TruTaq DNA Polymerase, 5 U/µL

FB02001020 200 Units
FB02001050 500 Units
Store at -25°C to -15°C

TruTaq DNA Polymerase is an enhanced Taq DNA polymerase optimized for all standard PCR applications, ensuring higher sensitivity, longer PCR products, and higher yields compared to conventional Taq DNA polymerase. TruTaq DNA Polymerase generates PCR products with 3'-dA overhangs. The enzyme is inhibited by dUTP but can incorporate modified nucleotides. Suitable applications include:

- Routine PCR amplification of DNA fragments up to 6 kb from genomic DNA and up to 20 kb from viral DNA.
- RT-PCR.
- Generation of PCR products for TA cloning.

Kit Contents

Reagents	200 Units	500 Units	Description
TruTaq DNA Polymerase, 5 U/µL	40 µL	100 µL	-
10X TruTaq Buffer	1.25 mL	2 x 1.25 mL	Contains KCl and $(NH_4)_2SO_4$ at a ratio optimized for robust performance, also includes 20 mM $MgCl_2$.

PCR Reaction Setup:

For multiple reactions, prepare a master mix of components common to all reactions to minimize pipetting error, then dispense appropriate volumes into individual PCR tube before adding template DNA.

Component	50 µL Reaction	Final Concentration
Water, nuclease-free	to 50 µL	-
10X TruTaq Buffer	5 µL	1X
10 mM dNTP Mix	1 µL	0.2 mM each
Forward Primer	varies	0.1-1.0 µM*
Reverse Primer	varies	0.1-1.0 µM*
Template DNA	varies	0.1-1 µg (gDNA) or 0.01-1 ng (plasmid DNA)
TruTaq DNA Polymerase	0.25 µL	1.25 U

* For degenerate primers and primers used for long PCR, higher primer concentrations in the range of 0.3-1 M is recommended.

Thermal Cycling Conditions on Thermal Cycler:

Step		Temp.	Time	Recommendation
Initial denaturation		95°C	1-3 min	Extend to 10 min for GC-rich templates
25-40 PCR cycles	Denature	95°C	30 sec	Extend to 3-4 min for GC-rich templates
	Anneal	Tm-5°C	30 sec	Optimize if non-specific products appear
	Extend	72°C	1 min	Extend 1 minute/kb for longer product > 2 kb Reduce temperature to 68°C for templates >6 kb
Final extension		72°C	5-15 min	Extend to 30 minutes for TA cloning to ensure complete 3'-dA tailing of the PCR product

Use your PCR product immediately in downstream applications, or store it at -20°C.