Product Information: Zmtech Green PCR Master-mix (Cat.: K2100)

(PCR products can be loaded directly onto an agarose or polyacrylamide gel without the addition of loading buffer)

1. Description:

The Green PCR Master Mix is a complete ready-to-use 2x PCR mixture containing everything (except a DNA template and primer set) needed for efficient amplification of a template DNA (up to 5 kb) in PCR, specifically optimized for efficient amplification of GC-rich and/or problematic templates by PCR.

The Green PCR mixture has an inert green tracking dye and gel loading precipitant already added. After thermal cycling, the PCR products can be loaded directly onto an agarose or polyacrylamide gels without the addition of loading dye. The inert green tracking dye migrates blue, red, and yellow, at approximately 4kb, 1kb and 100bp that help visualize the electrophoresis progress. The PCR products are compatible with TA cloning and can also be digested with enzymes or used for ligation without prior removal of the loading dye.

2. Features and Benefits:

- **Save time:** Green buffer contains three tracking dyes and gel loading precipitant, eliminating the need to add gel loading buffer to samples prior to agarose gel electrophoresis.
- **Easy-to-see:** The inert green dye allows for easy sample visualization during reaction set-up.
- **High PCR performing:** *Taq-pfu* is proven to amplify standard templates up to 5kb and the green mixtures are specifically optimized for efficient amplification of GC-rich and/or problematic templates by PCR.
- **Simple protocol:** Master mix formats contain all the components required for PCR (with the exception of template and primers), reducing protocol steps and minimizing the risk of pipetting errors and sample contamination.
- **Reproducible results:** All mixes undergo extensive quality control testing to ensure batch-to-batch consistency in routine PCR reactions as well as high-throughput PCR genotyping, colony PCR and RT-PCR

3. Suggested PCR Protocol:

I. Preparation of PCR Master Mix
for a single reaction (total volume: 20uL) in a 0.2 or 0.5mL microtube.

Component	Volume (µL)	Final Concentration
2x Green PCR Mastermix	10	1x
Forward primer (5µM)	1	200nM
Reverse primer (5µM)	1	200nM
DNA Template	1-5	Determined by user
PCR grade water	up to 20 µL	

II. Setup typical thermal cycling parameters

Enzyme activation step:	95°C	5 minutes
25-40 cycles:		
Denaturation	95°C	30 seconds
Annealing	X°C	30 seconds dependent on Tm of primers
Extension	72°C	30 seconds (1min per kb amplicon)
Hold at 4-8°C		

After thermal cycling, the PCR products can be loaded directly onto an agarose or polyacrylamide gels and run gels as usual.

Precautions and Disclaimer:

This product and procedure described are intended for R&D use only. Purchase of this product does not convey a license to perform any patented process.

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