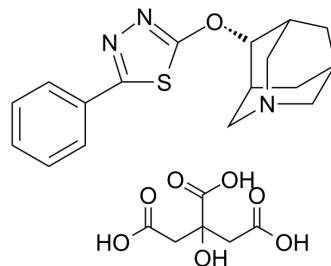


## Nelonicline citrate

Cat. No.:	HY-16748A
CAS No.:	1026136-84-4
Molecular Formula:	C <sub>23</sub> H <sub>27</sub> N <sub>3</sub> O <sub>8</sub> S
Molecular Weight:	505.54
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Nelonicline (ABT-126) citrate is an orally active and selective $\alpha 7$ nicotinic receptor agonist with high affinity to $\alpha 7$ nAChRs in human brain ( $K_i=12.3$ nM). Nelonicline citrate is used for the research of schizophrenia and Alzheimer's disease <sup>[1][2][3]</sup> .
<b>In Vitro</b>	Nelonicline citrate is an agonist that binds with high affinity to $\alpha 7$ nAChRs in human brain ( $K_i=12.3$ nM) and activates currents in <i>Xenopus</i> oocytes expressing recombinant human $\alpha 7$ nAChRs ( $EC_{50}=2$ $\mu$ M; intrinsic activity of 74% relative to acetylcholine). Nelonicline citrate does not bind to $\alpha 3\beta 4^*$ nAChRs in human IMR-32 neuroblastoma cells ( $K_i=60$ nM), but has only 12% efficacy at 100,000 nM in a calcium flux assay in these cells. Like some other $\alpha 7$ nAChR agonists, Nelonicline citrate is also a 5-HT <sub>3</sub> receptor antagonist, but it has >10-fold lower affinity for this receptor than for $\alpha 7$ nAChRs ( $K_i$ of 140 nM) <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Zhang D, et al.  $\alpha 7$  nicotinic receptor agonists reduce levodopa-induced dyskinesias with severe nigrostriatal damage. *Mov Disord.* 2015;30(14):1901-1911.
- [2]. Haig G, et al. The  $\alpha 7$  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.
- [3]. 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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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