SinaClon
شرکت سیناکلون BioScience

PCR Master Mix, 2X

REF MM2011 | Σ 80 TESTS

Wet Ice | RUO | Store at: -20°C

Components

Contents	Quantity/ Volume
Master Mix, 2X	1ml

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, MgCl2 and dNTPs. Master Mix contains all components for PCR, except DNA template and primers. **PCR Master Mix is sufficient for 80 amplification reactions of 25µl volume or 40 amplification reactions of 50µl volume.**

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

Stability

The PCR Master Mix is stable at -20°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.

Composition of PCR Master Mix (2X)

0.2 units/µl Taq DNA polymerase in reaction buffer, 3mM MgCl2, 0.4mM dATP, 0.4mM dCTP, 0.4mM dGTP and 0.4mM dTTP.

Guidelines and Recommendations

Since PCR is a powerful technique capable of amplifying trace amounts of DNA, all appropriate precautions should be taken to avoid cross-contamination. Ideally, amplification reactions should be assembled in a DNA-free environment. Use of aerosol-resistant barrier tips is recommended. Special care should be taken to avoid contamination with primers or template DNA between individual reactions. PCR products should be analyzed in an area separate from the reaction assembly area. A standard 25µl reaction uses 12.5µl of 2X PCR Master Mix, leaving 12.5µl for addition of primers and template. If the final Mg^{2+} concentration is needed to be adjusted, the volume should be included in the primer and template solution in order to achieve final reaction volume of 25µl.

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:

	For a total 50µl reaction volume	For a total 25µl reaction volume	
Component of a sample	**Volume**	**Volume**	**Final concentration**
Master Mix	25µl	12.5µl	1X
Primers	Variable	Variable	(200nM final concentration per primer is recommended)
Template DNA	Variable	Variable	10pg-1µg
Sterile Deionized Water	Up to 50µl	Up to 25µl	-

Note:

- Annealing temperature depends on the melting temperature of the primer used.
- Elongation time and temperature depend on fragment length.

Signs

Signs	Definitions
RUO	For Research Use Only
	Product shipping conditions
	Name and address of the manufacturer of the product
REF	Product technical code

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