

## AccuStart™ PCR SuperMix

Cat No.	95060-100	Size:	100 x 50- $\mu$ L reactions
	95060-500		500 x 50- $\mu$ L reactions
	95060-02K		2000 x 50- $\mu$ L reactions

Store at -20°C

### Description

AccuStart PCR SuperMix is a 2X concentrated, ready-to-use reaction cocktail for routine PCR amplification of DNA fragments up to 4 kb. It contains all components, except primers and template. AccuStart PCR SuperMix simplifies reaction assembly, improves assay reproducibility, and reduces the risk of contamination. A key component is AccuStart™ Taq DNA polymerase which contains monoclonal antibodies that bind to the polymerase and keep it inactive prior to the initial PCR denaturation step. Upon heat activation (1 minute at 94°C), the antibodies denature irreversibly, releasing fully active, unmodified Taq DNA polymerase. This enables specific and efficient primer extension with the convenience of room temperature reaction assembly.

### Components

AccuStart PCR SuperMix 2X reaction buffer containing 3 mM MgCl<sub>2</sub>, 0.4 mM each dNTP (dATP, dCTP, dGTP, dTTP), AccuStart Taq DNA Polymerase, and stabilizers.

### Storage and Stability

AccuStart PCR SuperMix is stable for 1 year when stored in a constant temperature freezer at -20°C. For convenience, it may be stored unfrozen at +2 to +8°C for up to 12 months. Repeated freezing and thawing does not impair product performance.

### Reaction Assembly

Component	Volume for 50- $\mu$ L rxn.	Final Concentration
AccuStart PCR SuperMix	25 $\mu$ L	1x
Forward primer	variable	100 – 500 nM
Reverse primer	variable	100 – 500 nM
Nuclease-free water	variable	
DNA Template	<u>5 – 10 <math>\mu</math>L</u>	Variable
Final Volume ( $\mu$ L)	50 $\mu$ L	

**Note:** For smaller reaction volumes (i.e. 25- $\mu$ L reactions), scale all components proportionally.

### Reaction Protocol

Incubate the completed reaction mix in thermal cycler as follows:

Initial denaturation:	94°C, 1 to 3 min
PCR cycling (20 – 40 cycles:)	94°C, 15 to 30 s
	55 – 65°C, 30s
	68 – 72°C, 1 min per kb of product length
Hold	4°C until processed for analysis

Full activation of AccuStart Taq DNA polymerase occurs within 30 seconds at 94°C. Complete denaturation of dsDNA target is important for efficient PCR amplification and may require different initial denaturation times depending on the properties of a given target sequence.

### Quality Control

Kit components are free of contaminating DNase and RNase. AccuStart PCR SuperMix is functionally tested for amplification of a 4-kb fragment from a single-copy gene in human genomic DNA.

### Limited Label Licenses

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