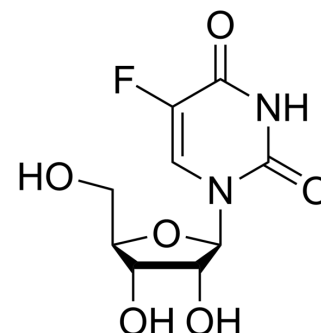


## 5-Fluorouridine

<b>Cat. No.:</b>	HY-107856
<b>CAS No.:</b>	316-46-1
<b>Molecular Formula:</b>	C <sub>9</sub> H <sub>11</sub> FN <sub>2</sub> O <sub>6</sub>
<b>Molecular Weight:</b>	262.19
<b>Target:</b>	DNA/RNA Synthesis; Apoptosis
<b>Pathway:</b>	Cell Cycle/DNA Damage; Apoptosis
<b>Storage:</b>	4°C, stored under nitrogen
	* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (381.40 mM)  
 H<sub>2</sub>O : 100 mg/mL (381.40 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.8140 mL	19.0701 mL	38.1403 mL
	5 mM	0.7628 mL	3.8140 mL	7.6281 mL
	10 mM	0.3814 mL	1.9070 mL	3.8140 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 110 mg/mL (419.54 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (7.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (7.93 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (7.93 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

5-Fluorouridine, a metabolite of [5-fluorouracil](#) (HY-90006), is a potent ribozyme self-cleavage inhibitor. 5-Fluorouridine incorporates into both total and poly A RNA and has antiproliferative activity. 5-Fluorouridine induces apoptosis<sup>[1][2][3]</sup>.

#### In Vitro

5-Fluorouridine (167 μM; 24-96 h) inhibits MKN45 cells and MKN28 cells in a time-dependent manner<sup>[1]</sup>.  
 75-Fluorouridine (10 μM; 24 h; HCT-116 cells) induces apoptosis and increases the percentage of apoptotic cells. 5-

Fluorouridine upregulates the expression of 33 genes, including a group of genes as growth factors, cytokines and chemokines (e.g. IL-3, IL -4, B-cell growth factor 1 and stem cell growth factor)<sup>[2]</sup>.  
5-Fluorouridine (10 µM; 8-24 h; HCT-116 cells) incorporates into both total and poly A RNA<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

5-Fluorouridine (567-1500 mg/kg; i.p.; daily, for 20 d) induce gastrointestinal toxicity in the mice<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male CBA/J mice (17-20 g; 6-8 weeks of age) <sup>[3]</sup>
Dosage:	Intraperitoneal injection; daily, 20 days
Administration:	567, 700, 900, 1100, 1300, and 1500 mg/kg
Result:	567, 700, 900, 1100, 1300, and 1500 mg/kg

## REFERENCES

[1]. Wu FL, et, al. Gelatinases-stimuli nanoparticles encapsulating 5-fluorouridine and 5-aza-2'-deoxycytidine enhance the sensitivity of gastric cancer cells to chemical therapeutics. *Cancer Lett.* 2015 Jul 10;363(1):7-16.

[2]. Schmittgen TD, et, al. Diverse gene expression pattern during 5-fluorouridine-induced apoptosis. *Int J Oncol.* 2005 Aug;27(2):297-306.

[3]. Houghton JA, et, al. Mechanism of induction of gastrointestinal toxicity in the mouse by 5-fluorouracil, 5-fluorouridine, and 5-fluoro-2'-deoxyuridine. *Cancer Res.* 1979 Jul;39(7 Pt 1):2406-13.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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