

Product Data Sheet

Product Name: SuperFast RT Master Mix for qPCR (gDNA remover)

Cat. No.: GK10031

Components

Components	50 rxns	100 rxns
5x gDNA Remover Mix	100 µL	200 µL
5x SuperFast RT Mix	200 µL	400 µL
DEPC-ddH ₂ O	0.75 mL	1.5 mL

Features

Applications	A simple and fast reverse transcription kit. It only takes 8-10 minutes to complete the removal of gDNA and synthesis of cDNA. The obtained cDNA can be directly used as a template for subsequent operations such as Realtime PCR.
Shipping	Ship with blue ice.
Storage	Stored at -20°C, and is stable for up to 18 months. Avoid repetitive freeze-thaw cycles.
Usage	For Research Use Only! Not For Use in Humans.

Protocol

Operation flow:

1. Prepare the reaction system according to the table below (operate on ice), with a total volume of 10µl.

5x gDNA Remover Mix	2µl
RNA template	0.01~1µg
DEPC-ddH ₂ O	Add to 10µl

Note:

(1) To ensure the accuracy of the reaction solution preparation, it is recommended to prepare the premixed system according to the amount of reaction number+2, and then dispense it into each

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reaction tube, and finally add RNA;

(2) If the amount of RNA to be used is greater than 1 µg, it is recommended to scale up the reaction system proportionally.

2. Gently mix the reaction solution, centrifuge briefly to concentrate the solution at the bottom of the tube, incubate at 42°C for 2 minutes, and then immediately place on ice to cool.

3. Add the following ingredients to the tube in step 2, with a total volume of 20 µl (operate on ice, the reaction system can be expanded as needed):

The reaction solution of step (2)	10 µl
5x SuperFast RT Mix	4 µl
DEPC-ddH ₂ O	6 µl

4. Gently mix the reaction solution, centrifuge briefly to concentrate the solution at the bottom of the tube; **incubate at 50°C for 5min**; heat at 85°C for 5s to inactivate the enzyme, and place on ice for subsequent experiments or freeze.

Notes:

1. Please pay attention to avoid RNase contamination during the experiment.
2. When the system after the reverse transcription reaction is completed is used as a template for real-time PCR, it is recommended to add it directly after dilution, and the added volume should not exceed 20% of the PCR reaction system. The heat-resistant DNA polymerase and thermal cycle conditions used for PCR amplification need to be selected according to the size of the target

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fragment, GC content, primer characteristics, and fidelity requirements.

3. Long-term storage may cause precipitation of the product. Please completely dissolve and mix before use to prevent uneven salt ion concentration from affecting the experimental results.

4. The quality of the RNA template has an important impact on the efficiency of cDNA synthesis. Please choose a reliable RNA extraction/purification method. It is recommended to use TRIzol Reagent (Catalog Number: Such as GK20008 or GK20009) to prepare RNA.

Background

SuperFast RT Master Mix for qPCR (gDNA remover) is a reverse transcription kit with ultra-high sensitivity. It consists of a reverse transcription reaction premix and a gDNA removal mix and also provides a portion of DEPC-ddH₂O for dilution. Obtaining cDNA with SuperFast RT Master Mix for qPCR (gDNA remover) is the first step of a two-step RT-PCR experiment. The obtained cDNA can be used for conventional PCR or RT-PCR. If you are doing an RT-PCR experiment, it is recommended to use it with SYBR Green qPCR Master Mix (Catalog Number: GK10002).

SuperFast RT Master Mix for qPCR (gDNA remover) uses the high temperature (>50°C) high-speed amplification reverse transcriptase Super Reverse Transcriptase, which can synthesize cDNA from extremely low amounts (pg~µg level) of total RNA or poly(A) mRNA and is compatible with RNA templates with high GC content and complex secondary structure.

In many cases, RNA extracted by methods such as spin columns or acid guanidine-phenol chloroform (AGPC) method will contain a small amount of genomic DNA (gDNA). When pseudogenes exist in the target gene or primers cannot be designed across introns, genomic DNA will be amplified together with cDNA, thus affecting the accuracy of the data. SuperFast RT Master Mix for qPCR (gDNA remover) contains a gDNA remover with strong DNA degradation ability, which helps to remove gDNA and reverse transcribe RNA without purification.

Features of SuperFast RT Master Mix for qPCR

1. Effective removal of gDNA: RT Master Mix only takes 2 minutes to remove genomic DNA contamination.
2. High efficiency and fast: This kit uses extremely fast amplification reverse transcriptase and optimized oligonucleotide dT primers to achieve efficient reverse transcription, and the reaction can be completed in just 5 minutes.

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3. Ultra-high sensitivity: Good reverse transcription reaction can also be performed on very small amounts of RNA templates.
4. Super compatibility: RT Master Mix can be compatible with RNA templates with high GC content and complex secondary structure.
5. Ultra-low impact factors: Super strong applicability to subsequent qPCR reactions: Through continuous optimization, the impact of this kit on subsequent qPCR reactions is minimized.

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