

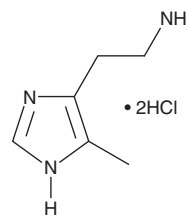
PRODUCT INFORMATION



4-Methylhistamine (hydrochloride)

Item No. 23761

CAS Registry No.: 36376-47-3
Formal Name: 4-methyl-1H-imidazole-5-ethanamine, dihydrochloride
MF: C₆H₁₁N₃ • 2HCl
FW: 198.1
Purity: ≥95%
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

4-Methylhistamine (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the 4-methylhistamine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. 4-Methylhistamine (hydrochloride) is slightly soluble in methanol and DMSO.

Description

4-Methylhistamine is a histamine H₄ receptor agonist (K_i = 50 nM).¹ It is >100-fold selective for H₄ over other histamine receptors. 4-Methylhistamine inhibits CRE-β-galactosidase activity induced by forskolin (Item No. 11018) with an EC₅₀ value of 39.8 nM in SK-N-MC cells transfected with the human H₄ receptor. It induces a change in eosinophil shape (EC₅₀ = 0.36 μM) and stimulates migration of murine bone marrow mast cells (EC₅₀ = 12 μM), activities that can be inhibited by the histamine H₄ antagonist JNJ-7777120 (Item No. 10011925). Intratracheal administration of 4-methylhistamine (10 μg/animal) reduces airway resistance and inflammation and increases the number of CD4⁺CD25⁺FoxP3⁺ regulatory T cells in a mouse model of allergic asthma.² 4-Methylhistamine also reduces epidermal hyperplasia, hyperkeratosis, and lymphocyte infiltration and increases the number of CD4⁺CD25⁺FoxP3⁺ regulatory T cells in a mouse model of psoriasis induced by imiquimod (Item No. 14956).³

References

1. Lim, H.D., van Rijn, R.M., Ling, P., *et al.* Evaluation of histamine H₁-, H₂-, and H₃-receptor ligands at the human histamine H₄ receptor: Identification of 4-methylhistamine as the first potent and selective H₄ receptor agonist. *J. Pharmacol. Exp. Ther.* **314**(3), 1310-1321 (2005).
2. Morgan, R.K., McAllister, B., Cross, L., *et al.* Histamine 4 receptor activation induces recruitment of FoxP3⁺ T cells and inhibits allergic asthma in a murine model. *J. Immunol.* **178**(12), 8081-8089 (2007).
3. Kim, C.H., Lee, J.M., Yoo, J.K., *et al.* Inhibitory effect of imiquimod-induced psoriasis-like skin inflammation in mice by histamine H₄ receptor agonist 4-methylhistamine. *Scand. J. Immunol.* **83**(6), 409-417 (2016).

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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