derivatives as selective A3 adenosine receptor antagonists.J Med Chem. 1998 Aug 13;41(17):3186-201.
Coppi E, et al. Adenosine A3 receptor activation inhibits pronociceptive N-type Ca2+ currents and cell excitability in dorsal root ganglion neurons.Pain. 2019 May;160(5):1103-1118.
Fernandez P, et al. Adenosine A_2A and A_3 receptors are involved in the human endothelial progenitor cells migration. J Cardiovasc Pharmacol. 2012 May;59(5):397-404.
Yoshikawa N, et al. Cordycepin (3'-deoxyadenosine) inhibits the growth of B16-BL6 mouse melanoma cells through the stimulation of adenosine A3 receptor followed by glycogen synthase kinase-3beta activation and cyclin D1 suppression. Naunyn Schmiedebergs Arch Pharmacol. 2008 Jun;377(4-6):591-5.