

Tth Polymerase

Description: Tth Polymerase is a recombinant thermostable enzyme of approximately 94 kDa isolated from eubacterium *Thermus thermophilus* strain HB8 and expressed in bacterium *E. coli*. This enzyme replicates DNA at 74 °C. It shows RNA-dependent DNA-polymerase activity in the presence of Mn²⁺ ions. Tth Polymerase has an intrinsic reverse transcription (RT), but no RNase H activity. Tth DNA polymerase can reverse transcript and amplify fragments up to 2 - 3 kb.

Concentration: 5 units/μl

Storage: -18 °C to – 22 °C

REF	124005	124025	colour
Tth Polymerase	500 units	2500 units	blue
10x Tth PCR Buffer	1 mL	5x 1 mL	red
5x RT-PCR Buffer one-step	1 mL	5x 1 mL	black
10x RT Buffer	1 mL	5x 1 mL	yellow
100 mM MnCl ₂ 100	1 mL	5x 1 mL	white

Application: Tth Polymerase is used for RT - PCR. Although Tth Polymerase adds 3'dA overhangs, it is not recommended for PCR product cloning because the error rate (3.0×10^{-5}) is similar to Taq DNA polymerase. Tth Polymerase accepts modified dNTPs and can therefore be used to label DNA fragments with modified dNTPs labeled with digoxigenin, biotin or fluorescein.

Unit definition: One unit is defined as the amount of enzyme required to incorporate 1 nmol of dTTP into an acid-insoluble form in 10 minutes at 37°C using poly(rA)/ oligo(dT) as template primer.



- Avoid frequent freeze/thaw of the reagents and final cDNA.
- One-step RT-PCR reduces the risk of cross contamination.
- The error rate of Tth Polymerase is increased in present of Mn²⁺ ions. A two-step RT-PCR is recommended for subsequent applications where a lower error rate is required.

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