

XRN-1



**M0338S**



20 units 1,000 U/ml Lot: 0031608

RECOMBINANT Store at -20°C Exp: 8/18

**Description:** XRN-1 is highly processive 5' → 3' exoribonuclease, requiring 5' monophosphate. It also acts on 5' monophosphate ssDNA with greatly reduced efficiency. XRN-1 is not efficient in removing RNAs with recessed 5'P, like tRNA.

**Source:** Purified from *E. coli* carrying a plasmid overexpressing the yeast XRN-1 gene (1).

Supplied in: 20 mM Tris-HCl (pH 7.5), 500 mM NaCl, 0.1 mM EDTA, 2 mM dithiothreitol, 0.1% Triton X-100 and 50% glycerol.

**Applications:**

- Removal of RNA containing 5' monophosphate from an RNA mixture.

**Reagents Supplied with Enzyme:**  
10X NEBuffer 3.

**Reaction Conditions:** 1X NEBuffer 3.  
Incubate at 37°C.

**1X NEBuffer 3:**

100 mM NaCl  
50 mM Tris-HCl  
10 mM MgCl<sub>2</sub>  
1 mM dithiothreitol  
pH 7.9 @ 25°C

**Unit Definition:** One unit is defined as the amount of enzyme that digests 1 µg of phosphorylated yeast RNA in 60 minutes at 37°C.

**Quality Control Assays**

**Protein Purity Assay (SDS-PAGE):** XRN-1 is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

**Endonuclease Activity: dsDNA:** Incubation of 2 units of XRN-1 with 300 ng of supercoiled plasmid in 10 µl for 4 hours at 37°C produced less than 10% nicked or linear molecules as determined by agarose gel electrophoresis.

**Endonuclease Activity: ssDNA:** Incubation of 2 units of XRN-1 with 250 ng of M13 SSDNA in 10 µl for 4 hours at 37°C resulted in no detectable degradation as determined by agarose gel electrophoresis.

**Heat Inactivation:** 70°C for 10 minutes.

**Notes on use:** We recommend adding Murine RNase Inhibitor (NEB #M0314) in your reaction at 1 unit/µl to prevent non-specific RNA degradation.

**Reference:**

- Stevens, A. (1980) *J. Biol. Chem.* 255, 3080-3085

**Companion Products:**

Murine RNase Inhibitor  
#M0314S 3,000 units  
#M0314L 15,000 units

RNase Inhibitor  
#M0307S 2,000 units  
#M0307L 10,000 units



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

CERTIFICATE OF ANALYSIS

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