Improve mRNA translation and stability with customizable poly(A) tailing

A-Plus™ Poly(A) Polymerase Tailing Kit

Product Intro

The A-Plus™ Poly(A) Polymerase Tailing Kit is for post-transcriptional poly(A) tail addition to RNAs, enabling *in vitro* tailing to lengths equal to or greater than those found in nature. The standard protocol produces a poly(A) tail length of ~150 bases on 60 µg of RNA. The protocol can be easily adjusted to obtain tail lengths greater than 300 bases which cannot be accomplished with co-transcriptional tailing methods.

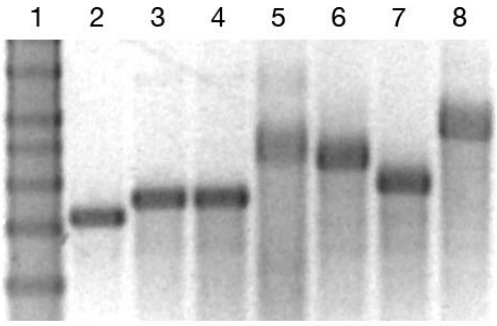
Benefits

- **Customizable:** Generate poly(A) tails longer than those in an encoded tail, even >300 bases.
- **Increased stability:** Longer poly(A) tails increase RNA stability and translation efficiency.
- **Efficient workflow:** Directly input capped RNA from ScriptCap™ reactions with no clean up.

Product Description

The A-Plus™ Poly(A) Polymerase Tailing Kit uses ATP as a substrate for template-independent, post-transcriptional addition of a poly(A) tail to the 3′-end of RNA. The standard protocol produces a poly(A) tail length of ~150-200 bases on 60 µg of RNA, but tail lengths of >300 bases are possible using a modified protocol. Polyadenylation increases the stability of mRNA in eukaryotic cells and enhances its ability to be translated after transfection or microinjection. Additionally, a poly(A) tail is useful to provide a priming site for first-strand cDNA synthesis in certain applications and can be used to end-label or quantify mRNA.

Performance Data



Lane 1: RNA MW markers
(sizes top to bottom: 4.0, 3.0, 2.5, 2.0, 1.5 and 1.0 kb).
Lane 2: non-poly(A) tailed RNA.
Lane 3: 60 µg RNA, 16 U enzyme, 30 min., 100 µl rxn volume.
Lane 4: 60 µg RNA, 6 U enzyme, 60 min., 100 µl rxn volume.
Lane 5: 1 µg RNA, 2 U enzyme, 60 min., 50 µl rxn volume.
Lane 6: 1 µg RNA, 2 U enzyme, 30 min., 10 µl rxn volume.
Lane 7: 10 µg RNA, 4 U enzyme, 60 min., 50 µl rxn volume.
Lane 8: 1 µg RNA, 2 U enzyme, 60 min., 10 µl rxn volume.

Figure 1. Different poly(A) tail lengths generated using the A-Plus™ Poly(A) Polymerase Tailing Kit. The standard reaction results in a poly(A) tail length of approximately 150 bases, but longer tail lengths can be achieved by adjusting enzyme concentration, incubation time, RNA input, and reaction volume.

Ordering information

Catalog Number	Description
C-PAP5104H	A-Plus™ Poly(A) Polymerase Tailing Kit (50 reactions)

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