



CERTIFICATE OF ANALYSIS

PCR Master Mix (2X)

#K0171 for 200 reactions of 50 µl

Lot: **Expiry Date:**

Contents: 4x1.25 ml of PCR Master Mix (2X)
 4x1.25 ml of Water, nuclease-free

Store at -20°C.

Repeated freeze-thaw cycles do not reduce the activity of the reactions

In total 8 vials.

Description

PCR Master Mix (2X) is an optimized ready-to-use PCR mixture of *Taq* DNA Polymerase, PCR buffer, MgCl₂ and dNTPs. PCR Master Mix (2X) contains all components for PCR, except DNA template and primers. The PCR Master Mix (2X) is sufficient to perform buf4 standard 50 µl PCR reactions.

Composition of PCR Master Mix (2X)

0.05 units/µl *Taq* DNA Polymerase in reaction buffer, 4 mM MgCl₂, 0.4 mM dATP, 0.4 mM dCTP, 0.4 mM dGTP and 0.4 mM dTTP.

Notice to Purchaser

In certain countries use of this product is covered by patents. Purchase of product in these countries includes non-transferable, limited license for using only this amount of product for the purchaser's own internal research. For more information please contact info@fermentas.com.

PRODUCT USE LIMITATION.

This product is developed, designed and sold exclusively for research purposes and in vitro use only. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

Please refer to www.fermentas.com for Material Safety Data Sheet of the product.

PROTOCOL FOR PCR

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 sample	Volume	Final concentration
PCR Master Mix (2X)	25 µl	1X
Forward Primer	variable	0.1-1 µM
Reverse Primer	variable	0.1-1 µM
Template DNA	variable	10 pg-1 µg
Water, nuclease-free	to 50 µl	–

For a total 25µl reaction volume

Component of sample	Volume	Final concentration
PCR Master Mix (2X)	12.5 µl	1X
Forward Primer	variable	0.1-1 µM
Reverse Primer	variable	0.1-1 µM
Template DNA	variable	10 pg-1 µg
Water, nuclease-free	to 25 µl	–

- Gently vortex the sample and briefly centrifuge to collect all drops to the bottom of the tube.
- Overlay the sample with mineral oil or add an appropriate amount of wax. This step may be omitted if the thermal cycler is equipped with a heated lid.
- Place samples in a thermocycler and start the program.

QUALITY CONTROL ASSAY DATA

Tested for the absence of endodeoxyribonucleases, exodeoxyribonucleases and ribonucleases.

The PCR Master Mix (2X) is tested in the amplification of a single-copy gene of human genomic DNA.

Endodeoxyribonuclease Assay

No detectable conversion of covalently closed circular DNA to a nicked DNA was observed after incubation of 25 µl PCR Master Mix (2X) with 1 µg of pBR322 DNA in 50 µl for 4 hours at 37°C and at 70°C.

Exodeoxyribonuclease Assay

No detectable degradation of lambda DNA-HindIII fragments was observed after incubation of 25 µl of Master Mix (2X) with 1 µg of digested DNA in 50 µl for 4 hours at 37°C and at 70°C.

Ribonuclease Assay

0.5% of the total radioactivity was released into trichloroacetic acid-soluble fraction after incubation of 25 µl of PCR Master Mix (2X) with 1 µg of *E.coli* [³H]-RNA (40000cpm/µg) in 50 µl for 4 hours at 37°C.

0% of the total radioactivity was released into trichloroacetic acid-soluble fraction after incubation of 25 µl of PCR Master Mix (2X) with 1 µg of *E.coli* [³H]-RNA (40000 cpm/µg) in 50 µl for 4 hours at 70°C.

Quality authorized by:

 Jurgita Zilinskiene