

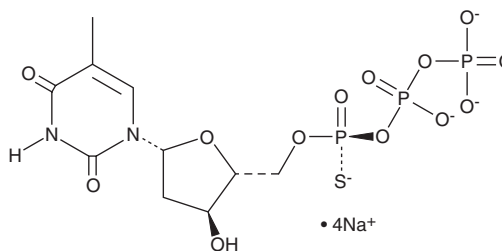
# PRODUCT INFORMATION



## Sp-Thymidine-5'-O-(1-thiotriphosphate) (sodium salt)

Item No. 38690

<b>Formal Name:</b>	thymidine, 5'→P''-ester with [P''(S)]-thiotriphosphoric acid ((HO)2P(O)OP(O)(OH)OP(O)(OH)(SH)), tetrasodium salt
<b>Synonym:</b>	Sp-TTP-α-S
<b>MF:</b>	C <sub>10</sub> H <sub>13</sub> N <sub>2</sub> O <sub>13</sub> P <sub>3</sub> S • 4Na
<b>FW:</b>	586.2
<b>Purity:</b>	≥95%
<b>Supplied as:</b>	A solution in water
<b>Storage:</b>	-80°C
<b>Stability:</b>	≥4 years



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

### Description

Sp-Thymidine-5'-O-(1-thiotriphosphate) (Sp-TTP-α-S) is an isomer of the sulfur-containing nucleotide derivative TTP-α-S.<sup>1</sup> It binds to HIV-1 reverse transcriptase ( $K_{dS}$  = 2.88, 4.23, and 20.21 μM in the presence of magnesium, manganate, and cobalt, respectively). Sp-TTP-α-S inhibits deoxynucleoside triphosphate triphosphohydrolase SAMHD1 ( $K_i$  = 46 nM).<sup>2</sup>

### References

1. Radzio, J. and Sluis-Cremer, N. Stereo-selectivity of HIV-1 reverse transcriptase toward isomers of thymidine-5'-O-1-thiotriphosphate. *Protein Sci.* **14**(7), 1929-1933 (2005).
2. Morris, E.R., Kunzelmann, S., Caswell, S.J., *et al.* Probing the catalytic mechanism and inhibition of SAMHD1 using the differential properties of R<sub>p</sub>- and S<sub>p</sub>-dNTPαS diastereomers. *Biochemistry* **60**(21), 1682-1698 (2021).

#### 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.

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