

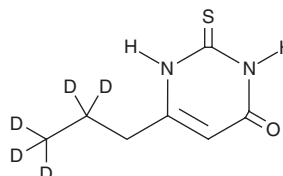
# PRODUCT INFORMATION



## Propylthiouracil-d<sub>5</sub>

Item No. 30743

**CAS Registry No.:** 1189423-94-6  
**Formal Name:** 2,3-dihydro-6-(propyl-2,2,3,3,3-d<sub>5</sub>)-2-thioxo-4(1H)-pyrimidinone  
**Synonyms:** 6-n-Propylthiouracil-d<sub>5</sub>, PTU-d<sub>5</sub>  
**MF:** C<sub>7</sub>H<sub>5</sub>D<sub>5</sub>N<sub>2</sub>OS  
**FW:** 175.3  
**Chemical Purity:** ≥98% (Propylthiouracil)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</sub>); ≤1% d<sub>0</sub>  
**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

Propylthiouracil-d<sub>5</sub> is intended for use as an internal standard for the quantification of propylthiouracil (Item No. 14069) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Propylthiouracil-d<sub>5</sub> is supplied as a solid. A stock solution may be made by dissolving the propylthiouracil-d<sub>5</sub> in the solvent of choice, which should be purged with an inert gas. Propylthiouracil-d<sub>5</sub> is slightly soluble in DMSO and methanol.

### Description

Propylthiouracil (PTU) is a thioamide antithyroid agent.<sup>1</sup> It inhibits thyroid peroxidase activity in rat and monkey thyroid microsomes (IC<sub>50</sub>s = 0.081 and 4.1 μM, respectively). PTU (30 mg/kg) increases thyroid weight and serum thyroid stimulating hormone levels and decreases serum 3,5,3'-triiodothyronine and thyroxine levels in rats. Sensitivity to the bitter taste of PTU is genetically mediated and is associated with increased sensitivity to other sweet and bitter compounds.<sup>2</sup> Formulations containing propylthiouracil have been used in the treatment of Graves' disease and hyperthyroidism.

### References

1. Takayama, S., Aihara, K., Onodera, T., *et al.* Antithyroid effects of propylthiourad and sulfamonomethoxine in rats and monkeys *Toxicol. Appl. Pharmacol.* **82(2)**, 191-199 (1986).
2. Drewnowski, A. and Rock, C.L. The influence of genetic taste markers on food acceptance. *Am. J. Clin. Nutr.* **62(3)**, 506-511 (1995).

#### 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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