2×Fast Taq plus Master Mix with Loading Dye – Instruction Manual

Catalogue Information

Catalogue No.	Product Name	Pack Size
WSBL971A-06	2×Fast Taq plus Master Mix with Loading Dye (240)	240 Reactions (50uL per reaction)
WSBL971A-24	2×Fast Taq plus Master Mix with Loading Dye (960)	960 Reactions (50uL per reaction)

Product Description

This product is a 2× concentrated pre-mixed PCR solution containing Taq DNA polymerase, dNTPs, Mg2+, reaction buffer, and stabilizers. It is suitable for ultra-fast PCR, large-scale genetic screening, and amplification of GC-rich or structurally complex templates. For short fragments or simple templates such as plasmids, an extension rate of 5 s/kb with fewer cycles can be used to further shorten PCR time. For long fragments (⩾3 kb) or complex templates with lower yield, an extension rate of 15–30 s/kb or additional cycles is recommended. PCR products generated by this reagent have a 3′ A overhang, making them directly clonable into T-vectors.

Applications

1. DNA fragment size estimation
2. Rough quantification using band intensity
3. Routine molecular biology workflows

Product Features

1. Fast and convenient, high sensitivity, and excellent stability.
2. Only DNA template and primers need to be added; water is used to adjust volume.
3. Minimizes human error, saves time, and reduces contamination risk.
4. The dye-containing master mix can be directly loaded onto agarose gels without adding loading buffer.
5. PCR products can also be purified for downstream applications such as restriction digestion, ligation, and fluorescent sequencing.
6. The red dye allows visualization of electrophoresis progress.

Instructions for Use

Setup for a 50 µL PCR reaction:
Note: Mix thoroughly and briefly centrifuge each tube before opening. Perform PCR setup on ice.

	Component	Volume
1	DNA Template*	X µL
2	2×Fast Taq plus Master Mix	25 µL
3	Forward Primer (10 µM)	2.5 µL
4	Reverse Primer (10 µM)	2.5 µL
5	Water	to 50 µL total volume

1. Prepare the reaction system according to the table above.
2. Briefly centrifuge to collect all liquid at the tube bottom.
3. If the PCR machine does not have a heated lid, add 25 µL mineral oil.
4. PCR cycling conditions:

Step	Temperature	Time	Cycle
Initial Denaturation	95°C	2 Min	1
Denaturation	95°C	15s	
Annealing	50–72°C	15s	25-30 cycles
Extension	72°C	15s/kb	
Final Extension	72°C	5min	1

*Template amounts: 50–100 ng genomic DNA, 1–30 ng plasmid DNA, or 1–2 µL cDNA from RT-PCR.

**For simple templates such as plasmids:
• ⩽3 kb fragments: 5 s/kb
• 3–6 kb fragments: 10–15 s/kb

For genomic DNA or cDNA: 15–20 s/kb.
For GC-rich or highly structured templates: ~30 s/kb recommended.

These conditions are for reference only. Actual parameters should be optimized based on template, primers, and target fragment. Reaction volumes may be scaled proportionally.

Electrophoresis:
Load 2–5 μL of PCR product for agarose gel electrophoresis. Dye-containing mixes can be loaded directly; dye-free products require addition of loading buffer.

Precautions:
1. For research use only. Not for clinical diagnosis, treatment, or use in food or pharmaceuticals.
2. Wear lab coat and disposable gloves during operation.

Storage

Store at –20°C. Shelf life: 24 months. Avoid repeated freeze-thaw cycles.

Notice

For in vitro research use only, not for diagnostic or therapeutic use. This product is not a medical device.
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