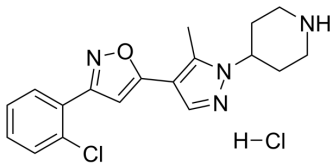
nAChR agonist CMPI hydrochloride

Cat. No.:	HY-136258
CAS No.:	2250025-94-4
Molecular Formula:	$C_{18}H_{20}Cl_2N_4O$
Molecular Weight:	379.28
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

Description	nAChR agonist CMPI hydrochloride is a potent and selective positive allosteric modulator (PAM) of nAChR containing a α4:α4 subunit interface. nAChR agonist CMPI hydrochloride enhances the response of $(α4)_3(β2)_2$ nAChR to ACh (10 μM) with an EC_{50} of 0.26 μM. nAChR agonist CMPI hydrochloride has potential for the research of nicotine dependence and many neuropsychiatric conditions associated with decreased brain cholinergic activity[1][2].
IC_{50} & Target	nAChR[1]
In Vitro	CMPI (0.01-10 μM) potentiates $(α4)_3(β2)_2$ (low ACh sensitivity) but not $(α4)_2(β2)_3$ (high ACh sensitivity) nAChRs in Xenopus laevis oocytes[1]. CMPI (0.01-10 μM) inhibits $(α4)_2(β2)_3$, human muscle and Torpedo nAChRs with IC_{50}s of 0.6, 0.7 and 0.2 μM, respectively in Xenopus oocytes[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Hamouda AK, et, al. Photolabeling a Nicotinic Acetylcholine Receptor (nAChR) with an (α4)3(β2)2 nAChR-Selective Positive Allosteric Modulator. Mol Pharmacol. 2016 May;89(5):575-84.

[2]. Wang ZJ, et, al. Unraveling amino acid residues critical for allosteric potentiation of (α4)3(β2)2-type nicotinic acetylcholine receptor responses. J Biol Chem. 2017 Jun 16;292(24):9988-10001.

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