

## *Pfu* DNA Polymerase

Cat.No.: OPD16-R01

**Description:** *Pfu* DNA Polymerase is a recombinant type PCR enzyme, which has 12 times higher fidelity than other *Taq* DNA polymerase. It is recommended for cloning and protein expression studies. Produced target amplicon have blunt-end. You may modify the amount of template, extension time, annealing temperature, amount of DNA polymerase, the number of PCR cycle according to the target size, primer's  $T_m$ , and the type of templates for amplification.

### Product contents:

- 1) *Pfu* DNA Polymerase (5U/ $\mu$ L, 250U)
- 2) 10X *Pfu* Reaction buffer (with 20mM  $MgCl_2$ ), 500 $\mu$ L

### Features

|  |                            |
|--|----------------------------|
| Source   | <i>Pyrococcus furiosus</i> |
| 5'→3' exonuclease activity                       | No                         |
| 3'→5' exonuclease activity (fidelity)            | Yes                        |
| Amplification size                               | < 3kb PCR                  |
| Hot Start activity (chemical-mediated Hot Start) | No                         |
| A-tailing  | No                         |
| Error rate                                       | 1-2bp error/ $10^6$ bp     |
| Expiration date (storage at -20°C)               | 2 years and 3 months       |

### Recommended PCR mixture and cycling condition

| PCR mixture (Reaction vol. 50 $\mu$ L)  |              | Cycle |           |          |
|---|--------------|-------|-----------|----------|
| 10X <i>Taq</i> Reaction buffer          | 5 $\mu$ L    | 95°C  | 1-2 min   | ×1       |
| 10mM dNTP mix                           | 1 $\mu$ L    | 95°C  | 0.5-1 min | } ×35-40 |
| Forward primer (10pmol/ $\mu$ L)        | 1 $\mu$ L    | AT    | 40 sec    |          |
| Reverse primer (10pmol/ $\mu$ L)        | 1 $\mu$ L    | 72°C  | 2-4 min   |          |
| Template DNA (< 500ng)                  | - $\mu$ L    | 72°C  | 5-10 min  | ×1       |
| <i>Pfu</i> DNA Polymerase (5U/ $\mu$ L) | 0.25 $\mu$ L | 4°C   | $\infty$  | ×1       |
| Add D.W to                              | 50 $\mu$ L   |       |           |          |

The annealing temperature for a specific amplification reaction will depend upon the sequences of the two primers.

Allow approximately 2 minutes for every 1kb to be amplified for extension