applied biosystems
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SuperTaq™ Plus Polymerase

Catalog Number AM2054, AM2056

Pub. No. 4393891 **Rev.** B

Contents	Quantity	Storage conditions
SuperTaq™ Plus Polymerase, 5 U/µL	AM2054: 50 Units AM2056: 250 Units	Store at –20°C. *Do not store in a frost-free freezer.*
10X Long PCR Buffer: 100 mM Tris-HCl (pH 9.0), 500 mM KOAc, 15 mM $MgSO_4$, stabilizers	1.25 mL	
10X Long PCR Buffer (–)$MgSO_4$: 100 mM Tris-HCl (pH 9.0), 500 mM KOAc, stabilizers	1.25 mL	
25 mM MgSO4	1 mL	
PCR dNTP Mix: 2.5 mM each dATP, dCTP, dGTP, dTTP	200 µL	

WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from **www.lifetechnologies.com/support**.

Product description

SuperTaq™ Plus Polymerase is an extended-range Taq polymerase containing a proof-reading activity that increases the fidelity of DNA replication and reduces error within products. SuperTaq™ Plus Polymerase produces a high yield of PCR products for fragments greater than 1 kb (up to 20 kb), allowing the use of less enzyme per reaction.

SuperTaq™ Plus Polymerase is supplied with dNTPs and two 10X Long PCR Buffers, one with and one without $MgSO_4$. A $MgSO_4$ solution is also supplied for titration into the 10X Long PCR Buffer (–)$MgSO_4$.

Source: A mixture of an *E. coli* strain overexpressing *Thermus aquaticus* DNA polymerase and a proprietary thermostable DNA polymerase with proofreading activity.

Unit (U) definition: One unit of SuperTaq™ Plus DNA Polymerase incorporates 10 nmol of deoxynucleotides into acid insoluble form in 30 minutes at 74°C. Assay Conditions: 25 mM TAPS (pH 9.3 at 25°C), 50 mM KCl, 2 mM $MgCl_2$, 200 µM each dATP, dCTP, dGTP, dTTP, 0.5 mg/mL activated salmon sperm DNA, 1 mM 2-mercaptoethanol.

Storage Buffer (*not included*): 50 mM Tris-HCl (pH 8.0), 1 mM EDTA, 1 mM DTT, 50% (v/v) glycerol, stabilizers.

Using SuperTaq™ Plus Polymerase

Note: The elongation step must be carried out at 68°C to maximize production of long PCR products.

Unsatisfactory PCR reactions carried out under ordinary buffer conditions can often be enhanced by increasing the concentration of Mg^{2+} to 1.75 mM in the final reaction volume. Dilution of the enzyme in a smaller volume, thus increasing its concentration, is advisable for difficult PCR reactions such as random amplification of polymorphic DNA (RAPD), PCR of tailed DNA, and single-cell copy PCR.

Limited product warranty

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