Tegafur

Cat. No.: HY-17400

CAS No.: 17902-23-7

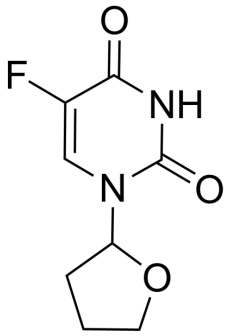
Molecular Formula: $C_8H_9FN_2O_3$

Molecular Weight: 200.17

Target: Nucleoside Antimetabolite/Analog

Pathway: Cell Cycle/DNA Damage

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 48 mg/mL (239.80 mM)
H_2O : ≥ 20 mg/mL (99.92 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.9958 mL	24.9788 mL	49.9575 mL
	5 mM	0.9992 mL	4.9958 mL	9.9915 mL
	10 mM	0.4996 mL	2.4979 mL	4.9958 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (12.49 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (12.49 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tegafur (FT 207; NSC 148958) is a chemotherapeutic 5-FU proagent used in the treatment of cancers; is a component of tegafur-uracil.

IC_{50} & Target

Nucleoside antimetabolite/analog

In Vitro

Tegafur is bioactivated to 5-FU by liver microsomal cytochrome P450 enzymes. 5-FU is subsequently converted into its active metabolites 5-fluoro-deoxyuridine-monophosphate (FdUMP) and 5-fluorouridine-triphosphate (FUTP) intracellularly;

these metabolites inhibit the enzyme thymidylate synthase and intercalate into RNA, resulting in decreased thymidine synthesis, reduced DNA synthesis, disrupted RNA function, and tumor cell cytotoxicity.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

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REFERENCES

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[2]. José L. Ariasa, et al. Engineering of an antitumor (core/shell) magnetic nanoformulation based on the chemotherapy agent ftorafur. Colloids and Surfaces A: Physicochemical and Engineering Aspects. 2011,384(1-3): 157-163.

[3]. Gabriel N. Hortobagyi, William Heim, Laura Hutchins, et al. A phase 2 study of a fixed combination of uracil and ftorafur (UFT) and leucovorin given orally in a 3-times-daily regimen to treat patients with recurrent metastatic breast cancer. Cancer. 2010, 116(6): 1440-1445.

[4]. K. Fujita, H. Nakayama, W. Ichikawa, et al. Pharmacokinetics of 5-Fluorouracil in Elderly Japanese Patients with Cancer Treated with S-1 (a Combination of Tegafur and Dihydropyrimidine Dehydrogenase Inhibitor 5-Chloro-2,4-dihydroxypyridine). Drug Metab Dispos. 2009 Jul;37(7):1375-7. doi: 10.1124/dmd.109.027052. Epub 2009 Apr 23.

[5]. Tegafur-uracil

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