Limited liability company
«Biolabmix»
TIN 5408278957 CAT 540801001
630090, Novosibirsk obl., Novosibirsk,
st. Injenernaya, building № 28
Tel/Fax: +7(383)363-51-91, Tel: +7(383)363-22-40
E-mail: sales@biolabmix.ru

BioMaster LAMP (2×)

Cat. number MH051-400, MH051-2040

Description:

BioMaster LAMP (2×) kit contains 2× reaction mixture ***BioMaster LAMP (2×)***, sterilized water, and application buffer (6×). 2× reaction mixture ***BioMaster LAMP (2×)*** was designed to perform loop isothermal amplification (LAMP) with further gel detection of reaction products. The **BioMaster LAMP SYBR (2×)** contains all the essential reaction components (excluding DNA-matrix and primers):

- high-processive recombinant DNA-polymerase *large fragment (LF) Bst*
- deoxynucleoside triphosphate mix
- buffer
- Mg^{2+} (6 mM)
- Inert dye.

The mixture was optimized to perform effective and replicable LAMP in real time with gnomic, plasmid and viral DNA samples. The mixture contains additives, increasing *Bst LF* DNA polymerase half-life and processivity by stability increment during the reaction.

Presented PCR kit composition saves time and decreases contamination possibility due to the small number of pipetting steps. 6× gel application buffer facilitating sample preparation and control of gel electrophoresis.

Kit contains:

Catalogue number	BioMaster LAMP (2×)	Water	Application buffer (6×)	Amount of 25 µl reactions
MH051-400	4 × 1.25 ml	4 × 1.25 ml	1 × 1 ml	400
MH0510-2040	17 × 1.5 ml	3 × 1.8 ml	2 × 1,8 ml	2040

BioMaster LAMP (2×) ingredients:

100 mM Tris-HCl, pH 8.9, 20 mM KCl, 2 mM of each deoxynucleoside triphosphate, 12 mM $MgCl_2$, 0.06 activity U/µl *Bst LF* DNA-polymerase, 0,5% Tween 20, *Bst* DNA-polymerase stabilizers, inert dye.

Application:

- loop isothermal amplification (LAMP) with end-point detection

Polymerase properties

DNA-polymerase LF *Bst* is a large *Bst* (*Bacillus stearothermophilus*) polymerase fragment (67 kDa polypeptide), extracted from *E.coli* strain, carrying modified cloned gene. Fragment has a 5′-> 3′ -polymerase activity, but lacks 5′-> 3′ and 3′-> 5′-exonuclease activity, that allows the application for the isothermal amplification performance, including LAMP (Loop-Mediated Isothermal Amplification). DNA-polymerase LF *Bst* DNA-polymerase has high DNA-chain displacing activity and can

Application advanteges

- The mixture is dyed to facilitate the distribution;
- Reaction preparation time decrement;
- The possibility of contamination during PCR components mixing reduction;
- Condition of same type reaction setting is standardized (mixing PCR components across experiments is reduced).

Amplification protocol

1. Thaw the reaction mixture and mix thoroughly. Ice or cooled thermostated rack for reaction performance.
2. Add the next components, estimated for single 25 µl reaction mixture volume, in thin-wall test tubes:

Component	Volume	Final concentration
BioMaster LAMP (2×)	12,5	1×
Primer mixture	variable	1– 2 µM
DNA-matrix	variable	100 pg – 1 µg
Sterilized water	up to 25 µ	

3. Mix carefully and discard the droplets, using centrifuge.

4. Carry out the reaction at 65 °C. For real-time detection the appropriate amplificatory with the program being: 65 °C – 50 sec for 30-40 cycles.

5. After reaction performance, analyze the amplification products by electrophoresis. Samples being applied on the gel without adding of application buffer.

Note: To separate the reaction products we recommend 1xTAE buffer electrophoresis assay with ethidium bromide added.

Storage: at -20°C, protected from direct light for 18 months; with max. of 50 freeze-thaw cycles.

Transportation: in thermostated containers with cooling elements, tolerating temperature increment up to environment temperature, if transported in 10 days.