

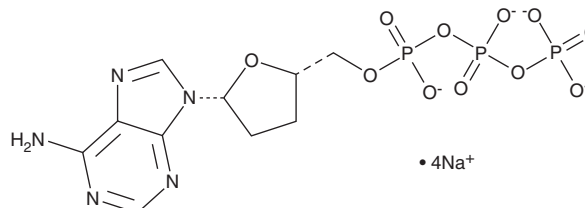
# PRODUCT INFORMATION



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

Item No. 38373

**CAS Registry No.:** 99827-72-2  
**Formal Name:** 2',3'-dideoxy-adenosine 5'-(tetrahydrogen triphosphate), tetrasodium salt  
**Synonyms:** ddATP, Dideoxyadenosine-5'-triphosphate  
**MF:** C<sub>10</sub>H<sub>12</sub>N<sub>5</sub>O<sub>11</sub>P<sub>3</sub> • 4Na  
**FW:** 563.1  
**Purity:** ≥95%  
**Supplied as:** A solution in water  
**Storage:** -80°C  
**Stability:** ≥2 years



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

### Description

2',3'-Dideoxyadenosine-5'-O-triphosphate is a reverse transcriptase inhibitor ( $K_i$ s = 20 and 37 nM for the HIV and visna virus enzymes, respectively) and an active metabolite of 2',3'-dideoxyadenosine (ddA; Item No. 36662) and didanosine (ddI; Item No. 23715).<sup>1-3</sup> It is formed from ddI via a 2',3'-dideoxyAMP intermediate by phosphoribosyl pyrophosphate synthase (PRS).<sup>3</sup> It inhibits DNA polymerase isolated from mouse Ehrlich ascites tumor cells in the presence of ATP or GDP ( $K_i$ s = 60 and 18  $\mu$ M, respectively).<sup>4</sup> 2',3'-Dideoxyadenosine-5'-O-triphosphate and other dideoxynucleoside 5'-triphosphates are commonly used to terminate chain extension by *Taq* polymerases in PCR assays.<sup>5</sup>

### References

1. Boyle, N.A., Rajwanshi, V.K., Prhavic, M., *et al.* Synthesis of 2',3'-dideoxynucleoside 5'- $\alpha$ -P-borano- $\beta$ , $\gamma$ -(difluoromethylene)triphosphates and their inhibition of HIV-1 reverse transcriptase. *J. Med. Chem.* **48(7)**, 2695-2700 (2005).
2. 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).
3. Kewn, S., Hoggard, P.G., Henry-Mowatt, J.S., *et al.* Intracellular activation of 2',3'-dideoxyinosine and drug interactions in vitro. *AIDS Res. Hum. Retroviruses* **15(9)**, 793-802 (1999).
4. Yagura, T., Kozu, T., and Seno, T. Mouse DNA polymerase accompanied by a novel RNA polymerase activity: Purification and partial characterization. *J. Biochem.* **91(2)**, 607-618 (1982).
5. 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).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 04/10/2023

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM