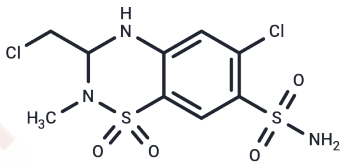
# Data Sheet (Cat.No.T6581)

TargetMol

## Methyclothiazide

### Chemical Properties



CAS No. : 135-07-9

Formula: C9H11Cl2N3O4S2

Molecular Weight: 360.24

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

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|---|---|
| Description | Methyclothiazide (Aquatensen) is a substituted benzothiadiazide, used to treat high blood pressure and fluid retention caused by various conditions including heart disease. |
| Targets(IC50) | Carbonic Anhydrase |
| In vitro | Methyclothiazide (0.1 mM) reduces Ca2+ contractures with maximal inhibition of 90.4% in SHR aortic rings with endothelium. The inhibitory effect of Methyclothiazide (0.1 mM) on Ca2+ contracture is significantly but not totally abolished by the NO synthase inhibitor in SHR aortic rings with functional endothelium. [1] Methyclothiazide (0.1 mM) induces endothelium-dependent inhibition of the vasoconstrictor responses to NE and AVP only in aortas from spontaneously hypertensive rats (SHR) rather than normotensive Wistar Kyoto rats (WKY), and the maximal vasoconstrictive effect of NE and AVP is decreased by 59% and 32.3%, respectively. [2] Methyclothiazide (3.5 mM) inhibits renin release in rat kidney slices. [3] |
| In vivo | Methyclothiazide (0.1 g/L for the first 5 weeks and 0.2 g/L for the second 2 weeks, drinking water) attenuates development of hypertension in salt-sensitive (DS) rats, but does not affect blood pressure in salt-resistant (DR) ones. [4] The methyclothiazide-treated DOCA-salt rats weigh less than controls or the nonsupplemented DOCA-salt rats at weeks 3 and 4. Methyclothiazide added to the drinking water of DOCA-salt rats attenuates the elevation of blood pressure. [5] |

### Solubility Information

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| Solubility | DMSO: 75 mg/mL (208.19 mM),Sonication is recommended.<br>H2O: < 1 mg/mL (insoluble or slightly soluble),<br>Ethanol: 4 mg/mL (11.1 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+90% Saline: 7.5 mg/mL (20.82 mM),Solution.<br>*Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.7759 mL | 13.8796 mL | 27.7593 mL |
| 5 mM | 0.5552 mL | 2.7759 mL | 5.5519 mL |
| 10 mM | 0.2776 mL | 1.388 mL | 2.7759 mL |
| 50 mM | 0.0555 mL | 0.2776 mL | 0.5552 mL |

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

Colas B, et al. Eur J Pharmacol, 2000, 408(1), 63-67.
Colas B, et al. Fundam Clin Pharmacol, 2000, 14(4), 363-368.
Desaulles E, et al. Br J Pharmacol, 1979, 65(2), 193-196.
Sasaki S, et al. J Cardiovasc Pharmacol, 1983, 5(3), 378-383.
Sasaki S, et al. Jpn Circ J, 1984, 48(11), 1251-1259.