Product Description:
AccuStart Taq DNA polymerase is a recombinant Taq DNA polymerase preparation that contains monoclonal antibodies that bind to the polymerase and keep it inactive before PCR thermal cycling. Upon heat activation (1 minute at 94°C), the antibodies denature irreversibly, releasing fully active Taq DNA polymerase. Non-specific extension of primers at low temperatures is a common cause of artifacts and poor sensitivity in PCR. The AccuStart automatic hot-start enables specific and efficient primer extension in the PCR process with the added convenience of room temperature reaction assembly.
Activated AccuStart Taq DNA polymerase possesses 5' to 3' DNA polymerase activity and a double-strand specific 5' to 3' exonuclease. The polymerase does not have 3'-exonuclease activity and is free of any contaminating endo- or exonuclease activities. One unit is defined as the amount of enzyme that will incorporate 10nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Quality Control Analysis and Specifications:
Nuclease Assay:
- DNase: DNase activity must be below the detectable limits of 100 pg DNase I equivalent as assayed using a fluorogenic substrate following a 1 hour incubation at 37°C with each kit component at 1X concentration.
- RNase: RNase activity must be below the detectable limits of 1 pg RNase A equivalent as assayed using a fluorogenic substrate following a 1 hour incubation at 37°C with each kit component at 1X concentration.

4.1KB PCR Functional Assay: Negative control must be free of visible product with a single band at ~4.1Kb visible from 35 cycles of PCR using 20ng human genomic DNA.

(IL1-β) from Human Genomic DNA qPCR Functional Assay: Must have detection of IL1-β from 33ng to 33pg (1 x 10⁴ to 10 copies); Correlation of Determination (R²) ≥ 0.990 from Ct standard curve analysis; Slope from Ct standard curve analysis between -3.20 and -3.65

Limitations of Use
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This product was developed, manufactured, and sold for in vitro use only. The product is not suitable for administration to humans or animals. SDS sheets relevant to this product are available upon request.

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