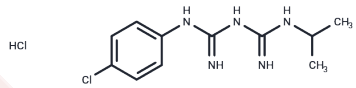
Data Sheet (Cat.No.T4382)

TargetMol

Proguanil hydrochloride

Chemical Properties



CAS No. :	637-32-1
Formula:	C11H17Cl2N5
Molecular Weight:	290.19
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	Proguanil hydrochloride (Chloroquanil) is a biguanide compound which metabolizes in the body to form cycloguanil, an anti-malaria agent.Upon hydrolysis, Proguanil hydrochloride is converted to its active cyclic triazine metabolite, cycloguanil, by a cytochrome P450 dependent reaction. Cycloguanil selectively inhibits the bifunctional dihydrofolate reductase-thymidylate synthase of plasmodium parasite, thereby disrupting deoxythymidylate synthesis and ultimately blocking DNA and protein synthesis in the parasite.
Targets(IC50)	Antifolate,Parasite,Dehydrogenase,DNA/RNA Synthesis
In vitro	proguanil appeared to be a substrate of OCT1 and OCT2 with affinities of 8.1 and 9.0 μM, respectively
Cell Research	Sertoli cells obtained from sixteen to eighteen day-old-rats are cultured and treated with 0.3 μM to 10 μM of proguanil for 5 days after which Sertoli cell viability and nuclei integrity are determined. Also, the genetic expressions of transferrin and Glial cell line-derived neurotrophic factor are assessed. They are for reference only.
Animal Research	Proguanil is prepared in distilled water.Rats: Groups of ten to twelve-week-old rats are administered proguanil (2.9 mg/kg body weight) daily for 5 days and 6 weeks respectively. Thereafter, body and reproductive organ weights are taken, sperm parameters are analyzed, while the histology of the testis and epididymis are carried out. Also, serum levels of testosterone, luteinizing hormone and follicle stimulating hormone are determined. They are for reference only.

Solubility Information

Solubility	DMSO: 81.67 mg/mL (281.44 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 8.17 mg/mL (28.15 mM),Suspension. *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	3.446 mL	17.2301 mL	34.4602 mL
5 mM	0.6892 mL	3.446 mL	6.892 mL
10 mM	0.3446 mL	1.723 mL	3.446 mL
50 mM	0.0689 mL	0.3446 mL	0.6892 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

Gerlinde F. Plöger, etal. Biowaiver Monographs for Immediate Release Solid Oral Dosage Forms: Proguanil Hydrochloride[J]. Journal of Pharmaceutical Sciences, 2018, 163(4):1-21.