

XRN-1



1-800-632-7799
info@neb.com
www.neb.com



M0338S 002121214121

M0338S



20 units 1,000 U/ml Lot: 0021212

RECOMBINANT Store at -20°C Exp: 12/14

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. It does not cleave dsDNA, ssDNA and RNA which contain di, triphosphate, OH and capped 5' ends.

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 a 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 MgCl₂
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

RNase Assay: Incubation of 2 units of XRN-1 with 40 ng of RNA transcript in 10 µl for 2 hours at 37°C resulted in no detectable degradation of RNA as determined by denaturing PAGE analysis.

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

CERTIFICATE OF ANALYSIS

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#M0314L 15,000 units

RNase Inhibitor
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#M0307L 10,000 units

CERTIFICATE OF ANALYSIS