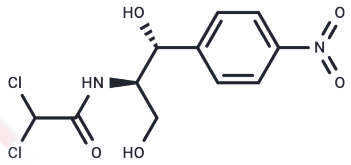
Data Sheet (Cat.No.T1205)

TargetMol

Chloramphenicol

Chemical Properties



CAS No. : 56-75-7

Formula: C11H12Cl2N2O5

Molecular Weight: 323.13

Storage: Keep away from direct sunlight,Store under nitrogen
Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Chloramphenicol (Chloromycetin) is a broad-spectrum antibiotic that inhibits the biosynthesis of bacterial proteins. Chloramphenicol acts primarily on the 50S subunit of the bacterial 70S ribosome and is active against peptidyltransferases, inhibiting the formation of peptide bonds.
Targets(IC50)	Apoptosis,MMP,ribosome,HIF/HIF Prolyl-Hydroxylase,Akt,Antibacterial,Antibiotic, Autophagy,JNK,VEGFR
In vitro	**METHODS**: Human lung cancer cells A549 and H1299 were treated with Chloramphenicol (1-100 μg/mL) for 3-24 h. Cell viability was detected by MTT assay. **RESULTS**: In the 3 h treatment group, the viability of A549 and H1299 cells at 100 μg/mL was 97.0±3.9% and 98.1±5.0%, respectively, and no cytotoxicity was observed. A significant reduction in cell viability was observed in the 24 h treatment group. [1] **METHODS**: Mouse T cell lines A1.1 and IE5 and human T cell lines Jurkat and Jcam were stimulated with Chloramphenicol (100 nmol/L), and the DNA content was measured by Flow cytometry. **RESULTS**: Chloramphenicol clearly blocked activation-induced cell death (AICD) in all four cell lines, even though these cells were activated by different stimuli. [2]
In vivo	**METHODS**: To investigate the potential to induce aplastic anemia, Chloramphenicol (2000 mg/kg) and Thiamphenicol (850 mg/kg) were administered by gavage to BALB/c mice once daily for 17 days. **RESULTS**: Administration of Chloramphenicol and Thiamphenicol at hematotoxic dose levels for 17 days in BALB/c mice was associated with the development of aplastic anemia in humans, inducing reversible anemia but not chronic bone marrow aplasia. [3]

Solubility Information

Solubility	H2O: 1 mg/mL (3.09 mM),Sonication is recommended. Ethanol: 60 mg/mL (185.68 mM),Sonication is recommended. DMSO: 250 mg/mL (773.68 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (15.47 mM),Sonication is recommended. *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*

In vivo Formulation	*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	3.0947 mL	15.4736 mL	30.9473 mL
5 mM	0.6189 mL	3.0947 mL	6.1895 mL
10 mM	0.3095 mL	1.5474 mL	3.0947 mL
50 mM	0.0619 mL	0.3095 mL	0.6189 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

Hsu HL, et al. Chloramphenicol Induces Autophagy and Inhibits the Hypoxia Inducible Factor-1 Alpha Pathway in Non-Small Cell Lung Cancer Cells. Int J Mol Sci. 2019 Jan 3;20(1):157.
Chen Y, Zhu Y, Shen M, et al. Rapid and automated detection of six contaminants in milk using a centrifugal microfluidic platform with two rotation axes. Analytical Chemistry. 2019 May 24
Yuan ZR, et al. Chloramphenicol induces abnormal differentiation and inhibits apoptosis in activated T cells. Cancer Res. 2008 Jun 15;68(12):4875-81.
Turton JA, et al. An assessment of chloramphenicol and thiamphenicol in the induction of aplastic anaemia in the BALB/c mouse. Food Chem Toxicol. 2000 Oct;38(10):925-38.
Mandsager RE, et al. Am J Vet Res, 1995, 56(1), 95-99.
Stearns ME, et al. Invasion Metastasis, 1996, 16(3), 116-131.
Chen Y, Zhu Y, Shen M, et al. Rapid and automated detection of six contaminants in milk using a centrifugal microfluidic platform with two rotation axes[J]. Analytical Chemistry. 2019 May 24.