

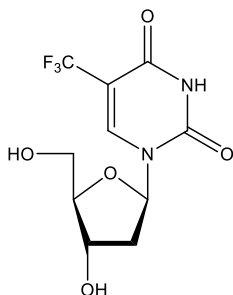
**Catalog # 10-1283**

**Trifluorothymidine**

CAS# 70-00-8

$\alpha,\alpha,\alpha$ -Trifluorothymidine; Trifluorothymine deoxyriboside; Trifluridine; TFT  
2'-Deoxy-5-trifluoromethyluridine

Lot # X105483



An analog of thymidine which inhibits thymidylate synthase possesses antiviral and anticancer activity.<sup>1,2</sup> After phosphorylation by thymidine kinase, it is incorporated into DNA where it induces DNA-damage and interferes with repair enzymes.<sup>3</sup> Enhances frame shift insertion and deletion in CRISPR genome editing in pluripotent stem cells.<sup>4</sup>

- 1) Bijnsdorp *et al.* (2010), *Differential activation of cell death and autophagy results in an increased cytotoxic potential for trifluorothymidine compared to 5-fluorouracil in colon cancer cells*; *Int.J. Cancer*, **126** 2457
- 2) Temmink *et al.* (2010), *Trifluorothymidine resistance is associated with decreased thymidine kinase and equilibrative nucleoside transporter expression or increased secretory phospholipase A2*; *Mol. Cancer Ther.*, **9** 1047
- 3) Suzuki *et al.* (2011), *Mode of action of trifluorothymidine (TFT) against DNA replication and repair enzymes*; *Int. J. Oncol.*, **39** 263
- 4) Yu *et al.* (2015), *Small molecules enhance CRISPR genome editing in pluripotent stem cells*; *Cell Stem Cell*, **16** 142

**PHYSICAL DATA**

Molecular Weight:	296.20
Molecular Formula:	C <sub>10</sub> H <sub>11</sub> F <sub>3</sub> N <sub>2</sub> O <sub>5</sub>
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 25 mg/ml) or Water (up to 14 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or distilled water may be stored at -20°C for up to 1 month.

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