KACTUS

60 Hickory Drive
Waltham, MA 02451
United States

Tel: (617) 665-7333
support@kactusbio.us
kactusbio.com

E. coli Poly(A) Polymerase

Catalog #PLA-EE101

Product Component	Sizes
E.coli Poly(A) Polymerase (5U/µL)	100U, 500U
10X Poly(A) Polymerase Buffer	50µL, 500µL
ATP (10mM)	50µL, 500µL

Storage/Transportation Condition Store at -20°C ± 5°C for up to 24 months. Avoid repeated freeze/thaw cycles. Transport on dry ice.
Form Liquid
Source *E. coli* strain that carries the cloned Poly(A) Polymerase gene
Storage Buffer 20 mM Tris-HCl, 300 mM NaCl, 0.5 mM EDTA, 1 mM DTT, 0.15% Triton X-100, 50% Glycerol, pH 7.4
10X Poly(A) Polymerase Buffer 500 mM Tris-HCl, 2500 mM NaCl, 100 mM $MgCl_2$, pH 8.1
Concentration 5U/µL
Unit Definition One unit is defined as the amount of enzyme that will incorporate 1 nmol of AMP into RNA in 10 minutes at 37°C in a 20µL reaction system.

Product Description
Poly(A) Polymerase catalyzes the template-independent incorporation of adenine residues into the 3'-termini of RNA. ATP and Mg^{2+} are required for the reaction.

Quality Statement
This product is GMP-Ready, indicating that it is currently manufactured at industrial-grade and can be moved to GMP-Grade manufacturing standards as necessary.

Applications
- Poly(A) tailing of RNA for cloning or affinity purification.
- 3' labeling of RNA with ATP or Cordycepin
- Translation enhancement of RNA transferred into eukaryotic cells.

Recommended Protocol for Poly (A) Tailing of RNA
1. Make the reaction mixture according to the following table:

Reagent	Quantity
10X Poly (A) Polymerase Buffer	2 µL
RNA	1-10 µg
ATP (10 mM)	2 µL
Poly (A) Polymerase (5U/µL)	1 µL
Nuclease-free H2O	Up to 20 µL

2. Mix gently and incubate at 37 °C for 30 minutes. Incubation of 5 units of the enzyme with 1-10 µg RNA in a 20 µL reaction at 37°C for 30 minutes will result in a tail length of about 30 A bases.

Notes
1. RNA used for tailing reactions should be purified prior to use and resuspended in nuclease-free water.
2. Reaction could be terminated by addition of EDTA to 10 mM or directly proceeding to cleanup step.
3. The length of the poly (A) tail for each reaction varies. It depends on the molar concentration of the RNA 3'OH ends, reaction time, amount of enzyme and ATP concentration. Tail length can be modified by changing one or more of these factors.
4. For research use only.