PRODUCT INFORMATION

RNase R

v. 240501

Catalog number	C09011-500U
Package & Component	Cat. / Name / Amount C09011-500U: RNase R (20 U/ μL) — 500 U C09011-500U: 10X Reaction buffer — 500 μL
Description	Ribonuclease R (RNase R), derived from E. coli, is a magnesium-dependent exoribonuclease operating in a 3'→5' direction. Its primary function is to degrade linear RNAs while sparing lariat or circular RNA structures. Most cellular RNAs undergo complete digestion by RNase R, with exceptions such as tRNAs, 5S RNA, and intron lariats. RNase R effectively breaks down linear and Y-structured RNAs but does not affect lariats or circular RNAs. This property makes it useful for selectively enriching circular RNAs, which can be employed in protein production or intronic cDNA library construction.
Source	Escherichia coli
Concentration	20 U/ μL
Purity	>95% as determined by SDS-PAGE analysis.
Form	Liquid
Unit Definition	One unit of RNase R converts 1 μg of poly(A) into acid-soluble nucleotides in 10 minutes at 37 °C under standard assay conditions.
Storage Buffer	RNase R is supplied in a 50% glycerol solution containing 50 mM Tris-HCl (pH 7.5), 100 mM NaCl, 0.1 mM EDTA, 1 mM DTT, and 0.1% Triton® X-100.
Stability & Storage	This product is stable after storage at: ● -20°C for -80°Clong-term storage under sterile conditions. Avoid repeated free-thaw cycles.
Notes	1. RNase R activity is optimal in the presence of low magnesium concentrations ranging from 0.1 to 1.0 mM. However, the effectiveness of RNase R can be hindered by low EDTA levels in RNA substrate solutions. To mitigate this negative impact, additional $MgCl_2$ can be added, up to a final concentration of 1 mM, to counteract the presence of EDTA in the substrate. 2. The enzyme exhibits its best performance at a temperature of 37°C.

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