



PCR Master Mix, 2X

For Research Use Only

Cat. No.: MM2011

Quantity: 80 reactions/ 25 μ l

Shipment: Wet or dry Ice

Store at: -20 $^{\circ}$ C

Description:

The PCR Master Mix offers convenient reagents for PCR amplifications. The reagent of Master Mix is an optimized 2X PCR mixture of *Taq DNA Polymerase* (recombinant), PCR buffer, $MgCl_2$ and dNTPs. Master Mix contains all components for PCR, except DNA template and primers. Additionally, sterile and PCR grade water is supplied. PCR Master Mix is sufficient for 80 amplification reactions of 25 μ l volume or 40 amplification reactions of 50 μ l volume.

Generated PCR products would have 3' single A-over-hang products and can be used for TA cloning.

Components (supplied):

Master Mix	1 ml
Distilled Water	3 ml

Composition of PCR Master Mix (2X):

0.2 units/ μ l *Taq* DNA polymerase in reaction buffer, 3mM $MgCl_2$, 0.4mM dATP, 0.4mM dCTP, 0.4mM dGTP and 0.4mM dTTP.

Stability:

The kit is stable at -20 $^{\circ}$ C until expiration date. It should be better to aliquot Master Mix. Repeating freezing and thawing reduces the efficiency of master mix for a long time.

General Protocol for DNA amplification:

The PCR Master mix 2X can be used for nearly all PCR applications. The only limitation is that the sample volume must not exceed half the total reaction volume. The optimal reaction conditions (incubation temperatures and times, concentration of template DNA and primer) depend on the template/primers system and must be determined individually.

All solutions should be thawed on ice, gently vortexed and briefly centrifuged. Add in a thin walled PCR tube on ice:

Component of a sample	For a total 50 μ l reaction volume:		For a total 25 μ l reaction volume	
	Volume	Final concentration	Volume	Final concentration
Master Mix	25 μ l	1X	12.5 μ l	1X
Forward Primer	Variable	0.1-1 μ M	Variable	0.1-1 μ M
Reverse Primer	Variable	0.1-1 μ M	Variable	0.1-1 μ M
Template DNA	Variable	10pg-1 μ g	Variable	10pg-1 μ g
Sterile Deionized Water	to 50 μ l	-	to 25 μ l	-

Note: - annealing temperature depends on the melting temperature of the primer used.
- Elongation time and temperature depends on fragment length

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