

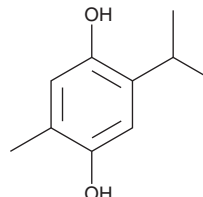
PRODUCT INFORMATION



Thymohydroquinone

Item No. 27558

CAS Registry No.: 2217-60-9
Formal Name: 2-methyl-5-(1-methylethyl)-1,4-benzenediol
Synonym: NSC 34803
MF: $C_{10}H_{14}O_2$
FW: 166.2
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 204, 294 nm
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years
Item Origin: Synthetic



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

Laboratory Procedures

Thymohydroquinone is supplied as a crystalline solid. A stock solution may be made by dissolving the thymohydroquinone in the solvent of choice, which should be purged with an inert gas. Thymohydroquinone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of thymohydroquinone in ethanol is approximately 2 mg/ml and approximately 1 mg/ml in DMSO and DMF.

Thymohydroquinone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, thymohydroquinone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Thymohydroquinone has a solubility of approximately 0.1 mg/ml in a 1:9 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Thymohydroquinone is a quinone that has been found in *N. sativa* seeds and has diverse biological activities.^{1,2} It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) free radicals in a cell-free assay ($IC_{50} = 2.4 \mu g/ml$) and has a Trolox equivalent value of 2.6 in an oxygen radical absorbance capacity (ORAC) assay when used at concentrations ranging from 1.6 to 6.4 $\mu g/ml$.¹ Thymohydroquinone inhibits growth of A2780, OVCAR-8, and CIS-A2780 ovarian cancer cells ($IC_{50}s = 3.1, 8.9, \text{ and } 9.8 \mu M$, respectively), as well as immortalized human ovarian epithelial cells ($IC_{50} = 14 \mu M$).² It is also active against *P. falciparum* *in vitro* ($IC_{50} = 15.9 \mu M$).

References

1. Tesarova, H., Svobodova, B., Kokoska, L., *et al.* Determination of oxygen radical absorbance capacity of black cumin (*Nigella sativa*) seed quinone compounds. *Nat. Prod. Commun.* **6**(2), 213-216 (2011).
2. Johnson-Ajinwo, O.R., Ullah, I., Mbye, H., *et al.* The synthesis and evaluation of thymoquinone analogues as anti-ovarian cancer and antimalarial agents. *Bioorg. Med. Chem. Lett.* **28**(7), 1219-1222 (2018).

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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