

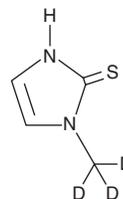
PRODUCT INFORMATION



Methimazole-d₃

Item No. 33278

CAS Registry No.: 1160932-07-9
Formal Name: 1,3-dihydro-1-(methyl-d₃)-2H-imidazole-2-thione
MF: C₄H₃D₃N₂S
FW: 117.2
Chemical Purity: ≥98% (Methimazole)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
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

Methimazole-d₃ is intended for use as an internal standard for the quantification of methimazole (Item No. 23718) 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).

Methimazole-d₃ is supplied as a solid. A stock solution may be made by dissolving the methimazole-d₃ in the solvent of choice, which should be purged with an inert gas. Methimazole-d₃ is slightly soluble in chloroform and methanol.

Description

Methimazole is an inhibitor of thyroid hormone synthesis.^{1,2} It is a substrate for thyroid peroxidase that traps oxidized iodide, preventing its use by thyroglobulin for thyroid hormone synthesis. Methimazole (0.4 mg/kg) inhibits the absorption of radiolabeled iodide by the thyroid gland in rats by 80.9%.³ It reduces the incidence of lymphocytic thyroiditis in the insulin-dependent type 1 diabetic BB/W rat.⁴ Methimazole has been used to induce hypothyroidism in mice.^{5,6} Formulations containing methimazole have been used in the treatment of hyperthyroidism.

References

1. Davidson, B., Soodak, M., Neary, J.T., et al. *Endocrinology* **103**(3), 871-872 (1978).
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3. Brock, R.E. and Head, W.F., Jr. *J. Pharm. Sci.* **55**(8), 822-825 (1966).
4. Allen, E.M., Rajatanavin, R., Nogimori, T., et al. *Am. J. Med. Sci.* **292**(5), 267-271 (1986).
5. Bortolotto, V.C., Pinheiro, F.C., Araujo, S.M., et al. *Eur. J. Pharmacol.* **822**, 78-84 (2018).
6. Bortolotto, V.C., Araujo, S.M., Pinheiro, F.C., et al. *Physiol. Behav.* **222**, 112892 (2020).

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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