

Murine RNase Inhibitor

R301



Version 21.1

Product Description

Murine RNase Inhibitor is mouse-source recombinant protein expressed in *E.coli*. It can inhibit the activity of RNase A, B or C in a non-competitive way, protecting RNA from degradation. Murine RNase Inhibitor is a thermo-stable RNase inhibitor. It still has enzyme activity when using thermo-stable reverse transcriptase. It is compatible with various commercialized reverse transcriptase and DNA polymerase. Compared with human-source RNase inhibitor, mouse-source RNase inhibitor doesn't contain 2 oxidation-sensitive Cys. And therefore, it has a higher antioxidant activity and is more suitable for high-DTT-sensitive experiments (i.e. qPCR).

Components

Components	R301-01 2,000 U	R301-02 10,000 U	R301-03 20,000 U
Murine RNase Inhibitor (40 U/μl)	50 μl	250 μl	500 μl

Storage

Store at -30 ~ -15°C and transport at ≤0°C.

Application

It can be used to protect RNA from degradation.

- 1st strand cDNA synthesis in RT-PCR, PCR and qPCR.
- In vitro reverse transcription/translation.
- RNA isolation and purification.
- RNase protection assay.

This product won't interfere with other enzymes during application.

Source

It is purified from *E.coli*.

Unit Definition

One unit (U) is defined as the enzyme needed for inhibiting 50% activity of 5 ng RNase A.

The activity of RNase A is detected by quantifying the hydrolysis of Cyclic 2', 3'-CMP to 3'-CMP.

Notes

1. The reaction temperature is 25 ~ 55°C. The RNase Inhibitor will be inactivated at temperature ≥65°C.
2. Murine RNase Inhibitor can inhibit RNase activity under a broad spectrum of pH (pH 5.0 - 9.0). The highest inhibitory activity is obtained at pH 7.0 - 8.0.
3. It can be inactivated by bubbling or stirring intensely (i.e. Vortexing).
4. No inhibitory activity for RNase H and RNase T1.

Experiment Process

1. Mix the following components in a RNase-free centrifuge tube and mix gently:

RNase-free ddH ₂ O	to 20 μl
5 × HiScript Buffer	4 μl
Oligo (dT) ₁₈ (50 μM)	1 μl
dNTP Mix (10 mM each)	1 μl
Murine RNase Inhibitor (40 U/μl)	1 μl
HiScript Reverse Transcriptase (200 U/μl)	1 μl
Template RNA	10 pg - 2.5 μg

2. Incubate at 50°C for 45 min, then at 70°C for 15 min.

3. The products can be stored at -20°C.

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