上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话：021-61312973　　传真：021-55068248
网址：www.shyuanye.com
邮箱：shyysw@sina.com

产品名称：TAS-102
产品别名：Trifluridine/tipiracil hydrochloride mixture

生物活性：

Description	Trifluridine-tipiracil hydrochloride mixture (TAS-102) is a novel oral combination drug that consists of an antineoplastic thymidine-based nucleoside analog, trifluorothymidine, and a potent thymidine phosphorylase inhibitor, tipiracil, in a 1:0.5 molar ratio.
In Vitro	Trifluridine-tipiracil hydrochloride mixture (TAS-102), a novel antimetabolite combination chemotherapy agent, consists of a rediscovered antimetabolite agent, trifluorothymidine (trifluridine, FTD) combined with the metabolic inhibitor of thymidine phosphorylase, tipiracil (TPI), in a 1:0.5 molar ratio[1]. FTD is the active antitumor component of Trifluridine-tipiracil hydrochloride mixture (TAS-102); its monophosphate form inhibits thymidylate synthase, and its triphosphate form is incorporated into DNA in tumor cells. The incorporation into DNA is known to have antitumor effects, since the inhibition of thymidylate synthase caused by oral FTD rapidly disappears after the drug's elimination. When FTD is administered orally, it is rapidly degraded to its inactive form by thymidine phosphorylase in the intestines and liver (first-pass effect). Consequently, TPI is synthesized to maintain adequate plasma concentrations of orally-administered FTD and to potentiate the antitumor activity of FTD[2].
In Vivo	Trifluridine-tipiracil hydrochloride mixture (TAS-102) and CPT-11 is a promising treatment option for colorectal or gastric cancer. Trifluridine-tipiracil hydrochloride mixture monotherapy has a significant antitumor activity against KM12C/5-FUFU-bearing nude mice. The combination-treated (CPT-11-and Trifluridine-tipiracil hydrochloride mixture) group is significantly superior to monotherapy[2]. FTD systemic exposure in plasma increaseS dose-dependently. The tumor growth rate and body weight gain decreaseS dose-dependently, but FTD concentrations in the DNA of tumor tissues and white blood cells increases dose-dependently. FTD inhibits colony formation of bone marrow cells in a concentration-dependent manner[3].
Solvent&Solubility	***In Vitro:*** **H_2O : 50 mg/mL** (**114.74 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 / Mass / Concentration	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

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

[1]. Uboha N, et al. TAS-102: a novel antimetabolite for the 21st century. Future Oncol. 2016 Jan;12(2):153-63.

References	[2]. Nukatsuka M, et al. Efficacy of combination chemotherapy using a novel oral chemotherapeutic agent, TAS-102, with irinotecan hydrochloride on human colorectal and gastric cancer xenografts. Anticancer Res. 2015 Mar;35(3):1437-45. [3]. Yamashita F, et al. Exposure-dependent incorporation of trifluridine into DNA of tumors and white blood cells in tumor-bearing mouse. Cancer Chemother Pharmacol. 2015 Aug;76(2):325-33.

实验参考：

Animal Administration	Mice: Trifluridine-tipiracil hydrochloride mixture is prepared by mixing FTD and TPI at a molar ratio of 1:0.5 in 0.5% HPMC. The dose of TAS-102 is expressed according to the amount of FTD. Trifluridine-tipiracil hydrochloride mixture is administered orally from day 1 to 14, twice a day, with approximately a 6-hour interval at the reported effective dose (150 mg/kg/day) (7,11). For the control group, 0.5% HPMC alone is administered at 10 ml/kg according to a similar schedule. CPT-11 (40 mg/kg) is administered intravenously on days 1 and 8, once a day. The tumor diameters are measured twice a week, and the tumor volume is estimated[2].
References	[1]. Uboha N, et al. TAS-102: a novel antimetabolite for the 21st century. Future Oncol. 2016 Jan;12(2):153-63. [2]. Nukatsuka M, et al. Efficacy of combination chemotherapy using a novel oral chemotherapeutic agent, TAS-102, with irinotecan hydrochloride on human colorectal and gastric cancer xenografts. Anticancer Res. 2015 Mar;35(3):1437-45. [3]. Yamashita F, et al. Exposure-dependent incorporation of trifluridine into DNA of tumors and white blood cells in tumor-bearing mouse. Cancer Chemother Pharmacol. 2015 Aug;76(2):325-33.