August 2023

Quick-Start Protocol

RNase Inhibitor Hu

The RNase Inhibitor Hu (cat. nos. RT35-020 and RT-35-100) is a 50 kDa recombinant human placental protein expressed in *Escherichia coli*. It inhibits ribonuclease (RNase) activity of common eukaryotic enzymes such as RNase A, RNase B, and RNase C by non-covalent binding in a 1:1 ratio. RNase Inhibitor Hu is intended for use in applications where the presence of RNases may cause a hazard to RNA quality and experiment results, for example, in RNA isolation, cDNA synthesis, RT-PCR, in vitro transcription and translation, or RNase-free monoclonal antibody preparation. RNase Inhibitor Hu shows no activity toward RNase 1, RNase T1, RNase T2, S1 nuclease, and RNase H. It is compatible with DNA Polymerases and AMV or M-MuLV Reverse Transcriptases. This product must be shipped on blue ice and stored at –20°C in a freezer without a defrost cycle.

Further information

- Safety Data Sheets: **www.qiagen.com/safety**
- Technical assistance: **support.qiagen.com**

Notes before starting

- A 0.5–1 mM DTT (or other reducing agent) presence is essential for optimal activity of the RNase Inhibitor Hu.
- The storage buffer contains 8 mM reducing agent. However, if the ratio of the inhibitor to the final sample volume is less than 1:8, then the addition of DTT (or other reducing agent) to a final concentration of 0.5–1 mM is recommended.

Procedure

1. The optimal final concentration of the RNase Inhibitor Hu in a reaction depends on the level of RNase contamination, the incubation time, and the compounds present in the reaction mixture. It falls within a range of 1–2 U/µL.
2. For a standard reverse transcription reaction, use 1 µL (40 U) of the RNase Inhibitor Hu for a final sample volume of 20 µL.
3. For the optimal RNase Inhibitor Hu activity, a final DTT (or other reducing agent) concentration of 0.5–1 mM is essential.
4. During assembly of a reaction, RNase Inhibitor Hu should be added before other components that are possible sources of RNase contamination.
5. Using RNase Inhibitor Hu does not exclude RNase H treatment after amplification of the first strand cDNA.

Document Revision History

Date	Changes
08/2023	Initial release

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual.