Molecular Biology
Enzymes & Reagents

Taq DNA Polymerase
KlenTaq DNA Polymerase
Apta-Hot Start Taq DNA Polymerase
Thermo-resistant H-MMuLV RT
Pfu DNA Polymerase
Spidi ™ DNA Polymerase
T4 DNA Ligase
RNAFix ™ Solution

Taq DNA Polymerase

This product is a chromatography highly purified enzyme with an optimized buffer to give you a specific band. It is provided with an exclusive 10 X reaction buffer to improve sub-optimal PCR caused by templates, high degree of secondary structure or GC-rich regions.

Advantages:
Highly chromatography purified.
E. Coli DNA free.
Suitable for conventional PCR and TA cloning PCR.

KlenTaq DNA Polymerase

KlenTaq DNA Polymerase lacks 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.

Advantages:
Wide range of optimal MgCl2 concentration.
Two time lower error rate than Taq.
Amplicons are T/A Cloning compatible.
Mutation analysis with mutation-specific oligonucleotides.

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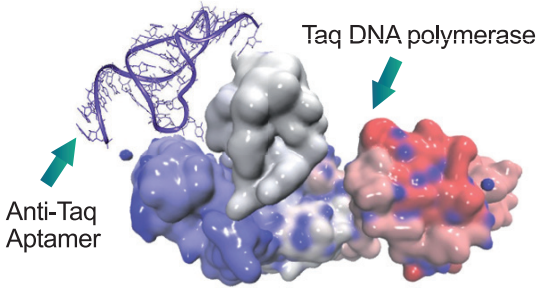
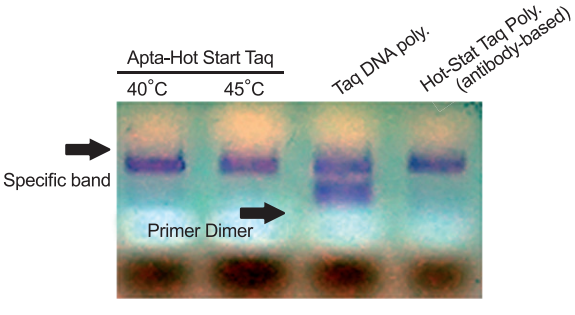
Apta-Hot Start Taq DNA Polymerase

This is a mixture of Taq DNA polymerase and a temperature sensitive, aptamer -based inhibitor. The inhibitor binds reversibly to the enzyme, inhibiting polymerase activity at temperatures below 40 °C, but releases the enzyme during normal PCR cycling conditions.

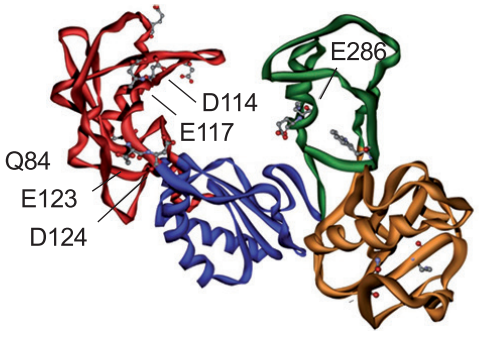


Advantages:
Reduction of primer dimers.
No inactivation time.
Avoid non-specific bands.
More stable than antibody based Hot-start taqs.
More economical than antibody based Hot-start taqs.

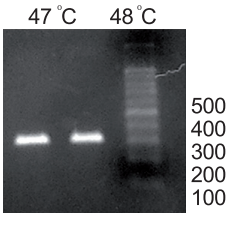


Thermo-resistant H-MMuLV RT

Recombinant, genetically modified RNA-dependent DNA polymerase, chromatography purified, no RNase H activity, Optimal activity at 47 °C. Reverse Transcriptase has no RNase H activity. Therefore, degradation of RNA does not occur during first strand cDNA synthesis, resulting in higher yields of full-length cDNA from long templates compare to other reverse transcriptases.

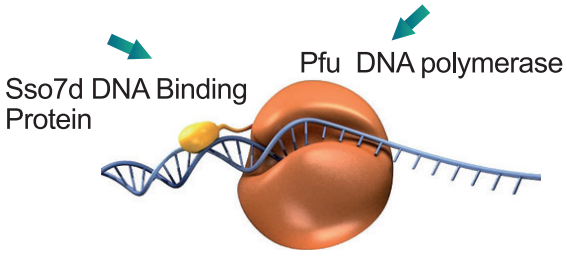


Advantages:
Optimal activity at 47- 48°C.
RT of RNAs with a high degree of secondary structure.
No RNase H activity.
More stable than Wild type MMuLV.



Pfu DNA Polymerase

Recombinant highly purified protein of Pfu DNA polymerase exhibits 3´ > 5´ proofreading activity, resulting in over 10-fold higher PCR fidelity than possible with Taq DNA Polymerases.



Advantages:
Pure recombinant enzyme.
Over 10-fold higher PCR fidelity than Taq.
The enhanced performance by new formula buffer.

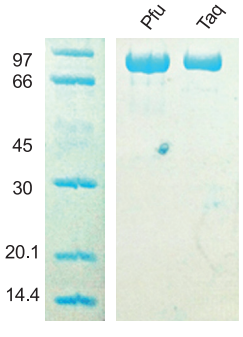


Fig: Analysis of Parstous Taq and Pfu DNA polymerase on 12.5% polyacrylamide gel electrophoresis.
Pfu shows sharp band with a Molecular Weight 90 kDa. Taq indicates a monomer protein with Molecular Weight 94 kDa.

Spidi ™ DNA Polymerase

A chimeric Pfu which has a DNA binding protein at the N-terminal portion of the gene. This enzyme keeps significant activity after exposure to 99 °C or repeated exposure to 98 °C with more processivity and extension rate than Pfu DNA polymerase.

Advantages:
Faster than Pfu.
Amplification of GC rich templates.
It is suitable for PCR and primer extension reaction that requires high fidelity when the PCR fragment is relatively higher than 3kb.

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T4 DNA Ligase

T4 DNA Ligase is an ultrapure recombinant enzyme purified from Escherichia coli supplied with an optimized 10× Reaction Buffer, which includes ATP and 2X fast buffer. T4 DNA Ligase catalyses the formation of a phosphodiester bond between juxtaposed 5′-phosphoryl and 3′-hydroxyl termini in duplex DNA. It repairs single-strand nicks in duplex DNA and will join both blunt and cohesive-end restriction fragments of duplex DNA or RNA. The enzyme requires ATP as cofactor.

Features:

Free from detectable nonspecific nuclease, endonuclease, RNase and DNase activities

Supplied with an optimized reaction buffer for efficient ligation reactions and fast reaction

Applications:

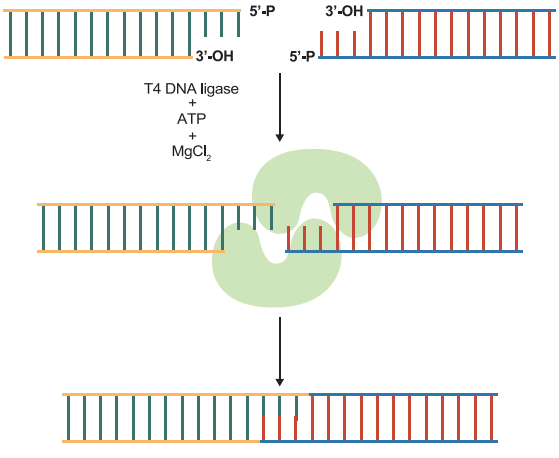
Cloning of both blunt- and sticky (cohesive)-end restriction fragments

Cloning of PCR products

Joining linkers and adapters to DNA

Nick repair

Self-circularization of linear DNA



Sticky end DNA ligation

RNAFix ™ Solution

RNAfix™ is an aqueous, non toxic, tissue and cells storage solution intended for the preservation of RNA for later isolation. It is a preservation solution that allows recovery of intact RNA from tissues and cell culture. Samples in RNAfix™ solution can be stored indefinitely at -20 °C with no RNA degradation. RNAfix™ solution can be used for the storage of tissues, cells, bacteria and yeasts. RNAfix™ compatible with most RNA isolation methods.