

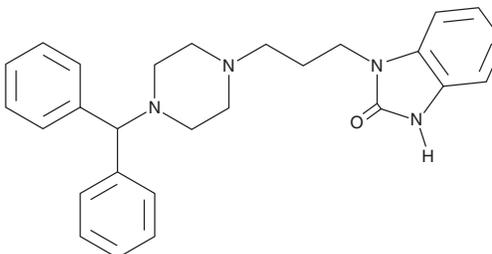
# PRODUCT INFORMATION



## Oxatomide

Item No. 42288

**CAS Registry No.:** 60607-34-3  
**Formal Name:** 1-[3-[4-(diphenylmethyl)-1-piperazinyl]propyl]-1,3-dihydro-2H-benzimidazol-2-one  
**Synonyms:** KW 4354, NSC 309710, R 35443  
**MF:** C<sub>27</sub>H<sub>30</sub>N<sub>4</sub>O  
**FW:** 426.6  
**Purity:** ≥98%  
**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

Oxatomide is supplied as a solid. A stock solution may be made by dissolving the oxatomide in the solvent of choice, which should be purged with an inert gas. Oxatomide is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

### Description

Oxatomide is a histamine H<sub>1</sub> receptor antagonist (K<sub>i</sub> = 15 nM).<sup>1</sup> It is selective for the histamine H<sub>1</sub> receptor over muscarinic acetylcholine receptors (mAChRs; K<sub>i</sub> = 263 nM) but also inhibits the serotonin (5-HT) receptor subtype 5-HT<sub>2</sub> (K<sub>i</sub> = 7 nM). Oxatomide inhibits histamine release induced by an anti-IgE antibody in isolated human lung fragments (IC<sub>50</sub> = 4.5 nM) and degranulation of RBL-2H3 mast cells induced by A23187 (Item No. 22030).<sup>2,3</sup> It also inhibits nitric oxide (NO) production induced by LPS in RAW 264.7 cells when used at a concentration of 50 μM, and superoxide production induced by N-formyl-Met-Leu-Phe (fMLP; Item No. 21495) or phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) in isolated rat neutrophils in a concentration-dependent manner.<sup>4,5</sup> Oxatomide reduces histamine-induced vascular permeability in mice (ED<sub>50</sub> = 2.9 mg/kg).<sup>1</sup> Formulations containing oxatomide have been used in the treatment of allergic symptoms.

### References

1. Kakiuchi, M., Ohashi, T., Musoh, K., *et al.* Studies on the novel antiallergic agent HSR-609: Its penetration into the central nervous system in mice and guinea pigs and its selectivity for the histamine H<sub>1</sub>-receptor. *Jpn. J. Pharmacol.* **73**(4), 291-298 (1997).
2. Church, M.K. and Gradidge, C.F. Inhibition of histamine release from human lung *in vitro* by antihistamines and related drugs. *Br. J. Pharmacol.* **69**(4), 663-667 (2019).
3. Koga, T., Kawahara, N., Aburada, M., *et al.* Antiallergic activity of 3-O-Dodecyl-L-ascorbic acid. *Molecules* **29**(1), 69 (2023).
4. Králová, J., Račková, L., Pekarová, M., *et al.* The effects of H<sub>1</sub>-antihistamines on the nitric oxide production by RAW 264.7 cells with respect to their lipophilicity. *Int. Immunopharmacol.* **9**(7-8), 990-995 (2009).
5. Fukuishi, N., Kan, T., Hirose, K., *et al.* Inhibitory effect of epinastine on superoxide generation by rat neutrophils. *Jpn. J. Pharmacol.* **68**, 449-452 (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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