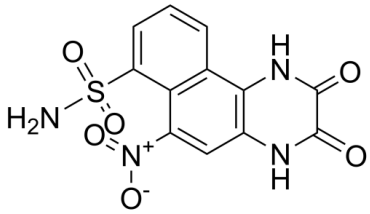
Data Sheet

Product Name:	NBQX
Cat. No.:	CS-0003737
CAS No.:	118876-58-7
Molecular Formula:	$C_{12}H_8N_4O_6S$
Molecular Weight:	336.28
Target:	iGluR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Solubility:	DMSO : ≥ 75 mg/mL;H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C);1 M NaOH : 25 mg/mL (ultrasonic;warming;heat to 60°C)



BIOLOGICAL ACTIVITY:

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]. ***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].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: NBQX is dissolved in distilled water[2].[1]Rats[1]

Male Sprague-Dawley rats weighing 350-390 g are used for study. 30 mg/kg of NBQX (2x15 mg/mL) is administered i.v. as a bolus dose followed by an infusion of 10 mg/kg/h for 4 h, the bolus dose and infusion are started immediately after MCA occlusion. Blood samples are taken from these animals at 1, 2, 3 and 4 h after the start of the infusion and the plasma level of NBQX in each sample is measured[1].

Mice[1]

The time course for the anticonvulsant action of NBQX and of GYKI 52466 against AMPA-induced seizures is determined by pretreating groups (n=10) of Swiss mice with 30 and 60/zmol/kg NBQX or GYKI 52466 (i.p.) 15-120 min before challenging the mice with a convulsant dose of AMPA (5 nmol) i.c.v[2].

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.

CAIndexNames:

Benzo[f]quinoxaline-7-sulfonamide, 1,2,3,4-tetrahydro-6-nitro-2,3-dioxo-

SMILES:

O=C(N1)C(NC2=C1C3=C(C([N+]([O-])=O)=C2)C(S(N)(=O)=O)=CC=C3)=O

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

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