

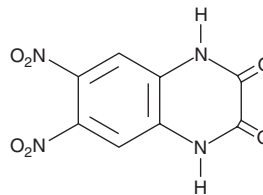
# PRODUCT INFORMATION



## DNQX

Item No. 14583

**CAS Registry No.:** 2379-57-9  
**Formal Name:** 1,4-dihydro-6,7-dinitro-2,3-quinoxalinedione  
**Synonyms:** 6,7-Dinitroquinoxaline-2,3-dione, FG 9041  
**MF:** C<sub>8</sub>H<sub>4</sub>N<sub>4</sub>O<sub>6</sub>  
**FW:** 252.1  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 273, 334 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

DNQX is supplied as a solid. A stock solution may be made by dissolving the DNQX in the solvent of choice, which should be purged with an inert gas. DNQX is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of DNQX in these solvents is approximately 5 and 12 mg/ml, respectively.

DNQX is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DNQX should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DNQX has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

DNQX is a competitive, non-NMDA glutamate receptor antagonist (IC<sub>50</sub>s = 0.5 and 0.1 μM for AMPA and kainate receptors, respectively versus IC<sub>50</sub> = 40 μM for NMDA receptors).<sup>1-3</sup> This compound has been used to specifically target AMPA and kainate receptor responses and thus differentiate from that of NMDA receptors. DNQX does not stimulate a robust long-term potentiation in the hippocampus.<sup>4</sup>

### References

1. Armstrong, N. and Gouaux, E. Mechanisms for activation and antagonism of an AMPA-sensitive glutamate receptor: Crystal structures of the GluR2 ligand binding core. *Neuron* **28**(1), 165-181 (2000).
2. Honoré, T., Davies, S.N., Drejer, J., et al. Quinoxalinediones: Potent competitive non-NMDA glutamate receptor antagonists. *Science* **241**(4866), 701-703 (1988).
3. Lee, S.-H., Govindaiah, G., and Cox, C.L. Selective excitatory actions of DNQX and CNQX in rat thalamic neurons. *J. Neurophysiol.* **103**(4), 1728-1734 (2010).
4. Muller, D., Joly, M., and Lynch, G. Contributions of quisqualate and NMDA receptors to the induction and expression of LTP. *Science* **242**(4886), 1694-1697 (1988).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/27/2020

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM