

Clean up circular RNA preps with efficient RNase R digestion of linear RNA

RNase R

Product Intro

Ribonuclease R (RNase R) from *E. coli*, is a 3'→5' exoribonuclease that can digest linear RNA and Y-structure RNA while leaving circular RNA (circRNA) and lariat intron RNA intact. RNase R is a crucial component of circRNA clean up and is ideal for enriching circRNA in total cellular RNA preparations or removing linear RNA from *in vitro* circRNA preparations using RNA Ligase-based and self-splicing permuted intron-exon sequence (PIE method)-based methodologies.

Benefits:

- **Efficient circRNA clean up:** Ideal for enriching circRNA in total RNA preparations.
- **Targeted digestion:** Digests linear RNA and Y-structure RNA, leaving circRNA and lariat intron RNA intact.
- **Fast workflow:** 1 µg of RNase R digests 5 µg of linear RNA in just 30 minutes.
- **No protocol guesswork:** Full product manual with troubleshooting tips included.

Product Description

[Ribonuclease R](#) (RNase R) from *E. coli*, is a 3'→5' exoribonuclease that can digest linear RNA and Y-structure RNA but does not digest circular RNA (circRNA), lariat intron RNA, blunt-ended double-stranded RNA (dsRNA), dsRNA with 3'-overhangs <7 nt in length or single-stranded DNA. Highly structured linear cellular RNAs such as prokaryotic 23S and 16S ribosomal RNAs (rRNAs), small nuclear RNAs (snRNAs), transfer RNAs (tRNAs) and histone mRNAs are also not efficiently degraded by RNase R. This functionality makes RNase R ideal for enriching circRNA structures from total cellular RNA preparations or *in vitro* circRNA preparations. 1 µg of RNase R will digest 5 µg of linear RNA in 30 minutes at 37°C.

Performance Data

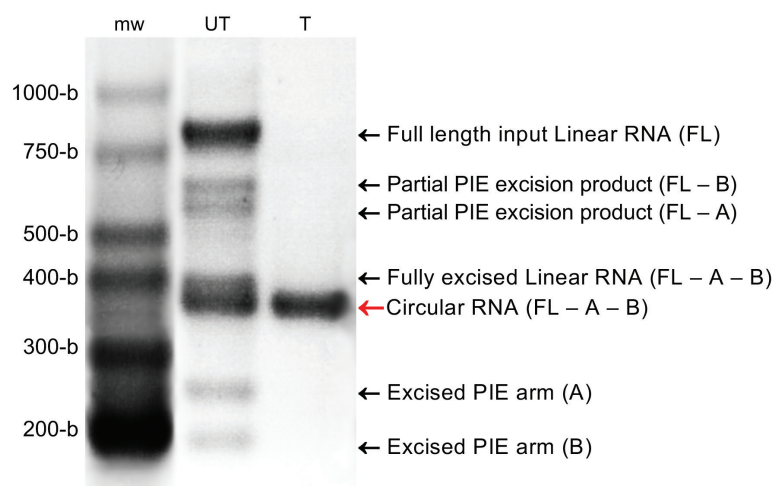


Figure 1. A PIE-method RNA circularization preparation was assessed on a denaturing PAGE gel before (UT= Untreated) and after (T= Treated) RNase R treatment. The untreated sample lane shows bands of various sizes corresponding to different length linear RNA subproducts from the PIE-method. Following RNase R treatment, the linear RNAs are digested, leaving only the circular RNA (red arrow) intact.

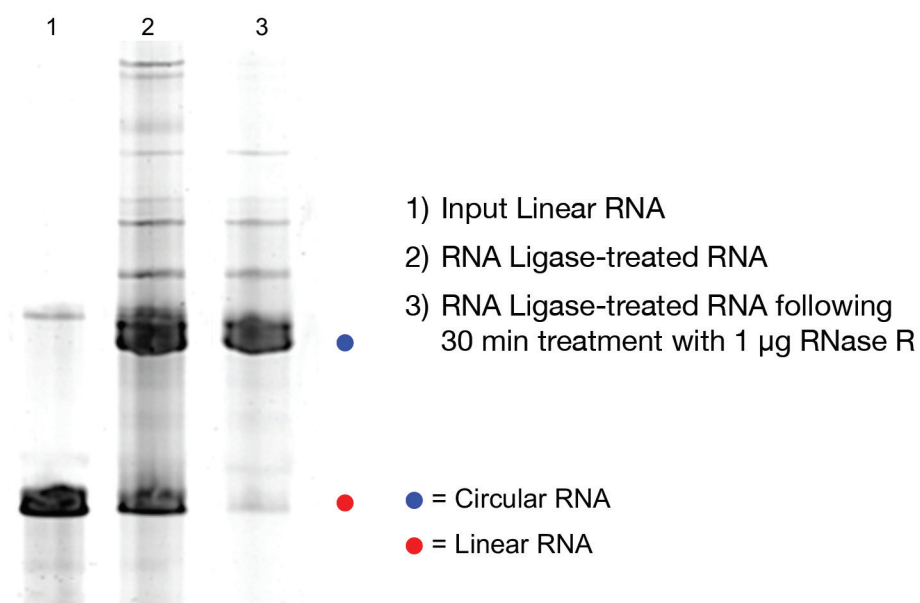


Figure 2. 5 μ g of linear RNA was circularized with RNA Ligase to produce circular RNA (lane 2). The RNA ligation reaction product was treated with 1 μ g of RNase R at 37°C for 30 minutes to enrich for circular RNAs (lane 3).

Ordering information

Catalog Number	Description
RRT250325	RNase R (25 μ g)

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