

Certificate of Analysis

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Product Name: NBQX disodium salt

Catalog No.: 1044

Batch No.: 43

CAS Number: 479347-86-9

IUPAC Name: 2,3-Dioxo-6-nitro-1,2,3,4-tetrahydrobenzo[f]quinoxaline-7-sulfonamide disodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₆N₄O₆SNa₂·3H₂O

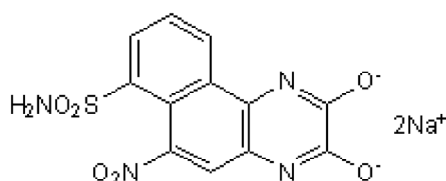
Batch Molecular Weight: 434.29

Physical Appearance: Dark brown solid

Solubility: water to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.5% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	33.19	2.79	12.9
Found	32.88	2.67	12.48

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

NBQX disodium salt is a selective and competitive AMPA and kainate receptor antagonist (IC_{50} = 0.15 μ M and 4.8 μ M, respectively). NBQX blocks the antidepressant effects of 8-Hydroxy-DPAT hydrobromide (Cat. No. 0529), decreases mTOR and BDNF levels. NBQX is neuroprotective, anticonvulsant, antinociceptive and active in vivo. NBQX disodium salt is a more water-soluble form of NBQX (Cat. No. 0373).

Physical and Chemical Properties:

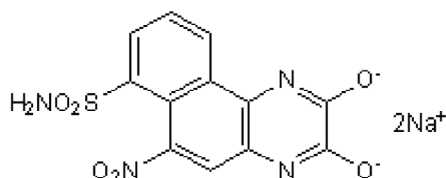
Batch Molecular Formula: $C_{12}H_6N_4O_6SNa_2 \cdot 3H_2O$

Batch Molecular Weight: 434.29

Physical Appearance: Dark brown solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



Storage: Store at $-20^{\circ}C$

Solubility & Usage Info:

water to 50 mM

This compound is hygroscopic and may absorb atmospheric moisture during prolonged storage, causing it to take on an orange to red colouration. The solid may also become sticky and/or collapse into a gel or glass-like form. Although purity is unaffected, it may be difficult to extract the full quantity from the vial. In such a situation, we recommend that solutions are made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved. When purchased as a 1mg unit, it is supplied in lyophilized form and may be very hard to visualize.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a $45-60^{\circ}C$ water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at $-20^{\circ}C$ or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold with the permission of Novo Nordisk A/S

References:

Yoon et al (2005) Antinociceptive interactions between intrathecal gabapentin and MK801 or NBQX in rat formalin test J.Korean Med.Sci. **20** 307. PMID: 15832006.

Namba et al (1994) Antiepileptogenic and anticonvulsant effects of NBQX, a selective AMPA receptor antagonist, in the rat kindling model of epilepsy. Brain Res. **638** 36. PMID: 8199874.

Sheardown et al (1993) The pharmacology of AMPA receptors and their antagonists. Stroke **24** 146. PMID: 7504337.

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