Protocol
HB RNase Inhibitor

Catalog Number	Size	Concentration
HBRI001-0125	5000 U	40 U/μl

Storage Conditions

This product remains stable for a maximum of 2 years at -20°C and should be protected from repeated freeze-thaw cycles and frequent temperature fluctuations..

Description

The HB RNase Inhibitor, a recombinant human placental protein expressed in Escherichia coli, effectively suppresses ribonuclease (RNase) activity demonstrated by eukaryotic enzymes such as RNase A, RNase B, and RNase C through non-covalent binding. It is designed for use in procedures where the presence of RNases would adversely affect RNA quality and experimental outcomes, such as RNA isolation, cDNA synthesis, RT-PCR, in vitro transcription and translation, or the preparation of RNase-free monoclonal antibodies. The HB RNase Inhibitor does not affect RNase 1, RNase T1, RNase T2, S1 nuclease, and RNase H. We strongly recommend using it in conjunction with our high-performance HB Reverse Transcriptase, qPCR MasterMixes, Taq DNA polymerase, and/or 2X PCR SuperMix for subsequent experimental procedures and applications.

Kit Content(s)

HBRI001-0125	HB RNase Inhibitor	125 μl x 1 vial

Recommended Use

- RNA isolation and purification
- cDNA Synthesis, RT-PCR, RT-qPCR
- In Vitro Transcription

Applications

It is advisable to use the HB RNase Inhibitor at a final concentration within the range of 1-2 U/μl in the reaction, taking into account factors such as the degree of RNase contamination, the duration of incubation, and the components present in the reaction mixture. To achieve optimal performance, it is essential to maintain a final DTT concentration of 0.5–1 mM.

	cDNA Synthesis	RT-PCR RT-qPCR	In Vitro Transcription
HB RNase Inhibitor volume	1 ul	1 ul	0.5-1 ul
Reaction volume	20 ul	20 ul	10 ul

Storage Buffer

20 mM HEPES-KOH (pH 7.6); 50 mM KCl; 8 mM reducing agent; 50% (v/v) glycerol.

Unit definition

A single unit is defined as the quantity of enzyme needed to reduce the activity of 5 ng of RNase A by 50%.