2x*Taq* PCR Premix, No Dye

Catalog No.	Size
TP02-01	400 reactions (5x1 ml)
TP02-02	1600 reactions (20x1 ml)

Description: 2x*Taq* PCR Premix is a ready-to-use optimized solution containing *Taq* DNA polymerase, standard *Taq* reaction buffer, dNTPs, tracking dyes and stabilizers. It is ideally suited to routine PCR applications such as sub-cloning, colony screening and genotyping. It can amplify up to 4 kb from complex genomic DNA or up to 5 kb from lambda DNA. There are no tracking dyes in the mix.

Source: Recombinant Taq DNA polymerase purified from an *E. coli* strain carrying *Thermus aquaticus* gene. *Taq* DNA polymerase is a thermostable DNA polymerase that possesses a 5′→ 3′ polymerase activity and a double-strand specific 5′→3′ exonuclease activity. TP01-01 contains 500 units of *Taq* DNA polymerase. TP01-02 contains 2000 units of *Taq* DNA polymerase.

Applications

- PCR
- Primer Extension
- Microarray Analysis
- High-Throughput PCR

Storage Condition

2xTaq PCR Premix should be stored at -20°C. Limited (up to 10 times) freeze-thaw does not affect PCR performance. For daily use, it's recommended to keep an aliquot at 4°C, which is stable up to 6 weeks.

Protocol

These recommendations serve as a starting point; in order to maximize amplification the reaction conditions may require optimization.

1. **Thaw 2x*Taq* PCR Premix on ice or at room temperature then on ice, and mix well by inverting several times before use.**

2. **Prepare the following reaction in a thin-walled PCR tube on ice:**

Component	25 µl	50 µl	Final
2xTaq PCR Premix	12.5 µl	25 µl	1x
5' Primer (10 µM)	0.5 µl	1 µl	0.2 µM
3' Primer (10 µM)	0.5 µl	1 µl	0.2 µM
DNA template	Determined by user		Plasmid DNA (0.1–1ng/ml); Genomic DNA (1-10ng/ml)
Nuclease free H_2O	to 25 µl	to 50 µl	

❖ **For GC-rich PCR fragment:**

Component	25 µl	50 µl	Final
2xTaq PCR Premix	12.5 µl	25 µl	1x
PCR Enhancer (5x)	5 µl	10 µl	1x
5' Primer (10 µM)	0.5 µl	1 µl	0.2 µM
3' Primer (10 µM)	0.5 µl	1 µl	0.2 µM
DNA template	Determined by user		0.1–10 ng/ml
Nuclease free H_2O	to 25 µl	to 50 µl	

3. **Gently mix the reaction and spin down in microcentrifuge.** *If the thermocycler does not have a heated cover, add one drop of mineral oil to the reaction tube to prevent evaporation.*

4. **Cycling conditions for a routine PCR reaction:**

Initial Denaturation	94-95°C	1-5 min
25-40 cycles	94-95°C 45-70°C 72°C	15-30 sec 10-30 sec 1 min per 1000 base pairs
Final extension	72°C	5 min
Final Soak	4°C	∞