

Certificate of Analysis

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Product Name: DNQX disodium salt

Catalog No.: 2312

Batch No.: 12

CAS Number: 1312992-24-7

IUPAC Name: 6,7-Dinitroquinoxaline-2,3-dione disodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₂N₄O₆Na₂·1¼H₂O

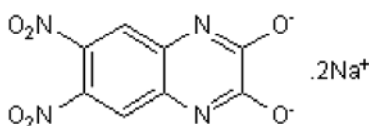
Batch Molecular Weight: 327.62

Physical Appearance: Red/brown solid

Solubility: water to 100 mM

Storage: Desiccate 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	29.33	1.69	17.1
Found	29.27	1.66	16.81

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

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IUPAC Name: 6,7-Dinitroquinoxaline-2,3-dione disodium salt

Description:

DNQX disodium salt is a water-soluble form of DNQX (Cat. No. 0189). DNQX is a selective non-NMDA glutamate receptor antagonist. (IC_{50} = 0.1 μ M and 0.5 μ M for kainate and AMPA receptors respectively). DNQX is a neuroleptic agent that shows pro-oxidative properties. DNQX selectively depolarizes rat thalamic reticular nucleus neurons.

Physical and Chemical Properties:

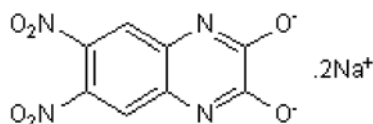
Batch Molecular Formula: $C_8H_2N_4O_6Na_2 \cdot 1\frac{3}{4}H_2O$

Batch Molecular Weight: 327.62

Physical Appearance: Red/brown solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



References:

Šarlauskas et al (2013) Redox properties and prooxidant cytotoxicity of a neuroleptic agent 6,7-dinitrodihydroquinoxaline-2,3-dione (DNQX) *Acta Biochim.Pol.* **60** 227. PMID: 23757451.

Lee et al (2010) Selective excitatory actions of DNQX and CNQX in rat thalamic neurons. *J.Neurophysiol.* **103** 1728. PMID: 20107128.

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 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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