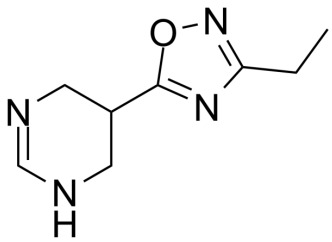
CDD0102

Cat. No.:	HY-U00230
CAS No.:	146422-58-4
Molecular Formula:	$C_8H_{12}N_4O$
Molecular Weight:	180.21
Target:	mAChR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	CDD0102 is a potent M_1 Muscarinic receptor agonist.
IC_{50} & Target	mAChR[1]
In Vitro	CDD0102 (CDD-0102) is an efficacious muscarinic agonist in cell lines expressing M_1 receptors. CDD0102 displays much lower activity at M_3 and M_5 receptors[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	After i.p. injections, CDD0102 (CDD-0102) crosses the blood-brain barrier (BBB) in a dose-dependent manner. In toxicological studies, the LD_{50} of CDD0102 is 190 mg/kg following i.p. injections and greater than 1,000 mg/kg following oral administration. In follow-up studies, after oral administration at a dose of 10 mg/kg, CDD0102 fully reverses memory deficits associated with IgG-192 saporin administration. Again, no side effects are observed at this dose[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	A9 L cells expressing muscarinic receptor subtypes are cultured. Biochemical studies examine the ability of compounds (e.g., CDD0102, 0.01 nM, 0.1 nM, 1 nM, 10 nM, 100 nM, 1 μM, 10 μM, 100 μM and 1 mM) to stimulate relevant biochemical responses through muscarinic receptors expressed in A9 Lcells. Assays of PI metabolism provides a measure of in vitro activity associated with M_1, M_3, and M_5 receptor activation, while inhibition of adenylyl cyclase activity determined efficacy at M_2 and M_4 receptors[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice[1] Young, male CF-1 mice are administered CDD0102 or xanomeline by either p.o. or i.p. injection with doses from 1 to 1,000 mg/kg by each route, and monitored for 24 h. Animals are observed daily for 1 wk for appearance of delayed toxicity. A second set of animals is treated with a narrow range of concentrations based on the preliminary studies to determine the LD 50. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Messer WS Jr. The utility of muscarinic agonists in the treatment of Alzheimer's disease. J Mol Neurosci. 2002 Aug-Oct;19(1-2):187-93.

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