

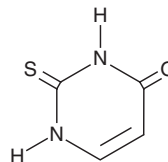
PRODUCT INFORMATION



2-Thiouracil

Item No. 34747

CAS Registry No.: 141-90-2
Formal Name: 2,3-dihydro-2-thioxo-4(1H)-pyrimidinone
Synonyms: Antagothyroil, NSC 19473, NSC 290412, NSC 290413, NSC 290414
MF: C₄H₄N₂OS
FW: 128.2
Purity: ≥98%
UV/Vis.: λ_{max}: 273 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

2-Thiouracil is supplied as a solid. A stock solution may be made by dissolving the 2-thiouracil in the solvent of choice, which should be purged with an inert gas. 2-Thiouracil is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 2-thiouracil in these solvents is approximately 25 and 15 mg/ml, respectively.

2-Thiouracil is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-thiouracil should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 2-Thiouracil has a solubility of approximately 0.12 mg/ml in a 1:7 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2-Thiouracil is an antithyroid agent and a melanoma seeker.^{1,2} *In vivo*, 2-thiouracil (2.5 mg/animal per day) reduces sodium iodide-induced increases in thyroid weight in a mouse model of goiter.¹ 2-Thiouracil preferentially accumulates into tumor cell melanin in a mouse model of melanoma.² It also inhibits neuronal nitric oxide synthase (nNOS; K_i = 20 μM).³

References

1. Itikawa, A., Kawada, J., and Ito, Y. Iodide goiter in the mouse. *Endocrinol. Jpn.* **14(4)**, 333-341 (1967).
2. Palumbo, A., Napolitano, A., De Martino, L., *et al.* Specific incorporation of 2-thiouracil into biological melanins. *Biochim. Biophys. Acta* **1200(3)**, 271-276 (1994).
3. Palumbo, A., d'Ischia, M., and Cioffi, F.A. 2-Thiouracil is a selective inhibitor of neuronal nitric oxide synthase antagonising tetrahydrobiopterin-dependent enzyme activation and dimerisation. *FEBS Lett.* **485(2-3)**, 109-112 (2000).

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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