Human Residual RNA Detection Kit

Human Residual RNA Detection Kit is designed to detect residual Human RNA in biological products during production.

Catalog number: ARG83096

Package: 100 tests

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INTRODUCTION

Human Residual RNA Detection Kit is designed for the quantitative detection of residual Human total RNA in various biological products to improve control quality of nucleic acid.

Human Residual RNA Detection Kit adopts the principle of the RT-PCR fluorescent probe, combining reverse transcription PCR technology and fluorescent probe method, to realize one-step quantitative detection.

PRINCIPLE OF THE ASSAY

The Human Residual Total RNA Detection Kit is a comprehensive test kit that combines RT-PCR and qPCR technologies to detect and quantify residual Human RNA.

By utilizing reverse transcription PCR (RT-PCR), the kit converts Human RNA into complementary DNA (cDNA), enabling amplification and analysis. The subsequent quantitative PCR (qPCR) step allows for the simultaneous amplification and detection of DNA using fluorescent dyes. The Human Residual Total RNA Detection Kit includes specific primers and probes designed to target Human RNA sequences, ensuring accurate quantification of residual Human RNA in various samples.

MATERIALS PROVIDED & STORAGE INFORMATION

Store the unopened kit at -20 °C. Use the kit before expiration date.

Component	Quantity	Storage information
10x Human RNA Standard	25 µl (2ng/µl)	-20°C
RNA Dilution Buffer	2 X 1 ml	-20°C
One step RT-qPCR Buffer	1 ml	-20°C
One step Enzyme Mix	100 µl	-20°C
Human Primer and Probe Mix	370 µl	-20°C
IPC Primer and Probe Mix	370 µl	-20°C
ROX (High)	50 µl	-20°C
ROX (Low)	50 µl	-20°C

MATERIALS REQUIRED BUT NOT PROVIDED

- PCR machine
- Pipettes and pipette tips
- DNase/RNase-Free Water
- PCR tube

TECHNICAL HINTS AND PRECAUTIONS

- Wear protective gloves, clothing, eye, and face protection especially while handling blood or body fluid samples.
- Store the kit at -20°C at all times.
- All reagents must be kept on ice during the entire experiment.
- Once the assay has been started, all steps should be completed without

interruption.

- It is highly recommended that the standards and samples be assayed in triplicates.
- Change pipette tips between the addition of different reagent or samples.

REAGENT PREPARATION

- Standards: Dilute 10x Human RNA Standard with RNA Dilution buffer to yield a stock concentration of 200 pg/µl. The RNA Dilution Buffer serves as zero standard (0 pg/ml), and the rest of the standard 10-fold serial

Dilute Human DNA standard as according to the table below:

Standard	DNA Conc.	µl of DNA Dilution buffer	µl of standard
S6	200 pg/µl	45 µl	5 µl (stock)
S5	20 pg/µl	45 µl	5 µl (S6)
S4	2 pg/µl	45 µl	5 µl (S5)
S3	0.2 pg/µl	45 µl	5 µl(S4)
S2	0.02 pg/µl	45 µl	5 µl(S3)
S1	0.002 pg/µl	45 µl	5 µl(S2)
S0	0 pg/µl	50µl	0µl

ASSAY PROCEDURE

1 Reverse Transcription PCR mix buffer:

One step RT-qPCR Buffer	10 µl
One step Enzyme Mix	1 µl
Human Primer and probe mix	3.6µl
ROX *	0.4µl
Total	**15µl (1 wells)**

∗ Choose the appropriate ROX (High or Low) to match the PCR machine. If the PCR machine does not require ROX, adjust the volume with DNase/RNase-free water to obtain a final volume of 15µl.

2 Mix 15µl qPCR mix buffer with 5µl diluent standard / sample / blank in PCR tube. **The final volume should be 20 µl**.

3 Reverse transcription: 50°C, 15 min

4 Initial denaturation: 95°C, 30 sec.

5 PCR cycle:

95°C, 10 sec; 60°C, 40 sec, for **45 cycle**, **20 µl**.