vivantis

DNA AMPLIFICATION PRODUCT

Product Datasheet

2X *Pfu* Master Mix

Product No : PLMM03
Quantity : 100 reactions

Lot :
Expiry Date :
Supplied with : 4 x 625µl **2X *Pfu* Master Mix***
3ml of Nuclease-free Water

Store at -20°C
*2X *Pfu* Master Mix consists of *Pfu* DNA Polymerase, (2X ViBuffer *Pfu*, 0.4mM dNTPs and enhancers

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Description :

2X *Pfu* Master Mix is an optimized ready-to-use 2X concentrated DNA amplification mixture containing *Pfu* DNA Polymerase, reaction buffer, dNTPs and enhancers. It contains all the components required for routine DNA amplification except template and primers. *Pfu* DNA Polymerase is an extremely thermostable proofreading DNA polymerase. It exhibits the 3' to 5' proofreading activity, resulting in over 10-fold higher fidelity than possible with *Taq* DNA Polymerases.

Features:

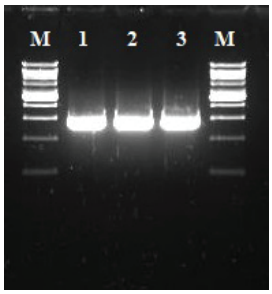
- Saves time and reduces contamination due to reduced number of pipetting steps.
- Recommended for use in high-fidelity amplification, amplification of GC-rich sequences or problematic secondary structures, primer extension reactions at evelated temperatures and cloning of blunt-ended amplification products.
- Stable at 4°C for 6 months, allowing immediate reaction setup without the time-consuming thawing of reagent.
- Suitable for all routine DNA amplification applications.

Storage and Stability:

- Stable at -20°C for 18 months or at 4°C for 6 months if properly stored.
- Stable for 20 freeze-thaw cycles. To avoid frequent freeze-thaw, keeping small aliquot at -20°C is recommended.
- For daily use, keeping an aliquot at 4°C is recommended.

Quality Control:

All preparations are assayed for contaminating endonuclease, exonuclease, and non-specific DNase activities. Functionally tested in DNA amplification.



Amplification of 1.5kb DNA fragment from pTZ DNA using 2X *Pfu* Master Mix in a 50µl reaction mixture.

Lane M : VC 1kb DNA Ladder.
Lane 1 : DNA amplification product generated with 1u of *Pfu* DNA polymerase.
Lane 2 : DNA amplification product generated with 2X *Pfu* Master Mix (store at -20°C).
Lane 3 : DNA amplification product generated with 2X *Pfu* Master Mix (after 20 freeze-thaw cycles).

1% TBE agarose gel.

RECOMMENDED PROTOCOL FOR 2X *Pfu* Master Mix:

Gently mix all solutions after thawing. Spin down briefly and keep on ice.
Add the following components in a 0.2ml thin walled PCR tube on ice.

For 50µl reaction volume:

Reagent:	Volume	Final Concentration
2X *Pfu* Master Mix	25µl	*1X
Primers (Fwd / Rev)	Variable	0.1 - 1 µM each
DNA Template	Variable	0.02 - 5µg
Water, nuclease-free	Adjust final volume to 50µl	

* 1 unit *Pfu* DNA Polymerase, 1X ViBuffer *Pfu*, 0.2mM dNTPs and enhancers .
Note : Smaller reaction volume may be achieved provided that the same final concentration of each reaction component is maintained.

CYCLING CONDITIONS (100bp-5kb)		
Denaturation	94°C for 5 minutes	
Denaturation	94°C for 30 seconds	25 - 35 cycles
Annealing	50 - 68°C for 1 minutes	
Extension / 1kb	72°C for 2 minutes	
Final Extension	72°C for 7 minutes	

This protocol may change depending on the template DNA and primers used.

Product Use Limitation
This product is for research purpose an *in vitro* use only