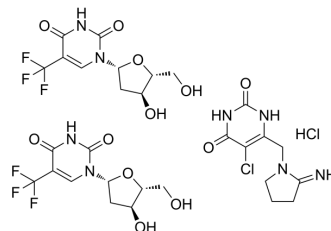


Trifluridine/tipiracil hydrochloride mixture

Cat. No.:	HY-16478
CAS No.:	733030-01-8
Molecular Formula:	$C_{10}H_{11}F_3N_2O_5 \cdot 1/2 C_9H_{11}ClN_4O_2 \cdot 1/2 HCl$
Molecular Weight:	435.76
Target:	Nucleoside Antimetabolite/Analog; Thymidylate Synthase
Pathway:	Cell Cycle/DNA Damage; Apoptosis
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (229.48 mM; Need ultrasonic)
 DMF : 20 mg/mL (45.90 mM; Need ultrasonic)
 DMSO : 2.34 mg/mL (5.37 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.2948 mL	11.4742 mL	22.9484 mL
	5 mM	0.4590 mL	2.2948 mL	4.5897 mL
	10 mM	0.2295 mL	1.1474 mL	2.2948 mL

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

In Vivo

- Add each solvent one by one: Saline
Solubility: 100 mg/mL (229.48 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: PBS
Solubility: 50 mg/mL (114.74 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Trifluridine/tipiracil hydrochloride mixture (TAS-102) is a potent and orally active nucleoside antitumor agent. The composition of Trifluridine/tipiracil hydrochloride mixture (TAS-102) is a 1:0.5 mixture (on a molar basis) of alpha, alpha, alpha-tri-fluorothymidine (FTD) and thymidine phosphorylase inhibitor (TPI). Trifluridine/tipiracil hydrochloride mixture (TAS-102) shows the antitumor activity mainly via the inhibition of thymidylate synthase (TS) and incorporation into DNA^{[1][2]}.

In Vivo

Trifluridine/tipiracil hydrochloride mixture (150 mg/kg/day; p.o.; twice a day for 14 days) prevents body weight loss and reduces the relative tumor volume in colorectal cancer and gastric cancer mice models^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male nude mice bearing KM12C, KM12C/5-FU, DLD-1, DLD-1/5-FU, and SC-2 cells ^[2]
Dosage:	150 mg/kg/day
Administration:	p.o.; twice a day for 14 days
Result:	Prevented body weight loss and reduced the relative tumor volume in colorectal cancer and gastric cancer mice models.

CUSTOMER VALIDATION

- Am J Cancer Res. 2020 Nov 1;10(11):3752-3764.

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REFERENCES

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- [2]. Suzuki N, Nakagawa F, Takechi T. Trifluridine/tipiracil increases survival rates in peritoneal dissemination mouse models of human colorectal and gastric cancer [published correction appears in *Oncol Lett.* 2021 Jul;22(1):511]. *Oncol Lett.* 2017;14(1):639-646.
- [3]. Emura T, et al. A novel antimetabolite, TAS-102 retains its effect on FU-related resistant cancer cells. *Int J Mol Med.* 2004;13(4):545-549.
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Caution: Product has not been fully validated for medical applications. For research use only.

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