

## Certificate of Analysis

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**Product Name:** CNQX disodium salt

**Catalog No.:** 1045

**Batch No.:** 27

CAS Number: 479347-85-8

IUPAC Name: 6-Cyano-7-nitroquinoxaline-2,3-dione disodium

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>9</sub>H<sub>2</sub>N<sub>4</sub>O<sub>4</sub>Na<sub>2</sub>.H<sub>2</sub>O

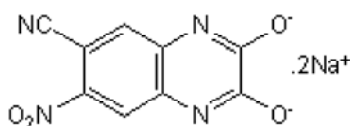
**Batch Molecular Weight:** 294.14

**Physical Appearance:** Brown solid

**Solubility:** water to 10 mM

**Storage:** Desiccate at RT

**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 99.5% purity

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	36.75	1.37	19.05
Found	37.4	1.69	19.08

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

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**27**

CAS Number: 479347-85-8

IUPAC Name: 6-Cyano-7-nitroquinoxaline-2,3-dione disodium

**Description:**

CNQX disodium salt is a more water-soluble disodium salt of the AMPA and kainate antagonist CNQX (Cat. No. 0190), which is an AMPA and kainate receptor antagonist (IC<sub>50</sub> values are 0.3 μM, 1.5 μM for AMPA and kainate receptors, respectively). CNQX is also an antagonist at the glycine modulatory site on the NMDA receptor complex (IC<sub>50</sub> = 25 μM). CNQX can be used to isolate GABA<sub>A</sub> receptor mediated spontaneous inhibitory postsynaptic currents and antagonizes non-NMDA receptor-mediated responses in cultured cerebellar granule cells. CNQX shows neuroprotective effects in models of ischemia and inhibits seizure-like activity in hippos... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

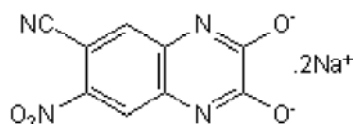
Batch Molecular Formula: C<sub>9</sub>H<sub>2</sub>N<sub>4</sub>O<sub>4</sub>Na<sub>2</sub>.H<sub>2</sub>O

Batch Molecular Weight: 294.14

Physical Appearance: Brown solid

**Minimum Purity:** ≥99%

**Batch Molecular Structure:**



**References:**

**King et al** (1992) Antagonism of synaptic potentials in ventral horn neurones by 6-cyano-7-nitroquinoxaline-2,3-dione: a study in the rat spinal cord *in vitro*. *Br.J.Pharmacol.* **107** 375. PMID: 1358390.

**Long et al** (1990) Effect of 6-cyano-2,3-dihydroxy-7-nitro-quinoxaline (CNQX) on dorsal root-, NMDA-, kainate and quisqualate-mediated depolarization of rat motoneurones *in vitro*. *Br.J.Pharmacol.* **100** 850. PMID: 1976402.

**Watkins et al** (1990) Structure-activity relationships in the development of excitatory amino acid receptor agonists and competitive antagonists. *TIPS* **11** 25. PMID: 2155495.

**Storage:** Desiccate at RT

**Solubility & Usage Info:**

water to 10 mM

**CAUTION** - This product is hygroscopic and we recommend that it is desiccated upon arrival. Solutions should be made up as soon as the vial is opened. This product may take on an orange to red colouration if hydrated. This will not affect product quality. When purchased as a 1mg unit, this product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

**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.

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