HelixAmp™ Fast RT-LAMP Lyo-Cake

Kit Contents

HelixAmp™ Fast RT-LAMP Lyo-Cake		
Cat. No.	**LFRLP-C96 (96rxns)**	**LFRLP-C480 (480rxns)**
Rehydration Buffer	1.0ml x 2ea	1.0ml x 10ea
Fast RT-LAMP Lyo-Cake	8-strip x 12ea	8-strip x 60ea
8-Cap Strip	12ea	60ea
Instructions for Use	1ea	1ea

Description

HelixAmp™ Fast RT-LAMP Lyo-Cake, a lyophilized RT-LAMP reagent, provides a one-step solution for loop-mediated isothermal amplification (LAMP) of RNA targets. Through the lyophilization method, moisture is removed from the product to facilitate storing or transporting products at room temperature. The Lyophilized RT-LAMP premix can be rehydrated simply by adding the Rehydration Buffer along with primers and templates.

HelixAmp™ Fast RT-LAMP Lyo-Cake, contains engineered *Bst* DNA Polymerase, thermo-stable reverse transcriptase (RTase), RNase inhibitor, dNTPs, Mg^{2+}, salts, and stabilizing agents. This kit allows the fast amplification of the target within 30 minutes with an appropriate LAMP primer set. The thermo-stable RTase is fully active at a relatively high temperature (60°C), making the one-step RT-LAMP possible at a constant reaction temperature.

Application

Loop-mediated Isothermal Amplification (LAMP) of RNA

Storage

- Store at room temperature for a maximum of 6 months.
- For extended storage, maintain the product at or below 4℃ for up to 12 months.
- Please protect it from direct light exposure.
- After opening the pouch, we suggest promptly resealing it and storing it in a freezer until the next use.

A-dong and B-dong, 43-15, Techno 5-ro, Yuseong-Gu, Daejeon, 34014, Republic of Korea TEL : 82-42-867-9055, FAX : 82-42-867-9057
E-mail : info@nanohelix.net <www.nanohelix.net www.nanohelix.net/KOR>

Quality Control

Each lot of **HelixAmp™ Fast RT-LAMP Lyo-Cake** was tested against predetermined specifications to ensure consistent product quality.

Protocol

1. Reaction Mixture

(1) Remove the seal of the lyophilized cake tube.

(2) Add the reaction components to the lyophilized RT-LAMP cake tube as in the following table for the selected analysis method (end-point or real-time assay) :

Components	For end-point	For real-time (Intercalating dye)
RNA Template	1 ~ 5μl	1 ~ 5μl
10x LAMP Primer mix [1)]	2μl	2μl
Intercalating dye [2)]	-	x μl
Rehydration Buffer	Adjust to final 20μl. ※ Use at least 10μl of Rehydration Buffer.	

1) The following table lists the recommended concentrations for each primer in the 10x LAMP Primer Mix. If you encounter low efficiency or non-specific amplification, adjust the primer concentrations or design a new set of primers for the target sequence.

10x LAMP Primer Mix	
LAMP primers	Primer concentration.
FIP	16μM
BIP	16μM
F3	2μM
B3	2μM
LF	8μM
LB	8μM

2) It is recommended to use SYBR Green I (final concentration of 0.1-0.2x), EvaGreen dye (0.1-0.3x), or SYTO 9 (0.1-0.5x). Please note that intercalating fluorescent dyes are not included in this kit.

(3) Seal the tube with a cap strip. Gently tap the reaction mix and centrifuge briefly.

(4) Perform the LAMP reaction according to the below Reaction Condition.

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2. Reaction Condition

For end-point assay: Incubate at 60°C for 30 minutes. Time can be extended as necessary for low-copy targets or challenging sample types.

For real-time assay (fluorescent dye): Use a real-time PCR machine or an isothermal amplification instrument to run the assay. Set the instrument to a constant incubation temperature of 60°C. Measure the fluorescence intensity every 1 min for 30 minutes. The reaction time can be increased as necessary for low copy targets or challenging sample types.

Products

	Products	Cat. No.	Size
Cake type	HelixAmp™ FastLAMP Lyo-Cake	**LFLP-C96**	96rxns
		LFLP-C480	480rxns
	HelixAmp™ Fast RT-LAMP Lyo-Cake	**LFRLP-C96**	96rxns
		LFRLP-C480	480rxns
Bead type	HelixAmp™ FastLAMP Lyo-Dot	**LFLP-B96**	96rxns
	HelixAmp™ Fast RT-LAMP Lyo-Dot	**LFRLP-B96**	96rxns

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