KlenTaq DNA Polymerase

Cat # : PT-GL-KTAQ Size : 250U (5U/μL)
SA-GL-KTAQ Size : 25U (5U/μL)

Product Description:

KlenTaq DNA Polymerase is missing the N-terminal portion of the gene, encoding *Thermus aquaticus* (*Taq*) DNA polymerase, leaving a highly active and even more thermal stable DNA polymerase activity. This enzyme keeps significant activity after exposure to 99°C or repeated exposure to 98°C. The missing N-terminal portion is homologous to the 5'→3' exonuclease region of *E. coli.* DNA polymerase I. KlenTaq is therefore similar to, yet distinct from, Hoffman LaRoche's stoffel Fragment.

Components: *Store at -20 °C (Store buffer at 4 °C)*

* 1 tube of 50μL KlenTaq DNA polymerase in KlenTaq Storage Buffer (SA: 5uL)
* 1 tube 10X KlenTaq PCR Buffer 1mL (SA: 100uL)

KlenTaq Storage Buffer :

50% glycerol (v/v), 50 mM $(NH_4)_2SO_4$, 20 mM Tris-HCl *p*H8.55, 0.1 mM EDTA, 10 mM mercaptoethanol, no gelatin, and 0.5% Thesit.

* Thesit (from Boehringer-Mannheim) with no OD_{280} is a superior nonionic detergent for *Taq* polymerase storage. It replaces the previously used triton X100, NP40, and/or Tween-20.

10X KlenTaq PCR Buffer :

50 mM Tris-HCI *p*H9.1, 1.6 mM $(NH_4)_2SO_4$, 3.5 mM $MgCl_2$, and 150 μg/mL BSA.

* The dNTP concentration can vary from 50 μM each to 1.2 mM each, but 200 μM is normally used.
* Suggested enzyme amount is 0.5 μL per 100 μL reaction.

The amount of KlenTaq needed to perform a reaction depends on the length of incorporation. For 100 μL reaction, 1 μL KlenTaq will catalyze 15-20 reactions of 500 bp and 8-10 reactions of 1 kb and 3-5 reactions of 2 kb template DNA. Since excess KlenTaq is harmless, we conservatively recommend 0.5 μL per reaction in order to be sure everything up to 2.5 kb will work.

* Please see **General Protocol** in the next page.

General Protocol:

Reaction Mix Preparation Table

Component	Volumn
10X KlenTaq PCR Buffer	5 μL
dNTP (2.5mM each)	4 μL (200 μM)
Upstream primer (10 μM)	1 μL
Downstream primer (10 μM)	1 μL
DNA template	X* μL
KlenTaq DNA polymerase	0.5 μL
Sterile H_2O	Up to 50 μL

* X is variable depend on user's condition.

Suggested PCR Program

Stage		Temperature	Time
Initial denature		94-95°C	1-5 min
Denature	25-40 cycles	94-95°C	15-30 sec
Annealing		50-60°C*	10-30 sec
Extension		72°C	1 min per kb
Final extension		72°C	5-10 min
Preservation		4-10°C	

* Annealing temperature is depending on the Tm value of primers.

* KlenTaq DNA Polymerase is more thermal stable than normal *Taq* DNA Polymerase. Therefore, denature temperature can be slightly arisen according to the need of experiment.

- For experimental sample, please test for your own cycle conditions.
- This enzyme is stored in -20 °C for at least 1 year.

Research Use Only

Please do not hesitate to contact us while you have any questions.

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