UltraBio™ Hotstart HiTaq& Super M-MuLV One Step RT-qPCR Kit (UDG)

FP1509101

Storage -20℃. Avoid freeze/thaw cycle.
Shipping Ultra-low temperature transportation.

Introduction

Hotstart HiTaq& Super M-MuLV One Step RT-qPCR Kit (with UDG) is widely recognized for its exceptional speed and quantitative accuracy. This product enables continuous Real-Time RT-PCR reactions within a single tube, simplifying operations. The enzyme system employs thermolabile UDG (Uracil-DNA Glycosylase) in combination with dUTP-containing substrates, effectively preventing carryover contamination from previous PCR products. The thermolabile UDG is completely inactivated at 50°C, ensuring it does not interfere with the reverse transcription products of the current reaction.

This kit utilizes a highly stable and efficient reverse transcriptase (Super M-MuLV Reverse Transcriptase) and a chemically modified hot-start DNA polymerase (Hotstart HiTaq DNA Polymerase). It delivers high amplification efficiency and specificity, enabling robust Real-Time One-Step RT-PCR. This significantly enhances detection sensitivity and eliminates the need for post-PCR electrophoresis, making it particularly suitable for the detection of trace amounts of RNA.

Specifically designed for convenient and highly sensitive one-step RT-PCR, this kit features a unique enzyme formulation and specially optimized buffer system. These ensure efficient and accurate reverse transcription and PCR amplification without the need for reaction optimization. It generates excellent standard curves over a wide quantitative range, allowing precise quantitative detection of target genes with high reproducibility and reliability.

Applications: Quantitative or qualitative detection of nucleic acids using RNA as template. Reverse transcription and amplification are completed in a single tube without tube opening.

Product Component List

FP1509101	Components	100T	1000T	10000T	Storage
FP1509101A	Hotstart HiTaq& Super M-MuLV Mix	200 μL	2×1.0 mL	20 mL	-20℃
FP1509101B	Buffer Mix	950 μL	10×0.95 mL	95 mL	-20℃

Protocol:

1. Reaction Setup:

- Thaw and thoroughly mix all PCR solutions required for the reaction.
- Briefly centrifuge the solutions and keep them at room temperature until use.
- Probes should be protected from light.
- Recommendation: Aliquot PCR reagents to avoid repeated freeze-thaw cycles.

2. Prepare the PCR Reaction Mixture according to the table below:

Component	Volume/25 μL	Volume/50 μL	Final Concentration
Buffer Mix	9.5 μL	19 μL	1×
Enzyme Mix (Hotstart HiTaq& Super M-MuLV)	2 μL	4 μL	2/50 μL
Primer-Probe Mix	1 μL	2 μL	/
Template	5 μL	10 μL	/
ddH_2O	To 25 μL	To 50 μL	/
Total Volume	25 μL	50 μL	/

Note: The amounts of primers, probes, and template can be adjusted according to experimental requirements.

3. Mixing:

Gently mix the reaction components by pipetting up and down or by brief vortexing. Centrifuge briefly at room temperature to collect the liquid at the bottom of the tube.

4. PCR Amplification:

Place the PCR reaction tubes in the thermal cycler and initiate the PCR program.

Standard Thermal Cycling Protocol:

Step	Temperature	Time	Cycles
Reverse Transcription	50℃	15min	1
Initial Denaturation	95℃	10min	1
Denaturation	95℃	10s	45
Annealing/Extension	60℃	40s	45
Hold	12℃	∞	1

Note: Reaction conditions can be adjusted based on specific experimental requirements.