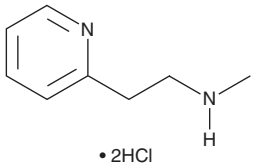
# PRODUCT INFORMATION

## Betahistine (hydrochloride)

*Item No. 27602*

**CAS Registry No.:** 5579-84-0
**Formal Name:** N-methyl-2-pyridineethanamine, dihydrochloride
**MF:** $C_8H_{12}N_2 \bullet 2HCl$
**FW:** 209.1
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 261, 268 nm
**Supplied as:** A crystalline 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

Betahistine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the betahistine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Betahistine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of betahistine (hydrochloride) in ethanol is approximately 2.5 mg/ml and approximately 2 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of betahistine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of betahistine (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Betahistine is a histamine $H_3$ receptor antagonist and histamine $H_1$ receptor agonist.[1] *In vivo*, betahistine dilates pre-capillary arterioles and increases blood flow to the stria vascularis in guinea pigs.[2,3] Betahistine (8 mg/kg) reduces weight gain and increased feeding behavior induced by olanzapine (Item No. 11937) in female rats.[4] Formulations containing betahistine have been used in the treatment of balance disorders and vertigo symptoms associated with Meniere's disease.

### References


1. Timmerman, H. Histamine agonists and antagonists. *Acta Otolaryngol.* **Suppl. 479,** 5-11 (1991).
2. Bertlich, M., Ihler, F., Sharaf, K., *et al.* Betahistine metabolites, aminoethylpyridine, and hydroxyethylpyridine increase cochlear blood flow in guinea pigs *in vivo*. *Int. J. Audiol.* **53(10),** 753-759 (2014).
3. Bertlich, M., Ihler, F., Weiss, B.G., *et al.* Role of capillary pericytes and precapillary arterioles in the vascular mechanism of betahistine in a guinea pig inner ear model. *Life Sci.* **187,** 17-21 (2017).
4. Lian, J., Huang, X.-F., Pai, N., *et al.* Ameliorating antipsychotic-induced weight gain by betahistine: Mechanisms and clinical implications. *Pharmacol. Res.* **106,** 51-63 (2016).





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