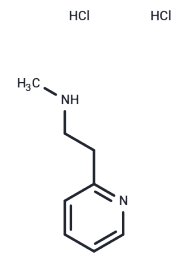


## Betahistine dihydrochloride

## Chemical Properties

|                   |   |
|-------------------|---|
| CAS No. :         | 5579-84-0   |
| Formula:          | C <sub>8</sub> H <sub>14</sub> Cl <sub>2</sub> N <sub>2</sub>   |
| Molecular Weight: | 209.12  |
| Storage:          | Keep away from moisture<br>Powder: -20°C for 3 years   In solvent: -80°C for 1 year<br><small>Actual storage temperature shall be subject to the COA.</small> |



## Biological Description

|               |   |
|---------------|---|
| Description   | Betahistine dihydrochloride (Betahistine 2HCl) is a histamine analog and H1 receptor agonist that serves as a vasodilator.  |
| Targets(IC50) | Histamine Receptor  |
| In vitro      | In mice, Betahistine (ED <sub>50</sub> =2 mg/kg) elevates t-MeHA levels in a dose-dependent manner. In patients with Ménière's disease, Betahistine (16 mg, twice daily for 3 months) significantly alleviates vertigo. Additionally, Betahistine (50 mg/kg) induces an upregulation of histidine decarboxylase mRNA in the nodose ganglion of the cat brain. |
| In vivo       | In CHO(H3R) cells treated with 3 μM of, Betahistine progressively increased cAMP formation, peaking at 10 nM. Furthermore, in CHO(H3R) cells, Betahistine progressively reduced A23187-induced [3H]arachidonic acid release (EC <sub>50</sub> =0.1 nM), with the greatest effect observed at 30 nM.   |

## Solubility Information

|            |   |
|------------|---|
| Solubility | DMSO: 50 mg/mL (239.1 mM),Sonication is recommended.<br>H <sub>2</sub> O: 35 mg/mL (167.37 mM),Sonication is recommended.<br>Ethanol: 1 mg/mL (4.78 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
|------------|---|

### Preparing Stock Solutions

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|       | 1mg       | 5mg        | 10mg       |
|-------|-----------|------------|------------|
| 1 mM  | 4.7819 mL | 23.9097 mL | 47.8194 mL |
| 5 mM  | 0.9564 mL | 4.7819 mL  | 9.5639 mL  |
| 10 mM | 0.4782 mL | 2.391 mL   | 4.7819 mL  |
| 50 mM | 0.0956 mL | 0.4782 mL  | 0.9564 mL  |

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

- Gbahou F, et al. *J Pharmacol Exp Ther*, 2010, 334(3), 945-954.
- Mira E, et al. *Eur Arch Otorhinolaryngol*, 2003, 260(2), 73-77.
- Strupp M, et al. *Acta Otolaryngol*, 2008, 128(5), 520-524.
- Tighilet B, et al. *Eur J Pharmacol*, 2002, 446(1-3), 63-73.

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