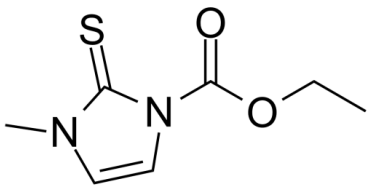
Data Sheet

Product Name:	Carbimazole
Cat. No.:	CS-2668
CAS No.:	22232-54-8
Molecular Formula:	C7H10N2O2S
Molecular Weight:	186.23
Target:	Others
Pathway:	Others
Solubility:	DMSO : 100 mg/mL (536.97 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Carbimazole is an imidazole antithyroid agent. Target: Others Carbimazole is an effective thyroid hormone inhibitor under a class of drugs known as pro-drugs. It is considered a pro-drug because it converts to methimazole after being absorbed by the body, generating an antithyroid action that works against hyperthyroidism (excessive production of thyroid hormones) and thyrotoxicosis (inflammation of the thyroid gland) [1]. Methimazole prevents the thyroid peroxidase enzyme from coupling and iodinating the tyrosine residues on thyroglobulin, hence reducing the production of the thyroid hormones T3 and T4 (thyroxine) [2]. Carbimazole (CBZ) is one of the major drugs currently used for the treatment of Graves' disease. Experiments with [35S] CBZ in rats showed that the drug is so rapidly transformed to MMI after i.v. injection (within 3 min) that very little of the unchanged drug would be expected to reach the thyroid gland. The antithyroid action of CBZ in rats, therefore, can be ascribed entirely to the MMI to which it is rapidly converted [3].

References:

[1]. Taurog, A., The mechanism of action of the thioureylene antithyroid drugs. Endocrinology, 1976. 98(4): p. 1031-46.

[2]. Magnusson, R.P., A. Taurog, and M.L. Dorris, Mechanism of iodide-dependent catalatic activity of thyroid peroxidase and lactoperoxidase. J Biol Chem, 1984. 259(1): p. 197-205.

[3]. Nakashima, T. and A. Taurog, Rapid conversion of carbimazole to methimazole in serum; evidence for an enzymatic mechanism. Clin Endocrinol (Oxf), 1979. 10(6): p. 637-48.

CAIndexNames:

1H-Imidazole-1-carboxylic acid, 2,3-dihydro-3-methyl-2-thioxo-, ethyl ester

SMILES:

O=C(N1C=CN(C)C1=S)OCC

Caution: Product has not been fully validated for medical applications. For research use only.

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