Flucytosine

Cat. No.: HY-B0139

CAS No.: 2022-85-7

Molecular Formula: $C_4H_4FN_3O$

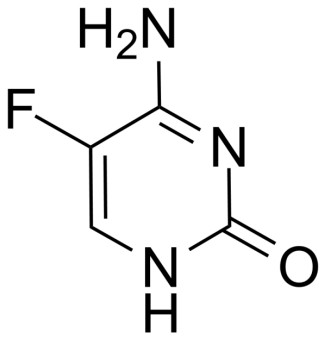
Molecular Weight: 129.09

Target: Fungal; Antibiotic

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (129.13 mM; Need ultrasonic)

H_2O : 6.67 mg/mL (51.67 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	7.7465 mL	38.7327 mL	77.4653 mL
5 mM	1.5493 mL	7.7465 mL	15.4931 mL
10 mM	0.7747 mL	3.8733 mL	7.7465 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 8.67 mg/mL (67.16 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (12.94 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (12.94 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (12.94 mM); Suspended solution

BIOLOGICAL ACTIVITY

Description

Flucytosine (5-Fluorocytosine) is an antifungal compound with oral activity. Flucytosine is a widely used cytotoxic drug that, after further metabolism, produces fluorinated ribonucleotides and deoxyribonucleotides, inhibits DNA and protein synthesis, and has multiple effects such as inhibiting candida and candida neoplasm infection and producies cytotoxicity to cancer cells[1][2][3].

In Vitro	Flucytosine transfected CD-gene hMSC (CD-hMSC) effectively converts 5-FC into 5-FU, showing anti-cancer therapeutic potential[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Flucytosine (500 mg/kg/ day, intravenous injection for 7 days) can effectively reduce tumor volume and weight in CD-hMSC mice[2]. Flucytosine (50, 75 mg/kg/ day, gavage, 3-30 days) combines with itraconazole (HY-17514) can effectively inhibit cryptococcus infection in hamsters[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	CD-hMSC mice[2]
Dosage:	500 mg/kg
Administration:	i.v. for 7 days
Result:	Inhibited tumor volume and bodyweight.

REFERENCES

[1]. You MH, et al. Cytosine deaminase-producing human mesenchymal stem cells mediate an antitumor effect in a mouse xenograft model. J Gastroenterol Hepatol. 2009 Aug;24(8):1393-400.

[2]. Iovannitti C, et al. Itraconazole and flucytosine+itraconazole combination in the treatment of experimental cryptococcosis in hamsters. Mycoses. 1995 Nov-Dec;38(11-12):449-52.

[3]. Vermes A, et al. Flucytosine: a review of its pharmacology, clinical indications, pharmacokinetics, toxicity and drug interactions. J Antimicrob Chemother. 2000 Aug;46(2):171-9.

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