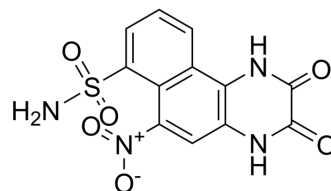


NBQX

Cat. No.:	HY-15068		
CAS No.:	118876-58-7		
Molecular Formula:	C ₁₂ H ₈ N ₄ O ₆ S		
Molecular Weight:	336.28		
Target:	iGluR		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 75 mg/mL (223.03 mM)
 1 M NaOH : 1 mg/mL (2.97 mM); ultrasonic and warming and heat to 60°C)
 H₂O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		2.9737 mL	14.8686 mL	29.7371 mL
	5 mM		0.5947 mL	2.9737 mL	5.9474 mL
	10 mM		0.2974 mL	1.4869 mL	2.9737 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (7.43 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (7.43 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (7.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NBQX (FG9202) is a highly selective and competitive AMPA receptor antagonist. NBQX has neuroprotective and anticonvulsant activity^[1].

IC₅₀ & Target

AMPA receptor^[1]

In Vitro	NBQX (FG9202) has a high affinity for AMPA and kainate binding sites with little or no affinity for the glutamate recognition site on the NMDA receptor complex ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
In Vivo	NBQX (FG9202; 20 mg/kg, i.p.; for 3 days) decreases seizures induced by PTZ ^[2] . NBQX is neuroprotective in a focal ischaemia model in the rat when given as an i.v. bolus dose of 30 mg/kg at the time of MCA occlusion and again at 1 h post occlusion ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
	<table border="1"> <tr> <td>Animal Model:</td> <td>Male Wistar rats that weighed 220-240 g with pentylenetetrazole (PTZ)^[2]</td> </tr> <tr> <td>Dosage:</td> <td>20 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>IP; for 3 days</td> </tr> <tr> <td>Result:</td> <td>Effectively reversed the behavioral abnormality of epileptic seizures of chronic PTZ administration (50mg/kg; i.p.; for 28 days) in rats.</td> </tr> </table>	Animal Model:	Male Wistar rats that weighed 220-240 g with pentylenetetrazole (PTZ) ^[2]	Dosage:	20 mg/kg	Administration:	IP; for 3 days	Result:	Effectively reversed the behavioral abnormality of epileptic seizures of chronic PTZ administration (50mg/kg; i.p.; for 28 days) in rats.
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Result:	Effectively reversed the behavioral abnormality of epileptic seizures of chronic PTZ administration (50mg/kg; i.p.; for 28 days) in rats.								

CUSTOMER VALIDATION

- Nat Med. 2019 Feb;25(2):337-349.
- Nature. 2024 Jul;631(8022):826-834.
- Theranostics. 2023 May 11;13(9):2946-2961.
- Int Immunopharmacol. 2024 May 30;133:112080.
- CNS Neurosci Ther. 2024 Mar;30(3):e14675.

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REFERENCES

[1]. Fukushima K, et al. Characterization of Human Hippocampal Neural Stem/Progenitor Cells and Their Application to Physiologically Relevant Assays for Multiple Ionotropic Glutamate Receptors. J Biomol Screen. 2014 Sep; 19(8):1174-84.

[2]. Wen Chen, et al. AMPA Receptor Antagonist NBQX Decreased Seizures by Normalization of Perineuronal Nets. PLoS One. 2016 Nov 23;11(11):e0166672.

Caution: Product has not been fully validated for medical applications. For research use only.

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