

# PRODUCT INFORMATION



## 2',3'-Dideoxythymidine-5'-O-triphosphate (sodium salt)

Item No. 38376

**Formal Name:** ((2S,5R)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl triphosphate

**Synonym:** ddTTP

**MF:** C<sub>10</sub>H<sub>13</sub>N<sub>2</sub>O<sub>13</sub>P<sub>3</sub> • 4Na

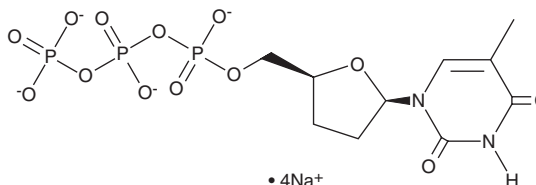
**FW:** 554.1

**Purity:** ≥95%

**Supplied as:** A solution in water

**Storage:** -80°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

2',3'-Dideoxythymidine-5'-O-triphosphate (ddTTP) is a reverse transcriptase inhibitor ( $K_{i,s} = 40$  and  $25$  nM for the visna virus and HIV-1 enzymes, respectively).<sup>1,2</sup> It also inhibits DNA polymerase  $\gamma$  ( $K_i = 400$  nM for the bovine enzyme).<sup>3</sup> ddTTP has been used to terminate chain extension produced by the *Taq* polymerase in PCR assays.<sup>4</sup>

### References

1. Frank, K.B., McKernan, P.A., Smith, R.A., *et al.* Visna virus as an in vitro model for human immunodeficiency virus and inhibition by ribavirin, phosphonoformate, and 2',3'-dideoxynucleosides. *Antimicrob. Agents Chemother.* **31(9)**, 1369-1374 (1987).
2. Ueno, T., Shirasaka, T., and Mitsuya, H. Enzymatic characterization of human immunodeficiency virus type 1 reverse transcriptase resistant to multiple 2',3'-dideoxynucleoside 5'-triphosphates. *J. Biol. Chem.* **270(40)**, 23605-23611 (1995).
3. Li, Y., Mitaxov, V., and Waksman, G. Structure-based design of *Taq* DNA polymerases with improved properties of dideoxynucleotide incorporation. *Proc. Natl. Acad. Sci. USA* **96(17)**, 9491-9496 (1999).
4. Izuta, S., Saneyoshi, T., Sakurai, T., *et al.* The 5'-triphosphates of 3'-azido-3'-deoxythymidine and 2', 3'-dideoxynucleosides inhibit DNA polymerase  $\gamma$  by different mechanisms. *Biochim. Biophys. Res. Commun.* **179(2)**, 776-783 (1991).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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