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2X PCR SuperMix protocol

Catalog Number	Unit Size	Reactions
MB200-P100	100 reactions (2 X 1.25ml)	

Storage : Store at -20°C

Description

2X PCR SuperMix provides qualified reagents for the amplification of nucleic acid templates by the polymerase chain reaction (PCR). 2X PCR SuperMix contains Mg++, dNTPs, and recombinant Taq DNA Polymerase at concentrations sufficient to allow amplification during PCR. 2X PCR SuperMix is supplied at 2X concentration to allow easy set up for reaction volume to be added of primer and template. Supplied reagent is sufficient for 100 amplification reactions of 50 µl each. 2X PCR SuperMix may be stored at either -20°C or 4°C. Storage at 4°C avoids the necessity of thawing the mix before assembling the PCR. No detectable reduction of PCR performance or enzyme activity is observed after storage of 2X PCR SuperMix for 12 months at 4°C. Repeated freeze-thaw cycles do not reduce performance or activity.

Component	100-rxn size
2X PCR SuperMix	2 × 1.25 ml

This product is distributed for laboratory research only. CAUTION: Not for diagnostic use. The safety and efficacy of this product in diagnostic or other clinical uses has not been established.

Quality Control

2X PCR SuperMix 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 SuperMix 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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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 SuperMix, 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.

Protocol

The following protocol is suggested as a starting point and guideline when using PCR SuperMix. We recommend assembling reactions on ice from pre-chilled components. This protocol is for a reaction size of approximately 50 µl. The reaction size may be adjusted as desired.

Note: For multiple reactions with common components, prepare a master mix of the components common to all reactions to reduce pipetting errors.

1. Set up reaction tubes/plates on ice.
2. Add the following components in any order to reaction vessel.
   - 25 µl 2X PCR SuperMix
   - Primers (200 nM final concentration per primer is recommended)*
   - Template DNA solution*

   *Total volume of primer and template solution should be 25 µl.
3. Mix contents and cover with mineral or silicone oil, if necessary.
4. Cap reaction tubes and load in thermal cycler.
5. Run cycling program.