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RNase R

1 Components

Component	HY-KE7055-500 U
RNase R	500 U
10× RNase R Reaction Buffer	500 µL

2 Introduction

RNase R is a magnesium ion-dependent 3′-5′ exoribonuclease that can efficiently degrade most linear RNA molecules. However, there are also the following situations that cannot be digested by this enzyme: 1) Lariat or circular structure RNA; 2) Double-stranded RNA with a 3′ protruding end of less than 7 nucleotides; 3) Some RNAs with complex structures.

RNase R can increase the abundance of circular RNA by degrading linear RNA in mixed RNA, thereby enriching circular RNA.

3 Properties

Source	*E.coli*
Buffer	50 mM Tris-HCl, 200 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.1 % TritonX-100, 50%, pH 7.5
Enzyme activity	≥ 20 U/µL
Unit Definition	One unit refers to the amount of enzyme required to convert 1 µg poly(A) into acid-soluble nucleotides under incubation conditions of 20 mM Tris-HCl, 100 mM KCl, 0.1 mM $MgCl_2$, pH 8.0, and 37°C for 10 min.

4 General Protocol

1. Prepare the reaction system according to the table below:

Components	Volume
RNA	1-5 µg
10× RNase R Reaction Buffer	2 µL
RNase R	2-5 U/µg RNA
H_2O (Nuclease-free)	To 20 µL

2. Incubate at 37°C for 10-30 min.

3. After the reaction is completed, incubate at 65°C for 20 minutes to inactivate RNase R.

Note: To prevent RNA degradation, RNase Inhibitor can be added to the reaction system to a final concentration of 1-2 U/μL.

5 Storage

-20°C, 1 year

6 Precautions

1. Avoid repeated freezing and thawing.

2. This product is for R&D use only, not for drug, household, or other uses.

3. For your safety and health, please wear a lab coat and disposable gloves to operate.