Reddy® to use PCR Master Mix, 2X

Cat. No.: MM2062 **Store at:** -20°C
Quantity: 100 Reactions/50 µl **Shipment:** Wet or dry Ice

Description: The SinaClon PCR Master Mix offers convenient reagents for PCR amplifications. The reagent of Master Mix is an optimized ready-to-use 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. SinaClon PCR Master Mix is sufficient for **100** amplification reactions of **50µl** volume.

Components (supplied):

Master Mix	2×1.25 ml
Distilled Water	3 ml

Stability: The kit 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.

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 50 µl reaction uses 25 µl of 2X PCR Master Mix, leaving 25 µl for addition of primers and template. If the final Mg++ 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 50 µl.

General Protocol for DNA amplification:

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

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

Quality Control:

2X PCR Master Mix is evaluated by DNA polymerization activity assay that measures the percent of Taq DNA polymerase inhibition versus an uninhibited control. A functional assay is also performed. Components of the 2X PCR Master Mix are tested for the absence of DNase, RNase and exonuclease activities. Recombinant Taq DNA polymerase is tested for the absence of exonuclease, and double- and single-stranded endonuclease activities. The enzyme is >90% homogeneous as determined by SDS polyacrylamide gel electrophoresis.

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