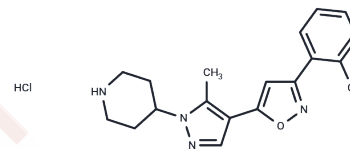


## nAChR agonist CMPI hydrochloride

## Chemical Properties

CAS No. :	2250025-94-4
Formula:	C <sub>18</sub> H <sub>20</sub> Cl <sub>2</sub> N <sub>4</sub> O
Molecular Weight:	379.29
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	CMPI hydrochloride, a potent and selective nAChR agonist, functions as a positive allosteric modulator (PAM) specifically targeting the $\alpha 4:\alpha 3$ subunit interface of the nAChR. It enhances the response of the $(\alpha 4)_3(\beta 2)_2$ nAChR to acetylcholine (ACh) (10 $\mu$ M) with an EC <sub>50</sub> of 0.26 $\mu$ M. With its potential for researching nicotine dependence and various neuropsychiatric conditions linked to reduced brain cholinergic activity, CMPI hydrochloride stands as a significant compound in neurological research.
Targets(IC50)	Others,AChR
In vitro	CMPI (0.01-10 $\mu$ M) enhances the activity of $(\alpha 4)_3(\beta 2)_2$ nAChRs, characterized by low acetylcholine sensitivity, without affecting $(\alpha 4)_2(\beta 2)_3$ nAChRs, which exhibit high acetylcholine sensitivity, in <i>Xenopus laevis</i> oocytes[1]. Furthermore, CMPI (0.01-10 $\mu$ M) demonstrates inhibition of $(\alpha 4)_2(\beta 2)_3$ , human muscle, and Torpedo nAChRs in <i>Xenopus</i> oocytes, with respective IC <sub>50</sub> values of 0.6, 0.7, and 0.2 $\mu$ M[1].

## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6365 mL	13.1825 mL	26.3651 mL
5 mM	0.5273 mL	2.6365 mL	5.273 mL
10 mM	0.2637 mL	1.3183 mL	2.6365 mL
50 mM	0.0527 mL	0.2637 mL	0.5273 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

Hamouda AK, et, al. Photolabeling a Nicotinic Acetylcholine Receptor (nAChR) with an ( $\alpha$ 4) $\beta$ 2 nAChR-Selective Positive Allosteric Modulator. Mol Pharmacol. 2016 May;89(5):575-84.

Wang ZJ, et, al. Unraveling amino acid residues critical for allosteric potentiation of ( $\alpha$ 4) $\beta$ 2-type nicotinic acetylcholine receptor responses. J Biol Chem. 2017 Jun 16;292(24):9988-10001.

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