

Certificate of Analysis

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Product Name: CNQX

Catalog No.: 0190

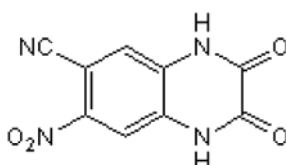
Batch No.: 34

CAS Number: 115066-14-3

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₉H₄N₄O₄
Batch Molecular Weight: 232.16
Physical Appearance: Pale yellow solid
Solubility: DMSO to 100 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	46.56	1.74	24.13
Found	46.42	1.65	24.09

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

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Description:

CNQX is an AMPA and kainate receptor antagonist (IC_{50} values are 0.3 and 1.5 μ M for AMPA and kainate receptors, respectively). CNQX is also an antagonist at the glycine modulatory site on the NMDA receptor complex ($IC_{50} = 25 \mu$ M). CNQX can be used to isolate GABA_A 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 hippocampal neurons. CNQX Disodium Salt (Cat. No. 1045) also available. Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

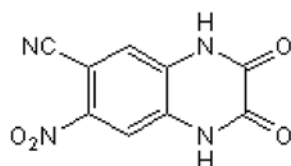
Batch Molecular Formula: C₉H₄N₄O₄

Batch Molecular Weight: 232.16

Physical Appearance: Pale yellow 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 motoneurons *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: Store at RT

Solubility & Usage Info:

DMSO to 100 mM

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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