

FOR RESEARCH USE ONLY!

RNase H, *E.coli*

03/21

(Catalog # M1513-100; 100 µl (500 U); Store at -20 °C)

I. Introduction:

RNase H (Ribonuclease H), *E. coli* is an endoribonuclease that specifically hydrolyzes the phosphodiester bonds of RNA strands in RNA-DNA hybrids. This enzyme cleaves the 3'-O-P-bond of RNA and generates 3' hydroxyl and 5' phosphate products. RNase H does not digest single-stranded or double-stranded DNA and RNA.

II. Applications:

- Removal of mRNA prior to synthesis of second strand cDNA
- Removal of the poly(A) sequences from mRNA in the presence of oligo (dT)
- Directed cleavage of RNA

III. Concentration: 5 U/µl

IV. Product Source: Recombinant *E. coli*

V. Contents:

| Components | M1513-100 | Part Number |
|---|-----------|-------------|
| RNase H, <i>E. coli</i> (5 U/µl) | 100 µl | M1513-100-1 |
| 10X RNase H, <i>E. coli</i> Reaction Buffer | 500 µl | M1513-100-2 |

VI. Enzyme Storage Buffer:

20 mM Tris-HCl (pH 7.5), 100 mM KCl, 10 mM MgCl₂, 0.1 mM DTT, 0.1 mM EDTA, and 50% (v/v) Glycerol.

VII. Enzyme Unit Definition:

One unit is defined as the amount of RNase H, *E. coli* that is required to hydrolyze 1 nmol of the RNA in radiolabeled poly(rA):poly(dT), to acid-soluble ribonucleotides in a total reaction volume of 50 µl in 20 min at 37 °C in 1X RNase H, *E. coli* Reaction Buffer with 10 nmol radiolabeled poly(rA) and 12.5 µg poly(dT).

VIII. Shipping and Storage Conditions:

Store all components at -20°C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance.

IX. 10X RNase H, *E. coli* Reaction Buffer Components:

500 mM Tris-HCl, 1000 mM NaCl, 100 mM MgCl₂, pH 7.5

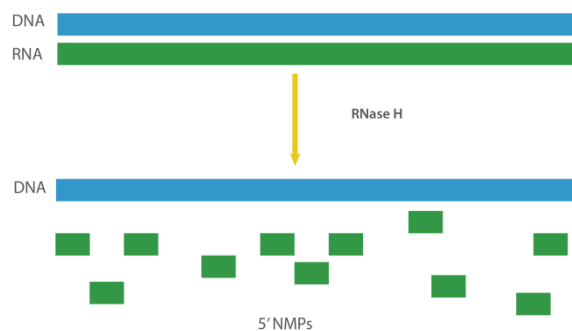
X. Reaction Conditions:

Use 1X RNase H, *E. coli* Reaction Buffer and incubate at 37 °C (activity at 30 °C is ~90%).

Note: This product is not suitable for NGS or second strand cDNA synthesis applications.

XI. Heat Inactivation:

Incubate at 65°C for 20 min.



XII. Related Products:

| BioVision Product Name | Cat. No. | Sizes |
|---------------------------------------|----------|--------------|
| <i>E. coli</i> DNA Ligase | M1217 | 100 µl |
| Link-FAST™ 5 Minutes DNA Ligation Kit | K902 | 50 ligations |
| ExpressTaq™ DNA Polymerase | M1504 | 400 Rxns |
| HiFidelity™ DNA Polymerase | M1505 | 400 Rxns |
| FireTaq™ DNA Polymerase | M1506 | 400 Rxns |
| T4 DNA Ligase (5 u/ µl) | 9101 | 250 Units |

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|--------------------------------|-------|--------|
| T4 RNA Ligase 1 (ssRNA Ligase) | M1218 | 100 µl |
| T4 RNA Ligase 2 (dsRNA Ligase) | M1219 | 100 µl |
| T4 RNA Ligase 2 (Truncated) | M1220 | 100 µl |

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