vivantis

DNA AMPLIFICATION PRODUCT

Product Datasheet

2X *Taq* Master Mix

Product No : PLMM01
Quantity : 100 reactions

Lot :
Expiry Date :
Supplied with : 4 x 625µl **2X *Taq* Master Mix***
3ml of Nuclease-free Water
1ml of 50mM $MgCl_2$

Store at -20°C

*2X *Taq* Master Mix consists of *Taq* DNA Polymerase (0.05u/µl), 2X ViBuffer A, 0.4mM dNTPs and 3.0mM $MgCl_2$.

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Description :

2X *Taq* Master Mix is an optimized ready-to-use 2X concentrated DNA amplification mixture containing *Taq* DNA Polymerase, reaction buffer, dNTPs and $MgCl_2$. It contains all the components required for routine DNA amplification except template and primers.

Features:

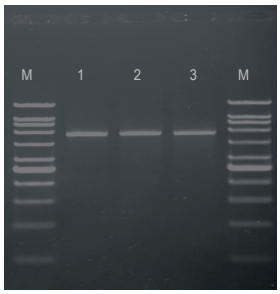
- Saves time and reduces contamination due to reduced number of pipetting steps.
- Stable at 4°C for 6 months, allowing immediate reaction setup without the time-consuming thawing of reagent.
- Suitable for all routine DNA amplification applications.
- Generates mostly 3'dA overhang PCR products which are suitable for TA cloning.

Storage and Stability:

- 2X *Taq* Master Mix is stable at -20°C for one year or at 4°C for 6 months if properly stored.
- 2X *Taq* Master Mix is 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 5kb DNA fragment from lambda DNA using 2X *Taq* Master Mix in a 50µl reaction mixture.

Lane M : VC 1kb DNA Ladder.
Lane 1 : DNA amplification product generated with 1.25u of *Taq* DNA polymerase.
Lane 2 : DNA amplification product generated with 2X *Taq* Master Mix (store at -20°C).
Lane 3 : DNA amplification product generated with 2X *Taq* Master Mix (after 20 freeze-thaw cycles).

0.7% TAE agarose gel.

RECOMMENDED PROTOCOL FOR 2X *Taq* 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 *Taq* Master Mix	25µl	*1X
$MgCl_2$ (50mM)	Refer to Table (A)	**For more than 1.5mM $MgCl_2$
Primers (Fwd / Rev)	Variable	0.1 - 1 µM each
DNA Template	Variable	0.02 - 5µg
Water, nuclease-free	Adjust final volume to 50µl	

*1.25 unit *Taq* DNA Polymerase, 1X ViBuffer A, 0.2mM dNTPs and 1.5mM $MgCl_2$.
**2X *Taq* Master Mix contains a fixed final $MgCl_2$ concentration of 1.5mM. However, higher concentration may be achieved by adding additional $MgCl_2$. Please refer to Table (A) if higher $MgCl_2$ concentration is preferred.
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 2 minutes
Denaturation	94°C for 30 seconds (up to 2 minutes)
Annealing	50 - 68°C for 30 seconds
Extension / 1kb	72°C for 30 seconds
Final Extension	72°C for 7 minutes

25 - 35 cycles

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

Table (A) : For more than 1.5mM final $MgCl_2$ concentration

Volume of $MgCl_2$ (50mM) stock to add into 50µl reaction mixture (µl)	Final $MgCl_2$ concentration (mM)
0.5	2.0
1.0	2.5
1.5	3.0
2.0	3.5
2.5	4.0

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

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