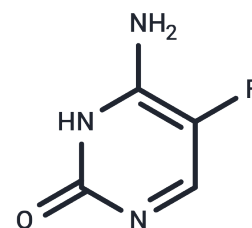


Flucytosine

Chemical Properties

CAS No. :	2022-85-7
Formula:	C ₄ H ₄ FN ₃ O
Molecular Weight:	129.09
Appearance:	no data available
Storage:	store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Flucytosine (NSC 103805) is a pyrimidine compound and a fluorinated cytosine analog exhibiting antifungal activity.
Targets(IC50)	Antibiotic
In vitro	In A/JCr mice infected with <i>Cryptococcus neoformans</i> , the combined treatment of Flucytosine with monoclonal antibody 2H1 proved to be more effective than monotherapy, significantly reducing pulmonary colony formation.
In vivo	Lucytosine (≥ 1.25 mg/L) inhibits the growth of <i>C. neoformans</i> in Sabouraud glucose broth.
Kinase Assay	Microdilution method: The culture media used are RPMI 1640 with glutamine, without bicarbonate and phenol red, buffered with morpholinopropanesulfonic acid (MOPS) (0.165 M, pH 7.0). Two-fold serial dilutions of Flucytosine (0.06-64 μ g/mL) are prepared and dispensed in 50 μ L aliquot, in flat-bottom 96-well assay plates which are kept frozen at -70 °C in sealed plastic bags until used. The inoculum is prepared spectrophotometrically and standardized to a concentration of $1.0\text{--}5.0 \times 10^3$ cfu per mL. A 50 μ L volume of this suspension is used to inoculate each well containing 50 μ L of the double concentration of Flucytosine to be tested. Once inoculated, each well therefore contains 100 μ L of broth favoured over 200 μ L to facilitate the agitation of the plates prior to spectrophotometric reading. After an incubation period of 24 and 48 hours at 35 °C, the plates are agitated for 3 minutes at 900 r.p.m. with a shaker and the optical density of the growth in each well is determined with the use of an automatic plate reader set at 495 nm. The inhibitory concentration of IC50 is computed mathematically.
Cell Research	J774.16 murine macrophage-like cells plated on 96-well tissue culture plates are incubated with 500 u/mL murine recombinant gamma-interferon overnight at 37 °C. The medium is then replaced with fresh medium containing gamma-interferon 500 μ /mL, LPS 3 mg/L, <i>C. neoformans</i> cells 1.6×10^4 /well and Flucytosine 50 mg/L. Plates are incubated for 24 hours at 37 °C. Cell supernatants are collected and cells lysed by adding 0.1 mL sterile distilled water to each well, incubating at room temperature for 30 minutes, and then aspirating and ejecting the lysate with a pipette several times to complete cell disruption. Wells are rinsed with PBS (0.1 mL) and the cell supernatant, and lysate and rinse from each well are pooled, vortexed, diluted 1:50, vortexed again and spread on Sabouraud's dextrose agar for the cfu determination(Only for Reference)

Solubility Information

Solubility	DMSO: 3.85 mg/mL (29.79 mM), Sonication is recommended. H2O: 5 mg/mL (38.73 mM), Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/mL refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.1549 mL	0.7747 mL	1.5493 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.

Reference

St-Germain G. Mycoses, 2001, 44(1-2), 37-45.

Tsang C C, Tang J Y M, Chan K F, et al. Diversity of phenotypically non-dermatophyte, non-Aspergillus filamentous fungi causing nail infections: importance of accurate identification and antifungal susceptibility testing. Emerging Microbes & Infections. 2019, 8(1): 531-541

Wu X, Wang Z, Liang Z, et al. Pleiotropic role of CCR9/CCL25 signaling in adriamycin-induced cardiomyopathy. Journal of Advanced Research. 2024

Feldmesser M, et al. J Antimicrob Chemother, 1996, 37(3), 617-622.

Te Dorsthorst DT, et al. Antimicrob Agents Chemother, 2002, 46(9), 2982-21989.

Diversity and Antifungal Susceptibilities of Yeasts from Mangroves in Hong Kong, China-A One Health Aspect

Heidemann HT, et al. Antimicrob Agents Chemother, 1992, 36(12), 2670-2675.

Tsang C C, Tang J Y M, Chan K F, et al. Diversity of phenotypically non-dermatophyte, non-Aspergillus filamentous fungi causing nail infections: importance of accurate identification and antifungal susceptibility testing[]].

Emerging microbes & infections. 2019;8(1):531-541.

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