2X PCR Master Mix

Catalog No.	50501S	50501L
Reactions*	100 reactions	500 reactions

*Based on 50 µl of reaction volume

Description

2X PCR Master Mix is a ready-to-use 2X master mix solution containing Taq DNA polymerase, dNTPs, MgCl2 and stabilizers. The master mix allows the setup of the reactions in less than a minute by just adding primers and DNA templates, saves time and reduces contamination due to the fewer pipetting steps required for reaction set up, particularly when preparing large numbers of reactions.
The mix is optimized for efficient and robust amplification of DNA templates with reproducibility and high yields.

Taq DNA Polymerase is derived from the thermophilic bacterium *Thermus aquaticus*. Taq DNA Polymerase is a highly thermostable DNA polymerase that possesses 5'-3' polymerase activities and 5'-3' exonuclease activities, and lacks 3'-5' exonuclease activity. Taq DNA Polymerase produces 3'-dA-tailed PCR fragments that can be used for TA cloning.

The **2X PCR Master Mix** is a reliable, affordable, and robust DNA polymerase for routine PCR applications including genotyping, DNA cloning, library construction, high throughput assays, and screening. Taq DNA Polymerase can amplify DNA target up to 5 kb. The elongation speed is around 1 kb per minute at 72°C.

Features

- Convenient, ready-to-use 2X master mix for easy reaction setup
- Low background DNA
- Reliable and robust reactions
- Incorporates modified nucleotides such as biotin-, digoxigenin-, and fluorescence-labeled
- PCR fragments have 3'-dA overhangs

Applications

- Routine PCR
- TA cloning
- High throughput PCR
- Methylated DNA
- Crude sample PCR

Component

Catalog No.	50501S	50501L
2X PCR Master Mix	2.5 mL	12.5 mL
PCR Water	2.5 mL	12.5 mL

Storage Condition

- Store kit at -20°C, stable up to 12 months.

Reagent & Equipment Needed (not provided in this kit)

- Thermal cycler
- PCR plates or PCR tubes
- PCR plate seal film
- PCR grade water

Master Mix Composition

Component	Concentration
Taq DNA Polymerase	50 U/ml
PCR Buffer	2X
dNTP	0.4 mM each
$MgCl_2$	3 mM

Protocol

Reaction Setup

Suggested reaction setup (on ice recommended):

Component	Volume	Final conc.
2X PCR Master Mix	25 µl	
DNA template*	variable	1X
Forward Primer (10 µM)	1-2 µl	0.2-0.4 µM
Reverse Primer (10 µM)	1-2 µl	0.2-0.4 µM
Water	variable	
Total Volume	50 µl	

* Genomic DNA template between 200 ng and 5 ng can be used; cDNA below 100 ng can be used.

Reaction Condition

Suggested condition:

Step	Temperature	Time	Cycles
Initial denaturation	94°C	60 seconds	1
Denaturation	94°C	30 seconds	25-35 cycles
Annealing	50-65°C	30 seconds	
Extension	72°C	60 seconds**	
Final extension	72°C	2 minutes	1

** Adjust the extension time based on the amplicon size.

Quality Control

Kit components passed stringent functional quality test.

Product Use Limitation

This product is developed and sold for research purposes and *in vitro* use only. Please refer to biodynami.com for Material Safety Data Sheet of the product.

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