



TECHNICAL SHEET

PRODUCT NAME: Kit *Thermus aquaticus* (Taq) polymerase without 5'-3' exonuclease activity, lyophilized (x5000 U)

Code: MT-E27TAQk

Physical State: Lyophilized

Source: *Escherichia coli*.

Description: Recombinant Taq DNA polymerase expressed and purified from *Escherichia coli*.

Appearance: Powder

Purity: >95%

Storage Conditions: Storage at room temperature.

Health & Safety Information: Good Laboratory Practices should be followed when handling this material. The end user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with the respective national regulations.

Presentation: Tris 20 mM Buffer with additives and salts, pH: 7.4

THIS PRODUCT IS INTENDED FOR RESEARCH USE ONLY.

Date: 17/08/2022

General description

This kit contains 5000 U of lyophilized *Thermus aquaticus* (Taq) DNA polymerase without 5' → 3' exonuclease activity (MT-25TAQk). *Thermus aquaticus* (Taq) DNA polymerase without 5' → 3' exonuclease activity (MT-25TAQk) is a truncated fragment of *Thermus aquaticus* (Taq) DNA polymerase, lacking the N-terminal 5'-3' exonuclease domain of the enzyme. This Taq DNA polymerase without 5'-3' exonuclease activity is a thermostable, processive, 5'→3' DNA polymerase. It catalyzes the polymerization of nucleotides into duplex DNA in 5' → 3' direction and it does not show a 3'→5 and 5' → 3' exonuclease activity. The enzyme is obtained recombinantly from *Escherichia coli* expressing the truncated version of *Thermus aquaticus* DNA polymerase. The enzyme has a molecular weight of approximately 62.4 kDa and it is more thermostable and robust than Taq. It is recommended for a wide range of applications: routine PCR, multiplex PCR, genotyping, and primer extension.

Package content

Reference	Description	Vials
MT-27TAQk	<i>Thermus aquaticus</i> (Taq) DNA polymerase without 5'-3' exonuclease activity, lyophilized (x5000 U)	1 x vial (clear)
MT-36REC	1X Reconstitution Buffer	0.5 mL; 1 x vial (clear)
MT-36MGCL	100 mM MgCl ₂ Buffer	1.5 mL; 1 x vial (blue)
MT-36TAQk	10X Taqk Reaction Buffer	1.5 mL; 1 x vial (purple)

Storage

The kit is shipped at room temperature. Store at room temperature or below (until expiry date, see product label). Reconstituted Taq DNA polymerase must be stored at -20°C. Reconstitution instructions for the lyophilized enzyme are as it follows.

- 1) Centrifuge the vial of lyophilized enzyme at 12000 x g for 20 seconds.
- 2) For each tube containing 5000 U TAQ DNA polymerase without 5'-3' exonuclease activity lyophilized, add 250 µL of 1X Resuspension Buffer to reconstitute 20U/µL enzyme solution. Gently pipette up and down to dissolve the pellet/powder.
- 3) Place on ice, and aliquot into smaller volumes. Repeated freezing and thawing should be avoided.
- 4) For long-term storage, store at -20°C.

Quality control

Each lot of TAQ DNA polymerase is tested sensitivity. Purity is also checked by SDS-electrophoresis and HPLC.



Usage instructions

1) Prepare the following mix on ice and mix gently by pipetting.

Component	Volume	Final concentration (recommended)
10X Taq Reaction Buffer	2 μ L	1X
Primers	variable	250 – 500 nM
dNTPs Mix	variable	2 mM (0.5 mM of each)
100 mM MgCl ₂ Buffer	variable	1.5 mM-5mM
Taq DNA polymerase	0.5 μ L	10 U
DNA template	variable	
Nuclease free water	Adjust to 20 μ L	

2) Program the cycler according to the manufacturer's instructions. Each program should start with an initial denaturation step at 95°C for 2- 5 minutes. Recommended elongation time is 1 min per 1 kb of target. For maximum yield and specificity, temperatures (annealing) and cycling times should be optimized for each new template target or primer pair. Example: 1X (95°C 2 minutes) + 45X (95°C 10 seconds + 60°C 20 seconds + 72°C 90 seconds).

If technical support is needed, please contact us (bioscience@certest.es).