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Ribonuclease H, *E. coli*

Cat. Nos. R52250 and R0601K

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1. Introduction

Ribonuclease H (RNase H) from *E. coli* specifically degrades only the RNA strand of an RNA: DNA hybrid, leaving the DNA strand and any unhybridized RNA intact. RNase H is specially purified for diagnostic probe research and other applications, including:

- Elimination of RNA prior to second-strand cDNA synthesis.[1]
- Removal of poly(A) tails from messenger RNA hybridized to oligo(dT).[2]
- Oligodeoxyribonucleotide-directed site-specific cleavage of RNA.[3]
- Specific destruction of hybrid-arrested mRNAs for translation experiments.
- Diagnostic assays using NASBA® transcription-based amplification methods.[4]
- Diagnostic assays based on the Cycling Probe Technology*.[5]
- Template-dependent probe technologies.

RNase H (*E. coli*) is available in 250-Unit and 1,000-Unit sizes at a concentration of 10 U/µl.

**Covered by a U.S. Patent issued to ID Biomedical Vancouver, British Columbia, Canada.*

2. Product Specifications

Storage: Store only at –20°C in a freezer without a defrost cycle.

Storage Buffer: RNase H is supplied in a 50% glycerol solution containing 50 mM Tris-HCl (pH 7.5), 100 mM NaCl, 1.0 mM dithiothreitol, 0.1% Triton® X-100, and 0.1 mM EDTA.

Unit Definition: One unit of RNase H results in the acid-solubilization of one nmol of [^{3}H]-polyadenylic acid in the presence of an equimolar concentration of polythymidylic acid in 20 minutes at 37°C.

Activity Assay: The activity assay is performed in a reaction containing 500 µM each of polythymidylic and polyadenylic acids, 50 mM Tris-HCl (pH 7.5), 100 mM NaCl, and 10 mM $MgCl_2$.

Contaminating Activity Assays: RNase H is free of detectable DNA exo- and endonuclease, and non-RNase H RNase activities.

3. Related Products

The following products are also available:

- MMLV Reverse Transcriptase
- MMLV High Performance Reverse Transcriptase
- MonsterScript™ Reverse Transcriptase
- Hybridase™ Thermostable RNase H
- DNA Polymerase I, *E. coli*

4. References

1. Gubler, U. (1987) *Meth. Enzymol.* **152**, 330.
2. Vournakis, J.N. *et al.*, (1975) *Proc. Natl. Acad. Sci. USA* **72**, 2959.
3. Donis-Keller, H. (1979) *Nucl. Acids Res.* **7**, 179.
4. Guatelli, J.C. *et al.*, (1990) *Proc. Natl. Acad. Sci. USA* **87**, 1874.
5. Bekkaoui, F. *et al.*, (1996) *BioTechniques* **20**, 240.

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