

## Quinacrine mustard hydrochloride

## Chemical Properties

CAS No. : 4213-45-0

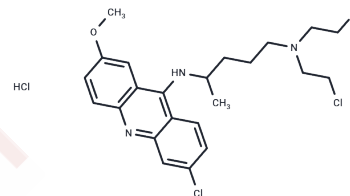
Formula: C<sub>23</sub>H<sub>29</sub>Cl<sub>4</sub>N<sub>3</sub>O

Molecular Weight: 505.31

Storage: Store at low temperature, Keep away from direct sunlight

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	Quinacrine mustard hydrochloride is a fluorescent dye and polycyclic aromatic agent that acts as a mutagen to induce mutants in bacteria. Quinacrine mustard hydrochloride selectively binds to adenine-thymine (AT) base pairs, but not to guanine-cytosine (GC). Quinacrine mustard (hydrochloride) selectively binds to adenine-thymine (AT) base pairs rather than to guanine-cytosine (GC) base pairs, inducing cell cycle arrest at G <sub>2</sub> /M. Quinacrine mustard (hydrochloride) has been used to label chromosomes for karyotyping by autoradiography.
Targets(IC <sub>50</sub> )	Others
In vitro	Quinacrine mustard hydrochloride (0.2 μM; 4h) induced cell cycle arrest at G <sub>2</sub> +M-phase with the accumulation of cells in this compartment by 50% in HL-60 cells.[1] Quinacrine mustard hydrochloride (5 μg/ml) can be used for the DNA strain of plant, animal, or human chromosomes.[2] Quinacrine mustard hydrochloride (28 μM) increases the number of mutants that appeared after exposure to bacteria.[3]
Cell Research	Cell experiment: Quinacrine mustard hydrochloride (0.2 μM; 4h) induced cell cycle arrest at the G <sub>2</sub> +M phase in HL-60 cells and increased the accumulation of cells in this phase by 50%.

## Solubility Information

Solubility	Chloroform: Soluble H <sub>2</sub> O: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.979 mL	9.8949 mL	19.7898 mL
5 mM	0.3958 mL	1.979 mL	3.958 mL
10 mM	0.1979 mL	0.9895 mL	1.979 mL
50 mM	0.0396 mL	0.1979 mL	0.3958 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

- Kapuscinski J, et al. The modulation of the DNA-damaging effect of polycyclic aromatic agents by xanthines. Part I. Reduction of cytostatic effects of quinacrine mustard by caffeine. *Biochem Pharmacol.* 2002 Feb 15;63(4):625-34.
- Caspersson T, Zech L, Modest EJ. Fluorescent labeling of chromosomal DNA: superiority of quinacrine mustard to quinacrine. *Science.* 1970 Nov 13;170(3959):762.
- Piosik J, et al. Alleviation of mutagenic effects of polycyclic aromatic agents (quinacrine mustard, ICR-191 and ICR-170) by caffeine and pentoxifylline. *Mutat Res.* 2003 Sep 29;530(1-2):47-57.
- Chen RF. Fluorescence of quinacrine mustard conjugated to proteins. *Arch Biochem Biophys.* 1976;172(1):39-50.

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