Doxifluridine

Cat. No.: HY-B0021

CAS No.: 3094-09-5

Molecular Formula: $C_9H_{11}FN_2O_5$

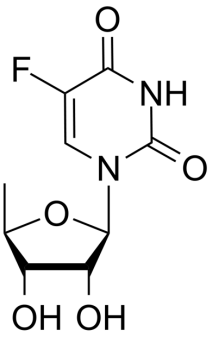
Molecular Weight: 246.19

Target: Thymidylate Synthase

Pathway: Apoptosis

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (406.19 mM)

DMF : 100 mg/mL (406.19 mM; Need ultrasonic)

H_2O : 20 mg/mL (81.24 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.0619 mL	20.3095 mL	40.6190 mL
5 mM	0.8124 mL	4.0619 mL	8.1238 mL
10 mM	0.4062 mL	2.0310 mL	4.0619 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 27.5 mg/mL (111.70 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Doxifluridine has anticancer activity. Doxifluidine is a 5-FU prodrug. Doxifluridine is a thymidine synthase inhibitor. Doxifluridine can enhance tumor inhibition by synergizing with a variety of drugs[1][2][3].

In Vitro

Doxifluridine (1-10 μM) inhibits angiogenesis by significantly inhibiting the expression of VEGF in FU-MMT-1 cells[1].

Doxifluridine (1-100 μM) slightly increases the expression of TSP-1 at low dose (1 μM) and inhibits the expression of TSP-1 at high dose (100 μM) in FU-MMT-1 cells[1].

Doxifluridine (100 μM) inhibits cell proliferation in HUVEC cells[1].

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

In Vivo	Doxifluridine (61.55 mg/kg; Intragastric administration; Single dose) has anticancer activity in BALB/cA Jcl-nu mice, and can significantly enhance anticancer activity in combination with TNP-470 (HY-101932)[1]. Doxifluridine (200 mg/kg; Intraperitoneal injection; Single dose) can inhibit thymidine synthase activity in DMH-induced colon cancer mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nano Lett. 2023 Oct 25;23(20):9437-9444.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

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REFERENCES

[1]. Naganuma Y, et al. Metronomic doxifluridine chemotherapy combined with the anti-angiogenic agent TNP-470 inhibits the growth of human uterine carcinosarcoma xenografts. Cancer Sci. 2011 Aug;102(8):1545-52.

[2]. Berne M, et al. Inhibition of thymidylate synthase after administration of doxifluridine in a transplantable colon carcinoma in the rat. Cancer Invest. 1988;6(4):377-83.

[3]. Di Bartolomeo M, et al. Integrated treatment with doxifluridine and radiotherapy in recurrent or primary unresectable rectal cancer. A feasibility study. Tumori. 1999 May-Jun;85(3):211-3.

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