

Antimalarial agent 25

Chemical Properties

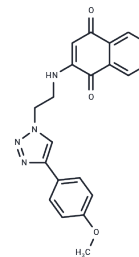
CAS No. : 2944456-41-9

Formula: C₂₁H₁₈N₄O₃

Molecular Weight: 374.39

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	Antimalarial agent 25, a derivative of 1,4-naphthoquinones, demonstrates oral activity and is effective against malaria. It exhibits cytotoxic properties specifically targeting <i>P. falciparum</i> and effectively inhibits parasitemia induced by <i>P. berghei</i> in vivo [1].
Targets(IC50)	Parasite
In vitro	Antimalarial agent 25 (compound 8) exhibits an IC ₅₀ of 4.2 μM against <i>P. falciparum</i> , while demonstrating CC ₅₀ values of 289.2 μM for HepG2 cells and 400.6 μM for Vero cells [1]. In uninfected human red blood cells, concentrations ranging from 15.62 to 250 μM show hemolytic activity below 40% when treated for 2 hours [1]. At concentrations of 30 to 0.411 μg/mL over 48 hours, this agent causes substantial cytoplasmic degradation and loss of membrane integrity in the W2 strain of <i>P. falciparum</i> [1]. Cell viability assays indicate that the W2 strain (chloroquine-resistant) displays significant morphological changes, including dense cytoplasm with possible undefined organelles in a degenerating stage and potentially deteriorated food vacuoles [1].
In vivo	Antimalarial agent 25, administered orally at a dose of 30 mg/kg four times daily, enhances antimalarial activity against <i>Plasmodium berghei</i> in mice. In a single 300 mg/kg oral dose, this agent does not cause notable pathological changes or histopathological damage in female mice. In a model using mice infected with <i>Plasmodium berghei</i> ANKA, the treatment reduced parasitemia by 33% on the seventh day post-treatment.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.671 mL	13.3551 mL	26.7101 mL
5 mM	0.5342 mL	2.671 mL	5.342 mL
10 mM	0.2671 mL	1.3355 mL	2.671 mL
50 mM	0.0534 mL	0.2671 mL	0.5342 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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