

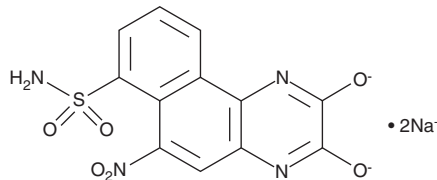
# PRODUCT INFORMATION



## NBQX (sodium salt)

Item No. 14914

**CAS Registry No.:** 479347-86-9  
**Formal Name:** 1,2,3,4-tetrahydro-6-nitro-2,3-dioxo-benzo[f]quinoxaline-7-sulfonamide, disodium salt  
**MF:** C<sub>12</sub>H<sub>6</sub>N<sub>4</sub>O<sub>6</sub>S • 2Na  
**FW:** 380.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 220, 271, 296, 357, 426 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

NBQX (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the NBQX (sodium salt) in the solvent of choice, which should be purged with an inert gas. NBQX (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of NBQX (sodium salt) in these solvents is approximately 20 and 1 mg/ml, respectively.

### Description

Ionotropic glutamate receptors can be divided into three groups, depending on whether they are activated by α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA), kainate, or N-methyl-D-aspartate (NMDA). NBQX is a water-soluble receptor antagonist which targets both AMPA- and kainate-sensitive glutamate receptors (IC<sub>50</sub> = 0.15 and 4.8 μM, respectively).<sup>1</sup> It does not block the NMDA-sensitive glutamate receptor (IC<sub>50</sub> = ≥ 90 μM).<sup>1</sup> NBQX can be used in isolated neurons, tissues, or *in vivo*.<sup>2-5</sup>

### References

1. Sheardown, M.J., Nielsen, E.O., Hansen, A.J., *et al.* 2,3-Dihydroxy-6-nitro-7-sulfamoyl-benzo(F) quinoxaline: A neuroprotectant for cerebral ischemia. *Science* **247(4942)**, 571-574 (1990).
2. Sylantyev, S., Savtchenko, L.P., Ermolyuk, Y., *et al.* Spike-driven glutamate electrodiffusion triggers synaptic potentiation via a homer-dependent mGluR-NMDAR link. *Neuron* **77(3)**, 528-541 (2013).
3. Bertollini, C., Murana, E., Mosca, L., *et al.* Transient increase in neuronal chloride concentration by neuroactive aminoacids released from glioma cells. *Front. Mol. Neurosci.* **5**, 100 (2012).
4. Paterson, N.E., Malekiani, S.A., Foreman, M.M., *et al.* Pharmacological characterization of harmaline-induced tremor activity in mice. *Eur. J. Pharmacol.* **616(1-3)**, 73-80 (2009).
5. Pomierny-Chamiolo, L., Poleszak, E., Pilc, A., *et al.* NMDA but not AMPA glutamatergic receptors are involved in the antidepressant-like activity of MTEP during the forced swim test in mice. *Pharmacol. Rep.* **62(6)**, 1186-1190 (2010).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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