

| Product Information              |                        |
|----------------------------------|------------------------|
| AccuStart™ II Taq DNA Polymerase |                        |
| Part Number                      | 95141-05K              |
| Number of Units                  | 5000 Units             |
| Unit Size                        | 5 units/μL             |
| Storage Temperature              | -25°C to -15°C         |
| Lot Number                       | 66221224               |
| Reference Number                 | 011123, 110322, 032922 |
| Expiration Date                  | 01/31/2026             |

Component Part Numbers:

84251 AccuStart II Taq, 1.0mL

84252 PCR Buffer II (10X) 25mL

84031 50mM MgCl<sub>2</sub> 25mL

**Product Description:**

AccuStart II Taq DNA Polymerase is a high purity, recombinant Taq DNA polymerase preparation with high avidity monoclonal antibodies that bind 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. Non-specific extension of primers at low temperatures is a common cause of artifacts and poor sensitivity in PCR. The AccuStart II automatic hot-start enables specific and efficient primer extension in the PCR process with the added convenience of room temperature reaction assembly. The included 10X PCR Buffer II is optimized for higher yields, improved specificity, and enhanced multiplexing capability. Activated AccuStart II Taq DNA polymerase possesses 5'→3' DNA polymerase activity and a double-strand specific 5'→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 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C. AccuStart II Taq DNA polymerase contains extremely low levels of residual host, E. coli genomic DNA.

| Product Specifications |                            |  |       |       |
|------------------------|----------------------------|--|-------|-------|
| 95141                  |                            |  |       |       |
| Assay                  | 4.1KB PCR Functional Assay | (IL1-b) from Human Genomic DNA qPCR Functional Assay | DNase | RNase |
| Result                 | Pass                       | Pass   | Pass  | Pass  |

**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-b) from Human Genomic DNA qPCR Functional Assay:** There must be detection of IL1-β from 33ng to 33pg (1 x 10<sup>4</sup> copies to 10 copies). Coefficient of determination R<sup>2</sup> ≥ 0.990 from Ct standard curve analysis; Slope from Ct standard curve analysis between -3.20 and -3.65

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