

Isothermal nucleic acid amplification reagent

LAMP MASTER Series

Introduction

2×LAMP MASTER is an optimized master mix to simplify the preparation for isothermal amplification assays. This product contains Bst DNA polymerase, inorganic pyrophosphatase, Mg²⁺, dNTPs, and optimized reaction buffer.

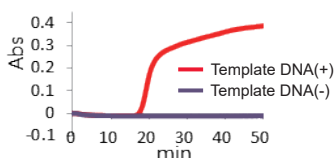
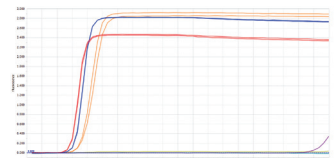
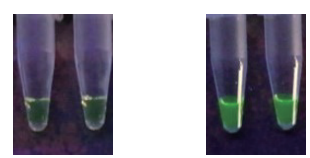


Fig 1. 2×LAMP MASTER (625 μl×6)

Features

- **Simple** : LAMP reaction can be performed simply by adding template and primers to the 2×LAMP MASTER.
- **Choice** : Three types of products in this series can be selected depending on the detection method.
- **RT-LAMP** : RT-LAMP can be performed in one step simply by adding AMV Reverse Transcriptase.

Series

Detection	Turbidity detection	Fluorescence detection	Visual detection
Product Name	LAMP MASTER for Turbidity	LAMP MASTER for Fluorescence	LAMP MASTER for Turbidity (Visible Dye)
Kit Components	• 2×LAMP MASTER...625 μl×6	• 2×LAMP MASTER ...625 μl×6 • 10×Intercalation Mix※1...750 μl×1	• 2×LAMP MASTER...625 μl×6 • 25×Visible Dye ...300 μl×1
LAMP reaction	60~68°C, 60 min.	60~68°C, 30 min.	60~68°C, 40 min. → 80°C, 5 min.
Detection methods	Real-Time Turbidimeter 	Real-Time PCR 	Visual detection  Template DNA(-) Template DNA(+)

※1. An intercalator dye contained in 10×Intercalation Mix generates fluorescence through binding to double-stranded DNA and enables detection of DNA amplification by using a fluorescence detection device or a real-time PCR instrument capable of detecting SYBR™ Green I or ResoLight Dye.

Code No.	Product Name	Package Size	Detection	Storage Condition
311-08961	LAMP MASTER for Turbidity	300 reactions	Turbidity detection	-20°C
317-08941	LAMP MASTER for Fluorescence	1 set	Fluorescence detection	-20°C and protect from light.
314-08951	LAMP MASTER for Turbidity (Visible Dye)	1 set	Visual detection	-20°C and protect from light.

Data 1 One Step RT-LAMP by LAMP MASTER for Fluorescence.

Total RNA extracted from Hela cell using ISOSPIN Cell & Tissue (Code No.314-08211) was used as a template RNA. The reaction mixture was prepared by adding AMV Reverse Transcriptase (Code No.311-07501), 10×intercalation Mix, and a primer set (GAPDH) to 2×LAMP MASTER. The detection was carried out in one step using the real-time PCR device LightCycler® 96.

< Reaction example >

2×LAMP MASTER	12.5 µl
10×Intercalation Mix	2.5 µl
10×LAMP Primer Mix	2.5 µl
AMV Reverse Transcriptase (0.2 U/µL) ※2	1.0 µl
Template RNA (0.5, 5, 50 ng)	1.0 µl
d.d.Water	up to 25.0 µl

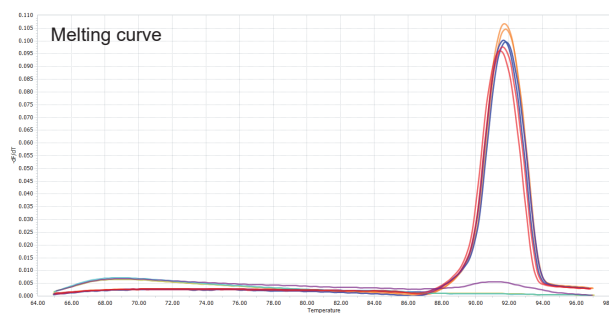
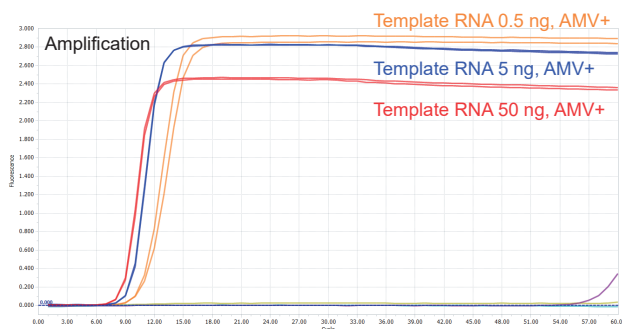
※2. AMV Reverse Transcriptase (20 units/µl) (Code No.311-07501) was diluted to 0.2 units/µl and added to a reaction mixture.

< LAMP amplification >

Real-Time PCR: LightCycler® 96

Reaction Time: 1 hour at 68°C

↓
Melting curve analysis



— Template RNA 50 ng, AMV+ — Template RNA 5 ng, AMV+ — Template RNA 0.5 ng, AMV+
— Template RNA 50 ng, AMV- — Template RNA 5 ng, AMV- — Template RNA 0.5 ng, AMV-

< Result >

By adding AMV reverse Transcriptase, RT-LAMP reaction was performed and RNA could be detected.

Data 2 Visual detection by LAMP MASTER for Turbidity (Visible Dye).

Reaction example

2×LAMP MASTER	12.5 µl
25×Visible Dye	1.0 µl
LAMP Primer Mix ※3	7.5 µl
Template DNA ※3	2.5 µl
d.d.Water	up to 25 µl

LAMP amplification

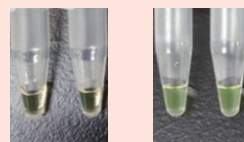
30 minutes
at 63°C

Inactivation reaction

5 minutes
at 80°C

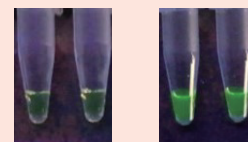
Visible detection (without UV irradiation) ※4

Template DNA(-) Template DNA(+)



Visible detection (with UV irradiation) ※5

Template DNA(-) Template DNA(+)



※3. The EasyAmp Kudoa septempunctata Detection Kit (Code No.391-5210) was used for this experiment.

※4. Without UV irradiation, pale red color appears for negative reaction and clear yellow green color appears for positive reaction.

※5. With UV irradiation, the distinction between positive and negative is more accurate.

Related product

Code No.	Product Name	Package Size	Storage Condition
311-07501	AMV Reverse Transcriptase	500 units	-20°C

- LAMP (Loop-Mediated Isothermal Amplification) is a rapid, simple and specific gene amplification method developed by Eiken Chemical Co., Ltd.
- This product is for research use only and is not for pharmaceutical use.

[Distribution]

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