

# Certificate of Analysis

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**Product Name:** NBQX

**Catalog No.:** 0373

**Batch No.:** 19

CAS Number: 118876-58-7

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

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>12</sub>H<sub>8</sub>N<sub>4</sub>O<sub>6</sub>S·¼H<sub>2</sub>O

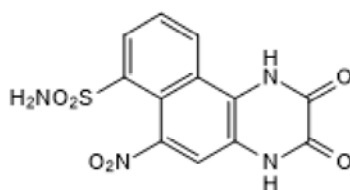
**Batch Molecular Weight:** 340.78

**Physical Appearance:** Yellow solid

**Solubility:** DMSO to 100 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 99.6% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	42.29	2.51	16.44
Found	42	2.36	16.04

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Tel: +1 612 379 2956

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**19**

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**Description:**

NBQX is a selective and competitive AMPA and kainate receptor antagonist ( $IC_{50} = 0.15 \mu M$  and  $4.8 \mu M$ , 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, a more water-soluble form of NBQX, also available.

**Physical and Chemical Properties:**

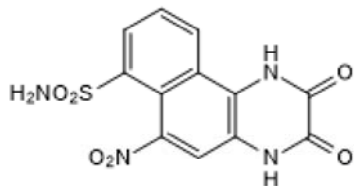
Batch Molecular Formula:  $C_{12}H_8N_4O_6S \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 340.78

Physical Appearance: Yellow solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 100 mM

1mM aqueous solutions of this product are best prepared using 2.5eq. of NaOH and back-titrating to pH 8-8.5 with concentrated HCl.

**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°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. Our standard recommendations are:

**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°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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