

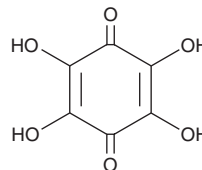
PRODUCT INFORMATION



Tetrahydroxyquinone

Item No. 32908

CAS Registry No.: 319-89-1
Formal Name: 2,3,5,6-tetrahydroxy-2,5-cyclohexadiene-1,4-dione
Synonyms: NSC 112931, THQ
MF: C₆H₄O₆
FW: 172.1
Purity: ≥98%
UV/Vis.: λ_{max}: 312 nm
Supplied as: A crystalline 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

Tetrahydroxyquinone is supplied as a crystalline solid. A stock solution may be made by dissolving the tetrahydroxyquinone in the solvent of choice, which should be purged with an inert gas. Tetrahydroxyquinone is slightly soluble in DMSO and dimethyl formamide.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of tetrahydroxyquinone can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tetrahydroxyquinone in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tetrahydroxyquinone is a redox-active hydroxyquinone.^{1,2} It inhibits HIV-1 proteinase (IC₅₀ = 575 μM) and is active against *T. brucei brucei* (MIC₁₀₀ = 100 μg/ml).^{1,3} Tetrahydroxyquinone (100 μM) induces the formation of reactive oxygen species (ROS) in, as well as apoptosis of, HL-60 leukemia cells.² It has also been used in the manufacturing of lithium-ion batteries.⁴

References

1. Brinkworth, R.I. and Fairlie, D.P. Hydroxyquinones are competitive non-peptide inhibitors of HIV-1 proteinase. *Biochim. Biophys. Acta* **1253**(1), 5-8 (1995).
2. Cavagis, A.D.M., Ferreira, C.V., Versteeg, H.H., et al. Tetrahydroxyquinone induces apoptosis of leukemia cells through diminished survival signaling. *Exp. Hematol.* **34**(2), 188-196 (2006).
3. Shapiro, A., Nathan, H.C., Hutner, S.H., et al. In vivo and in vitro activity by diverse chelators against *Trypanosoma brucei brucei*. *J. Protozool.* **29**(1), 85-90 (1982).
4. Chen, H., Armand, M., Courty, M., et al. Lithium salt of tetrahydroxybenzoquinone: Toward the development of a sustainable Li-ion battery. *J. Am. Chem. Soc.* **131**(25), 8984-8988 (2009).

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.

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