LEADGENE
LEADGENE BIOMEDICAL, INC.

Product Information & Manual

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Leadgene® 2X Fluorescent RT-LAMP Master Mix

Cat no. LDG0025RF

Product Overview

Package component

Item	Content
2X Fluorescent RT-LAMP Master Mix	1 vial (1 mL)
50X LAMP Fluorescent Dye	1 vial (40 µL)

Description

Leadgene® 2X Fluorescent RT-LAMP Master Mix is an optimized master mix for reverse-transcription loop-mediated isothermal amplification (RT-LAMP) reactions. This product is a dual enzyme system, providing a rapid and sensitive detection in one pot. A fluorescent dye is also supplied with the kit. The LAMP reactions can be monitored through real-time fluorescence detection.

Storage and Stability

Stored at -20°C. Protect from light. Avoid repeated freeze/thaw cycles.

Procedure

The following procedure is a general guideline for RT-LAMP reaction. To maintain an RNase-free environment, always wear disposable gloves, and use laboratory consumables and water of nuclease-free grade during the whole experiment course.

RT-LAMP reaction set-up:

1. 10X LAMP primer mix

Component	10X concentration	Final concentration
FIP	16 µM	1.6 µM
BIP	16 µM	1.6 µM
F3	2 µM	0.2 µM
B3	2 µM	0.2 µM
LOOP F	8 µM	0.8 µM
LOOP B	8 µM	0.8 µM

2. An overview of the reaction set-up is listed in the table below. Place all required reagents **on ice**. Distribute appropriate volumes into each tube before adding template.

Component	Amount	Final concentration
2X Fluorescent RT-LAMP Master Mix	12.5 µL	1X
10X LAMP primer mix	2.5 µL	1X
50X LAMP Fluorescent Dye	0.5 µL	1X
Nuclease-Free H_2O	X µL	-
RNA template	1-2 µL	variable
Total reaction volume	25 µL	-

3. Add target RNA template to the detection tube. Gently mix the reaction thoroughly to achieve uniform distribution and avoid making bubbles.
4. Incubate at 65°C for 30-60 min.
5. After LAMP reaction complete, the enzyme can be inactivated by heating at 80°C for 10 min.
6. For real-time detection, collect fluorescent data using the SYBR® or FAM channels.

Important notes

Primer concentration

Primer concentration can be titrated between 0.25X – 1X if undesired background signal appeared.

Reaction mixture preparation

Fluorescent dye should be freshly added to the reaction mixture.

Disclaimer

This product is for research use only and is not intended for diagnostic use.

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