

5' Deadenylase

Cat. No. DA11101K

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1. Introduction

5' Deadenylase from yeast (*S. cerevisiae*) is a recombinant enzyme that hydrolyzes the 5'-5' pyrophosphate linkage present in an activated DNA (Ap-pDNA) or RNA (Ap-pRNA) molecule, releasing adenosine 5'-phosphate and a 5'-phosphorylated nucleic acid.¹ The enzyme has no detectable activity on primary transcripts, 5'-monophosphorylated RNA, or capped RNAs.

The enzyme is available in a 1,000-unit size at a concentration of 10 U/μl. The enzyme is supplied with a 10X Reaction Buffer.

2. Applications

- Deadenylation of the 5' end of DNA or RNA.
- Aprataxin-dependent DNA repair assays.¹

3. Product Specifications

Storage: Store only at -20°C in a freezer without a defrost cycle.

Storage Buffer: 50% glycerol containing 50 mM Tris-HCl (pH 7.5), 0.1 M NaCl, 0.1 mM EDTA, 1 mM DTT, and 0.1% Triton® X-100.

Unit Definition: One unit is defined as the amount of enzyme required to remove 10 pmol of AMP from a 5'-adenylated DNA 23-mer oligonucleotide in 10 minutes at 30°C.

5' Deadenylase 10X Reaction Buffer: 1 M Tris Acetate, pH 6.0, 50 mM MgCl₂.

Contaminating Activity Assays: 5' Deadenylase is free of detectable exonuclease, endonuclease, and RNase activities.

4. Example Reaction

Sterile water	variable
10X Reaction Buffer	2 μl
100 mM DTT	1 μl
5-50 pmol 5'-adenylated DNA or RNA	variable
5' Deadenylase (10 U/ul)	1-2 μl
Total volume	20 μl

Incubate at 30°C for 30-60 minutes.

5. References

1. Ahel, I. *et al.*, (2006) *Nature* **443**, 713.

6. Related Products

Tobacco Acid Pyrophosphatase

T81050	5 U/ μ l	50 Units
T19050	10 U/ μ l	50 Units
T19100	10 U/ μ l	100 Units
T19250	10 U/ μ l	250 Units
T19500	10 U/ μ l	500 Units

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