

SuperHot Master Mix, 2x

Description: The SuperHot Master Mix (2x) is a ready-to-use PCR reagent mix optimized for standard PCR amplification. It contains antibody-blocked SuperTaq DNA polymerase, dNTPs, MgCl₂, and an optimized reaction buffer, providing all essential components required for PCR except primers and template DNA. The polymerase in this mix possesses a 5' - 3' polymerase activity and generates 3'A-overhangs.

Designed for reliable, reproducible, and specific amplification, the SuperHot Master Mix can be used with a wide range of DNA templates, including purified DNA, cDNA, and bacterial colonies. The antibody-mediated inhibition of the polymerase prevents premature enzyme activity during reaction setup and is released during the initial denaturation step, reducing nonspecific amplification. The Master Mix is suitable for standard Taq-based PCR protocols and is particularly convenient for routine, high-throughput, and sequencing-related applications.

Concentration: 2x SuperHot Master Mix

Storage: Store at -20 °C. Avoid unnecessary freeze/thaw cycles. For frequent use, preparation of working aliquots is recommended. The SuperHot Master Mix is stable for at least 8 freeze/thaw cycles. Short-term storage at +4 °C for several hours is acceptable.

REF	129102	129110	colour
SuperHot Master Mix, 2x	2x 100 reactions	10x 100 reactions	white
MgCl ₂ , 100 mM	1 ml	5x 1 ml	green
PCR water	2x 1.8 ml	10x 1.8 ml	transparent

Application: The SuperHot Master Mix is suitable for a broad range of standard PCR applications, including routine PCR, colony PCR and colony screening, screening of DNA samples, PCR from genomic DNA, PCR from cDNA, TA cloning, high-throughput PCR, and amplification prior to sequencing.

It is suitable for amplification of targets of up to 3 kb from genomic DNA and up to 5 kb from Lambda DNA. The SuperHot Master Mix can be used with purified DNA, cDNA, or bacterial colonies as templates.

For a standard 20 µl reaction, use 10 µl of 2x SuperHot Master Mix and add primers, template DNA, and PCR-grade water to the final volume.



- Optimize the annealing conditions for each primer pair and template. An annealing temperature approximately 2–5 °C below the primer melting temperature can be used as a starting point.
- The standard MgCl₂ concentration is 2 mM final. If required, the MgCl₂ concentration can be optimized with additional MgCl₂ using a concentration gradient.
- PCR performance depends on the template and primer pair. Primer concentration, MgCl₂ concentration, extension time, and cycle number may require adjustment to achieve optimal amplification.
- Please do not vortex SuperHot Master Mix to avoid damaging the enzyme.

Recommended Standard Protocol:

Component	20 µl Reaction	Final Concentration
2x Master Mix	10 µl	1 x
Forward Primer	variable	0.1 – 0.5 µM
Reverse Primer	variable	0.1 – 0.5 µM
PCR Water	adjust to 20 µl final volume	--
Template DNA	variable	0.01 – 10 ng

Recommended Thermocycler Protocol:

Step	Time	Temperature	Cycles
Initial Denaturation	2 minutes	92 – 95 °C	1 x
Denaturation	2 - 10 seconds	92 – 95 °C	25 – 35 x
Annealing	2 - 10 seconds	55 – 68 °C*	
Extension	30 seconds per 1 kb amplicon length	72 °C	

* Depends on primer, the optimal annealing temperature is usually 2 – 5°C below the primer melting temperature