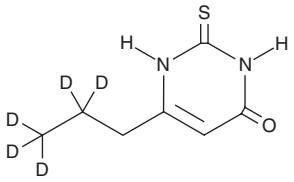
PRODUCT INFORMATION

Propylthiouracil-d_5

Item No. 30743

CAS Registry No.:	1189423-94-6
Formal Name:	2,3-dihydro-6-(propyl-2,2,3,3,3-d_5)-2-thioxo-4(1H)-pyrimidinone
Synonyms:	6-n-Propylthiouracil-d_5, PTU-d_5
MF:	$C_7H_5D_5N_2OS$
FW:	175.3
Chemical Purity:	≥98% (Propylthiouracil)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤1% d_0
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_5 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_5 is supplied as a solid. A stock solution may be made by dissolving the propylthiouracil-d_5 in the solvent of choice, which should be purged with an inert gas. Propylthiouracil-d_5 is slightly soluble in DMSO and methanol.

Description

Propylthiouracil (PTU) is a thioamide antithyroid agent.[1] It inhibits thyroid peroxidase activity in rat and monkey thyroid microsomes (IC_{50}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.[2] 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM