Print Date: Jan 13th 2022

Certificate of Analysis

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Product Name: **NBQX** **Catalog No.: 0373** **Batch No.: 7**

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: $C_{12}H_8N_4O_6S.½H_2O$

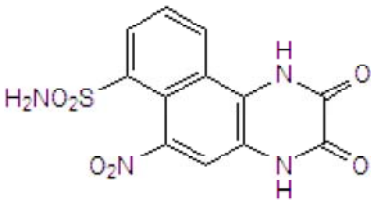
Batch Molecular Weight: 345.29

Physical Appearance: Yellow solid

Solubility: DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.3 (Ethyl acetate:Formic acid [4:1])

HPLC: Shows >99.8% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	41.74	2.63	16.23
Found	41.81	2.36	15.96

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Description:

NBQX is a selective and competitive AMPA and kainate receptor antagonist (IC_{50} = 0.15 µM and 4.8 µM, 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:

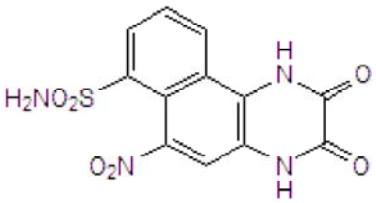
Batch Molecular Formula: $C_{12}H_8N_4O_6S.½H_2O$

Batch Molecular Weight: 345.29

Physical Appearance: Yellow solid

Minimum Purity: ≥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.