

Pfu DNA Polymerase

[Cat. No.]

E – 2015 (250 units)

E – 2016 (1,000 units)

[Lot. No.]

[Concentration]

2.5 units/uL

• Description

Pfu DNA Polymerase is a thermostable DNA polymerase that catalyzes the polymerization of nucleotides into duplex DNA in the 5' → 3' direction in the presence of magnesium and exhibits 3'→5' exonuclease (proofreading) activity. Bioneer's *Pfu* DNA Polymerase is recommended for use in PCR and primer extension reactions that required high fidelity.

• Applications : Polymerase Chain Reaction(PCR), Primer extension

• Supplied with Enzyme

- 10X Reaction Buffer (1 mL)

200 mM Tris-HCl, 100 mM KCl, 100mM (NH₄)₂SO₄, 20 mM MgSO₄, 1% Triton X-100, 1 mg/ml Acetylated BSA, pH 8.8

• Storage Condition

50 mM Tris-HCl, 0.1 mM EDTA, 1 mM DTT, Stabilizers, 50 % Glycerol pH 8.2, store at -20°C

• Unit Definition

One unit is defined at the amount of enzyme that will incorporates 10 nmol of dNTP into acid-insoluble material in 30 minutes at 72 °C.

• Quality Assurance

Nuclease activity is not detected after incubation of 1 ug of substrate DNA – supercoiled plasmid and lambda/*Hind* III DNA - with 5 units of *Pfu* DNA Polymerase in 50 uL reaction volume with the supplied Reaction buffer for 18 hr at 37 °C and 70 °C.

• General Reaction Condition [50 uL reaction volume]

- Reaction mixture

| | | |
|---------------------------|------------------|------------------------|
| Template* | variable | * Amounts of template |
| Primer (forward) | 20 ~ 50 pmoles | Plasmid and lambda DNA |
| Primer (reverse) | 20 ~ 50 pmoles | → more than 1 pg |
| 10X reaction buffer | 5 uL | Bacterial genomic DNA |
| 10mM dNTPs mix. | variable (1~5uL) | → more than 100 pg |
| <i>Pfu</i> DNA Polymerase | 2.5 units | Human genomic DNA |
| D.W | variable | → more than 1ng |
| <hr/> | | |
| Total | 50 uL | |

• Note

- It is critical to without *Pfu* DNA polymerase until after the addition of dNTPs ; Otherwise 3'→5' exonuclease activity may degrade primers.

- Avoid multiple freeze-thaw cycles and exposure to frequent temperature changes.

Note

For research use only.
Not for use in diagnostic or
therapeutic procedures.