

Chlormequat chloride

Chemical Properties

CAS No. : 999-81-5

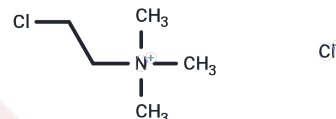
Formula: C₅H₁₃Cl₂N

Molecular Weight: 158.07

Store under nitrogen

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

Description	Chlormequat chloride (EI 38,555), a plant growth regulator, is widely applied in agriculture because it can promote sturdier growth of the crops.
Targets(IC50)	Others
In vitro	Chlormequat chloride at 150µg/ml (0.93mM) retarded the rat embryo growth without causing significant morphological malformations and at 500µg/ml (3.1mM) caused both retardation and morphological malformation of the embryos. However, the proliferation and differentiation of limb bud cells were not affected by chlormequat chloride at as high as up to 1000µg/ml (6.2mM) applied. This concentration of chlormequat chloride did not affect the cell viability as examined by 3T3 fibroblast cytotoxicity test either, suggesting that cellular toxicity may not play a role in chlormequat induced inhibition of rat embryo growth[1].
In vivo	Chlormequat chloride(5 µg/mL) increased the embryonic growth hormone (GH) and insulin-like growth factor 1 (IGF-1) levels both in vitro and in vivo compared with the control ones[1].

Solubility Information

Solubility	DMSO: 65 mg/mL (411.21 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.3263 mL	31.6316 mL	63.2631 mL
5 mM	1.2653 mL	6.3263 mL	12.6526 mL
10 mM	0.6326 mL	3.1632 mL	6.3263 mL
50 mM	0.1265 mL	0.6326 mL	1.2653 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

- Xiagedeer B, et al. Chlormequat chloride retards rat embryo growth in vitro. *Toxicol In Vitro*. 2016 Aug;34:274-82.
- Zhou X, et al. [Simultaneous determination of chlormequat chloride and mepiquat chloride in plants by mobile phase ion chromatography]. *Se Pu*. 2011 Mar;29(3):244-8. Chinese
- Huang D, et al. The effects of chlormequat chloride on the development of pubertal male rats. *Environ Toxicol Pharmacol*. 2016 Oct;47:92-99.
- Xiagedeer B, et al. Chlormequat chloride promotes rat embryonic growth and GH-IGF-1 axis. *Toxicology*. 2020 Jan 15;429:152326.

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