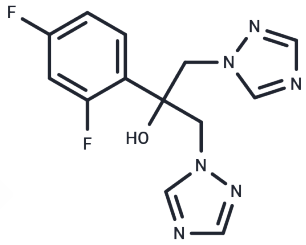
Data Sheet (Cat.No.T1388)

TargetMol

Fluconazole

Chemical Properties



CAS No. : 86386-73-4

Formula: C13H12F2N6O

Molecular Weight: 306.27

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	Fluconazole (UK-49858) belongs to the triazole class of antifungal agents and is a CYP51 inhibitor (IC99 = 0.20-0.39 μg/mL against Candida albicans), possessing broad-spectrum antifungal activity, good oral absorption, and cell permeability. This compound is used for the treatment of various invasive fungal infections.
Targets(IC50)	Antibacterial,Antibiotic,Antifection,Antifungal
In vitro	**Methods**: The in vitro antifungal activity of Fluconazole against clinically isolated Candida species was determined by CLSI M27-E4 broth microdilution method, with incubation for 24-48 hours. **Results**: The MIC90 of Fluconazole against Candida albicans was 2 μg/mL, with a susceptibility rate of 92%; against Candida glabrata, the MIC90 was 16 μg/mL, with 98% showing dose-dependent susceptibility. The wild-type proportion of Fluconazole for recurrent VVC strains was significantly lower than other types (67% vs 77%).[1] **Methods**: Broth microdilution method was used to determine the in vitro activity of Fluconazole against Candida. YPD medium was used, with Fluconazole concentrations ranging from 0-128 μg/mL (two-fold dilutions), inoculation of 2×10^5 CFU/mL Candida, and incubation at 30°C for 24 hours before MIC reading. **Results**: Fluconazole showed good inhibitory effects against susceptible strains, but MIC values were significantly elevated against resistant strains.[2]
In vivo	**Methods**: A Galleria mellonella larval systemic infection model with Candida albicans was established. Fluconazole (20 μg/mL, 10 μL per larva, dissolved in DMSO) was administered by single injection 1.5-2 hours post-infection. **Results**: Fluconazole monotherapy significantly prolonged the median survival time of infected larvae (9.33 days vs 2.33 days) and reduced fungal burden.[2]

Solubility Information

Solubility	Ethanol: 30.6 mg/mL (99.91 mM),Sonication is recommended. DMSO: 260 mg/mL (848.92 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: 2 mg/mL (6.53 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	3.2651 mL	16.3255 mL	32.6509 mL
5 mM	0.653 mL	3.2651 mL	6.5302 mL
10 mM	0.3265 mL	1.6325 mL	3.2651 mL
50 mM	0.0653 mL	0.3265 mL	0.653 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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Diversity and Antifungal Susceptibilities of Yeasts from Mangroves in Hong Kong, China-A One Health Aspect

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481