CNQX

Cat. No.: HY-15066

CAS No.: 115066-14-3

Molecular Formula: $C_9H_4N_4O_4$

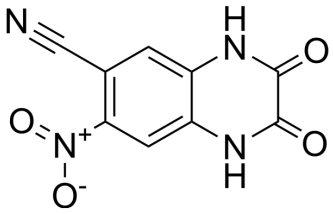
Molecular Weight: 232.15

Target: iGluR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20 mg/mL (86.15 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.3076 mL	21.5378 mL	43.0756 mL
5 mM	0.8615 mL	4.3076 mL	8.6151 mL
10 mM	0.4308 mL	2.1538 mL	4.3076 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

CNQX (FG9065) is a potent and competitive AMPA/kainate receptor antagonist with IC_{50}s of 0.3 μM and 1.5 μM, respectively. CNQX is a competitive non-NMDA receptor antagonist[1]. CNQX blocks the expression of fear-potentiated startle in rats[5].

IC_{50} & Target

Kainate Receptor

In Vitro

CNQX (FG9065; 2-5 μM) reversibly blocks the Schaffer collateral and mossy fibre excitatory postsynaptic potential (EPSP), while sparing the fast and slow GABA-mediated inhibition in superfusion of hippocampal slices[2].

CNQX (1-5 μM) produces a selective and dose-dependent reduction in the amplitude of the monosynaptic component of the DR-VRR recorded from lumbar spinal segments[3].

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

In Vivo

CNQX (FG9065; 2-5 μM) reversibly blocks the Schaffer collateral and mossy fibre excitatory postsynaptic potential (EPSP), while sparing the fast and slow GABA-mediated inhibition in superfusion of hippocampal slices[2].

CNQX (1-5 μM) produces a selective and dose-dependent reduction in the amplitude of the monosynaptic component of the

DR-VRR recorded from lumbar spinal segments[3].

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

Animal Model:	Male Wistar rats weighing 180-200 g[4]
Dosage:	0.75, 1.5, and 3 mg/kg
Administration:	IP; 20 min before testing
Result:	Decreased the number of cocaine (IV; 0.25 mg/infusion) responses in a dose-dependent manner during the first 15-min cocaine-free interval

CUSTOMER VALIDATION

- Nat Neurosci. 2023 Mar 27.
- Environ Sci Technol. 2023 Aug 9.
- Acta Biomater. 2022 Aug 27;S1742-7061(22)00527-X.
- Cell Death Dis. 2022 Sep 12;13(9):786.
- Biomed Pharmacother. January 2022, 112446.

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REFERENCES

[1]. T Honoré, et al. Quinoxalinediones: Potent Competitive non-NMDA Glutamate Receptor Antagonists. Science. 1988 Aug 5;241(4866):701-3.

[2]. Neuman RS, et al. Blockade of excitatory synaptic transmission by 6-cyano-7-nitroquinoxaline-2,3-dione(CNQX) in the hippocampus in vitro. Neurosci Lett. 1988 Sep 23;92(1):64-8.

[3]. Alford S, et al. CNQX and DNQX block non-NMDA synaptic transmission but not NMDA-evoked locomotion in lamprey spinal cord. Brain Res. 1990 Jan 8;506(2):297-302.

[4]. Pia Bäckström, et al. Attenuation of Cocaine-Seeking Behaviour by the AMPA/kainate Receptor Antagonist CNQX in Rats. Psychopharmacology (Berl). 2003 Feb;166(1):69-76.

[5]. Kim M, et al. Infusion of the non-NMDA receptor antagonist CNQX into the amygdala blocks the expression of fear-potentiated startle. Behav Neural Biol. 1993 Jan;59(1):5-8.

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