

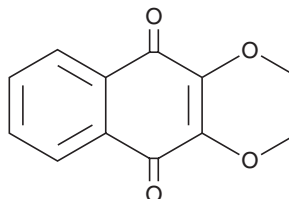
PRODUCT INFORMATION



DMNQ

Item No. 19571

CAS Registry No.: 6956-96-3
Formal Name: 2,3-dimethoxy-1,4-naphthalenedione
Synonyms: NSC 69355
MF: C₁₂H₁₀O₄
FW: 218.2
Purity: ≥99%
UV/Vis.: λ_{max}: 251, 280 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Special Conditions: Protect from light and moisture

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

Laboratory Procedures

DMNQ is supplied as a crystalline solid. A stock solution may be made by dissolving the DMNQ in the solvent of choice. DMNQ is soluble in the organic solvents DMSO and methanol.

Description

DMNQ is a 1,4-naphthoquinone that acts as a redox-cycling agent, typically increasing intracellular superoxide and hydrogen peroxide formation.¹⁻³ The amount of oxidative stress is proportional to the amount of DMNQ applied and can alter diverse cellular parameters, including signal transduction, mitochondrial function, and gene expression.³⁻⁵

References

1. Kaas, G.E.N., Duddy, S.K., and Orrenius, S. Activation of hepatocyte protein kinase C by redox-cycling quinones. *Biochem. J.* **260**(2), 499-507 (1989).
2. Gant, T.W., Rao, D.N., Mason, R.P., et al. Redox cycling and sulphhydryl arylation; their relative importance in the mechanism of quinone cytotoxicity to isolated hepatocytes. *Chem. Biol. Interact.* **65**(2), 157-173 (1988).
3. Shi, M.M., Kugelman, A., Iwamoto, T., et al. Quinone-induced oxidative stress elevates glutathione and induces γ-glutamylcysteine synthetase activity in rat lung epithelial L2 cells. *J. Biol. Chem.* **269**(42), 26512-26517 (1994).
4. Klotz, L.-O., Hou, X., and Jacob, C. 1,4-Naphthoquinones: From oxidative damage to cellular and inter-cellular signaling. *Molecules* **19**(9), 14902-14918 (2014).
5. Chacko, B.K., Zhi, D., Darley-USmar, V.M., et al. The bioenergetic health index is a sensitive measure of oxidative stress in human monocytes. *Redox Biol.* **8**, 43-50 (2016).

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, 02/06/2025

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