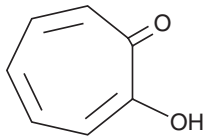
PRODUCT INFORMATION

Tropolone

Item No. 29674

CAS Registry No.:	533-75-5
Formal Name:	2-hydroxy-2,4,6-cycloheptatrien-1-one
Synonyms:	2-Hydroxytropone, α-Tropolone, NSC 89303, Purpurocatechol
MF:	$C_7H_6O_2$
FW:	122.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 227, 319, 352 nm
Supplied as:	A solid
Storage:	-20°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

Tropolone is supplied as a solid. A stock solution may be made by dissolving the tropolone in the solvent of choice, which should be purged with an inert gas. Tropolone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of tropolone in these solvents is approximately 30, 10, and 5 mg/ml, respectively.

Tropolone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tropolone should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Tropolone has a solubility of approximately 0.14 mg/ml in a 1:6 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tropolone is a terpene that has been found in cupressaceous tree bark and has diverse biological activities.[1-5] It inhibits catechol O-methyltransferase (COMT; K_i = 22 µM).[1] Tropolone is bacteriostatic against a panel of Gram-positive and Gram-negative bacteria (MICs = 12-82 µM) and bactericidal against *A. hydrophilia* and *C. violaceum* when used at a concentration of 20 mM.[2] It inhibits LPS-induced production of nitric oxide (NO) in RAW 264.7 cells (IC_{50} = 12 µM).[3] Tropolone (0.25 mmol/animal) reduces thyroid radioiodide uptake in rats.[4] Dietary administration of tropolone induces growth retardation and hyperactivity in mice.

References

1. Borchardt, R.T. Catechol *O*-methyltransferase. 1. Kinetics of tropolone inhibition. *J. Med. Chem.* **16(4)**, 377-382 (1973).
2. Trust, T.J. Antibacterial activity of tropolone. *Antimicrob. Agents Chemother.* **7(5)**, 500-506 (1975).
3. Nishishiro, M., Kurihara, T., Wakabayashi, H., *et al.* Effect of tropolone, azulene and azulenequinone derivatives on prostaglandin E_2 production by activated macrophage-like cells. *Anticancer Res.* **29(1)**, 379-383 (2009).
4. Lee, C.P., Hegarty, M.P., and Christie, G.S. Antithyroid and antiperoxidase activity of tropolone and 3-hydroxy-4-pyrone. *Chem. Biol. Interact.* **27(1)**, 17-26 (1979).

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