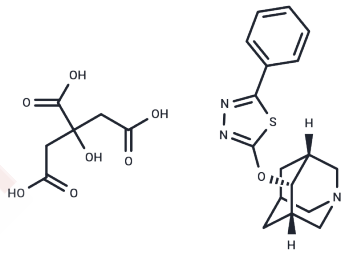
Data Sheet (Cat.No.T38422)

TargetMol

Nelonicline citrate

Chemical Properties



CAS No. : 1026136-84-4

Formula: C23H27N3O8S

Molecular Weight: 505.54

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	Nelonicline citrate (ABT-126) is an orally active, selective α7 nicotinic receptor agonist with a high affinity for α7 nAChRs in the human brain (Ki = 12.3 nM), used in research on schizophrenia and Alzheimer's disease.
Targets(IC50)	Others,AChR
In vitro	Nelonicline citrate acts as an agonist with strong affinity towards α7 nicotinic acetylcholine receptors (nAChRs) in the human brain, demonstrated by a binding affinity (K i) of 12.3 nM. It effectively activates currents in Xenopus oocytes expressing recombinant human α7 nAChRs, with an EC 50 value of 2 μM and an intrinsic activity 74% that of acetylcholine. Although it also binds to α3β4* nAChRs in human IMR-32 neuroblastoma cells with a K i value of 60 nM, its efficacy is significantly lower, showing just 12% efficacy at a concentration of 100,000 nM in calcium flux assays. Additionally, nelonicline citrate acts as a 5-HT3 receptor antagonist, though its affinity for this receptor is more than 10-fold lower than for α7 nAChRs, with a K i of 140 nM, aligning with the behavior of some other α7 nAChR agonists.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9781 mL	9.8904 mL	19.7808 mL
5 mM	0.3956 mL	1.9781 mL	3.9562 mL
10 mM	0.1978 mL	0.989 mL	1.9781 mL
50 mM	0.0396 mL	0.1978 mL	0.3956 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

Zhang D, et al. α7 nicotinic receptor agonists reduce levodopa-induced dyskinesias with severe nigrostriatal damage. Mov Disord. 2015;30(14):1901-1911.
Haig G, et al. The α7 Nicotinic Agonist ABT-126 in the Treatment of Cognitive Impairment Associated with Schizophrenia in Nonsmokers: Results from a Randomized Controlled Phase 2b Study. Neuropsychopharmacology. 2016;41(12):2893-2902.
Gault LM, et al. ABT-126 monotherapy in mild-to-moderate Alzheimer's dementia: randomized double-blind, placebo and active controlled adaptive trial and open-label extension. Alzheimers Res Ther. 2016;8(1):44. Published 2016 Oct 18.