AMN082

Cat. No.: HY-103565

CAS No.: 97075-46-2

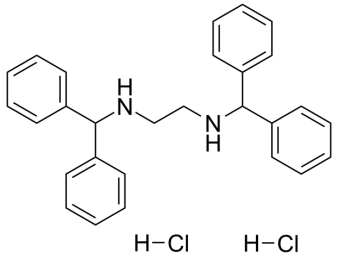
Molecular Formula: $C_{28}H_{30}Cl_2N_2$

Molecular Weight: 465.46

Target: mGluR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

AMN082, a selective, orally active, and brain penetrant mGluR7 agonist, directly activates receptor signaling via an allosteric site in the transmembrane domain. AMN082 potently inhibits cAMP accumulation and stimulates GTPγS binding (EC_{50} values, 64-290 nM) at transfected mammalian cells expressing mGluR7. AMN082 shows selectivity over other mGluR subtypes and selected ionotropic glutamate receptors. Antidepressant effects[1][2].

In Vitro

Preincubation of the synaptosomes with AMN082 (1 μM) for 10 min before 4-aminopyridine treatment efficiently inhibits the 4-aminopyridine-evoked release of glutamate, without altering the basal release of glutamate[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

AMN082 (6 mg/kg; p.o.) induces stress hormone increases in an mGluR7-dependent fashion in mGluR7$^{+/+}$ mice (C57BL/6 genetic background)[1].

AMN082 (1.25-5.0 mg/kg, i.p.; 30 min before every Cocaine or Morphine injection during repeated drug administration or before Cocaine or Morphine challenge) dose-dependently attenuates the development, as well as the expression of Cocaine or Morphine locomotor sensitization[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Swiss mice (20-25g)[3]
Dosage:	1.25, 2.5, 5.0 mg/kg
Administration:	I.p.; given 30 min prior to Cocaine (10 mg/kg) or Morphine (10 mg/kg) challenge on day 17 or 20, respectively
Result:	Significantly attenuated the expression of Cocaine-induced locomotor sensitization; Attenuated the induction of Morphine-induced sensitization.

REFERENCES

[1]. Mitsukawa K, et al. A selective metabotropic glutamate receptor 7 agonist: activation of receptor signaling via an allosteric site modulates stress parameters in vivo. Proc Natl Acad Sci U S A. 2005;102(51):18712-18717.

[2]. Wang CC, et al. Metabotropic glutamate 7 receptor agonist AMN082 inhibits glutamate release in rat cerebral cortex nerve terminal. Eur J Pharmacol. 2018;823:11-18.

[3]. Jenda M, et al. AMN082, a metabotropic glutamate receptor 7 allosteric agonist, attenuates locomotor sensitization and cross-sensitization induced by cocaine and morphine in mice. Prog Neuropsychopharmacol Biol Psychiatry. 2015;57:166-175.

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