

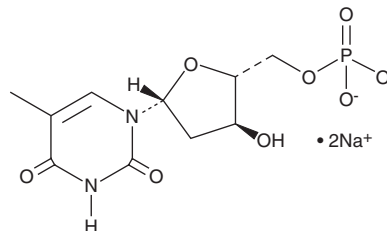
# PRODUCT INFORMATION



## 5'-Thymidylic Acid (sodium salt)

Item No. 33549

**CAS Registry No.:** 33430-62-5  
**Synonyms:** Deoxythymidine-5'-monophosphate,  
Thymidine monophosphate,  
Thymidine-5'-monophosphate, dTMP  
**MF:** C<sub>10</sub>H<sub>13</sub>N<sub>2</sub>O<sub>8</sub>P • 2Na  
**FW:** 366.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 268 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

5'-Thymidylic acid (dTMP) (sodium salt) is supplied as a crystalline solid. Aqueous solutions of dTMP (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. dTMP (sodium salt) is slightly soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

### Description

5'-Thymidylic acid (dTMP) is a deoxyribonucleotide<sup>1</sup> It is formed *via* methylation of dUMP by thymidylate synthase. It is further phosphorylated by thymidine kinase (TK) to form dTDP during nucleic acid synthesis.<sup>2</sup> Oral administration of dTMP in combination with dCMP increases lifespan in a *Tk2 H126N* knock-in mouse model of TK2 deficiency.<sup>3</sup>

### References

1. Berg, J.M., Tymoczko, J.L., and Stryer, L. Nucleotide Biosynthesis. *Biochemistry*, 5<sup>th</sup> edition, W.H. Freeman (2002).
2. Lee, L.S. and Cheng, Y. Human thymidylate kinase. Purification, characterization, and kinetic behavior of the thymidylate kinase derived from chronic myelocytic leukemia. *J. Biol. Chem.* **252(16)**, 5686-5691 (1977).
3. Lopez-Gomez, C., Levy, R.J., Sanchez-Quintero, M.J., *et al.* Deoxycytidine and deoxythymidine treatment for thymidine kinase 2 deficiency. *Ann. Neurol.* **81(5)**, 641-652 (2017).

#### 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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