**Applications:**
- Labeling of RNA with ATP or cordycepin
- Poly(A) tailing of RNA for cloning or affinity purification
- Enhances translation of RNA transferred into eukaryotic cells

**Unit Definition:** One unit is defined as the amount of enzyme that will incorporate 1 nmol of AMP into RNA in 20 μl volume in 10 minutes at 37°C.

**Quality Control Assays**

**RNAse Assay:** Incubation of a 10 μl reaction containing 5 units of *E. coli* Poly(A) Polymerase with 40 ng of RNA transcript for 2 hours at 37°C resulted in no detectable degradation of the RNA as determined by gel electrophoresis.

**DNA Exonuclease Activity:** Incubation of a 50 μl reaction containing 10 units of *E. coli* Poly(A) Polymerase with 1 μg of a mixture of single and double-stranded H*E. coli* DNA (200,000 cpm/μg) for 3 hours at 37°C resulted in < 0.1% of the total radioactivity.

**DNA Endonuclease Activity:** Incubation of a 50 μl reaction containing 10 units of *E. coli* Poly(A) Polymerase with 1 μg of φX174 RF I DNA for 3 hours at 37°C resulted in < 10% conversion to RFII as determined by agarose gel electrophoresis.

**References:**