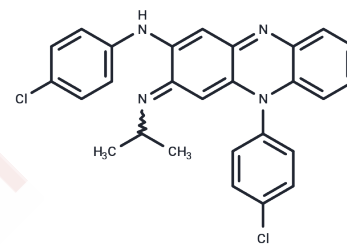


Clofazimine

Chemical Properties

CAS No. :	2030-63-9
Formula:	C ₂₇ H ₂₂ Cl ₂ N ₄
Molecular Weight:	473.40
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Clofazimine (NSC-141046) is a phenazine dye with anti-mycobacterial and anti-inflammatory activities. Clofazimine has a slow bactericidal effect on <i>Mycobacterium leprae</i> and is active against various other <i>Mycobacteria</i> .
Targets(IC50)	Apoptosis, Antibacterial, Antibiotic, DNA, DNA/RNA Synthesis, Interleukin
In vitro	Administered bi-daily at 500 µg, Clofazimine accumulates at the highest concentrations in the spleen and liver, while significantly reduced levels are observed in the lungs. A dosage of 20 mg/kg of Clofazimine can prevent death by significantly decreasing the colony-forming unit (CFU) count in the lungs and spleen of C57BL/6 mice infected with the tuberculosis bacillus <i>Mycobacterium tuberculosis</i> H37Rv. The same dosage effectively lowers bacterial numbers in the liver, spleen, and lungs of C57BL/6 mice infected with the <i>Mycobacterium avium</i> strain TMC724. Moreover, 50 mg/kg of Liposomal Clofazimine in acute infection reduces CFUs in the spleen, liver, and lungs of mice harboring the Erdman strain of tuberculosis, exhibiting dose-dependency.
In vivo	At a concentration of 1 µg/mL, Clofazimine inhibits the activity of J774A.1 macrophages in a dose-dependent manner. The compound targets neutrophils, activating phospholipase A2 which, in turn, increases the release of lysophosphatidylcholine and arachidonic acid from the neutrophil membrane. In macrophages, Clofazimine stabilizes lysosomal membranes and impedes the metabolism of <i>Mycobacterium leprae</i> within murine peritoneal macrophages. Additionally, Clofazimine exhibits a 90% inhibition rate on 20 strains of <i>Mycobacterium tuberculosis</i> with minimum inhibitory concentrations (MICs) of less than 1.0 µg/mL. It also suppresses the mitogen-induced proliferation of peripheral blood mononuclear cells.

Solubility Information

Solubility	H ₂ O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 2.64 mg/mL (5.58 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	2.1124 mL	10.5619 mL	21.1238 mL
5 mM	0.4225 mL	2.1124 mL	4.2248 mL
10 mM	0.2112 mL	1.0562 mL	2.1124 mL
50 mM	0.0422 mL	0.2112 mL	0.4225 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

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