

HotTaq DNA Polymerase

| Cat. No. | Pack Size | Conc. |
|----------|-----------|---------|
| EUA00203 | 500 U | 10 U/μl |
| EUA00204 | 1000 U | 10 U/μl |
| EUA00205 | 2500 U | 10 U/μl |

Storage:

Store at -20°C, shipping at room temperature.

Reagents Provided:

- **HotTaq DNA Polymerase** in Storage Buffer: 20 mM Tris-HCl (pH 8.0), 1mM DTT, 0.1 mM EDTA, 100 mM KCl, 0.5% Nonidet P40, 0.5% Tween 20 and 50% glycerol.
- **10x Reaction Buffer:** 100 mM Tris-HCl (pH 8.8 at 25°C), 500 mM KCl, 0.8% Nonidet P40.
- **10x Reaction Buffer with (NH₄)₂SO₄:** 750 mM Tris-HCl (pH 8.8 at 25°C), 200 mM (NH₄)₂SO₄, 0.1% Tween 20.
- **25 mM MgCl₂ Solution**

Description:

HotTaq is chemically modified Taq DNA Polymerase. The enzyme is inactive at ambient temperature, having no polymerase activity. To activate the HotTaq DNA Polymerase it should be incubated at 95 - 97°C for 15 minutes as a first PCR step.

This enzyme allows the PCR setup at ambient temperature without nonspecific annealing and extension.

Purified from a recombinant *E. coli* strain with cloned gene encoding *Thermus aquaticus* DNA polymerase.

HotTaq DNA Polymerase has 5'→3' DNA synthesis activity.

Quality data:

Activity and stability tested at 20, 30 and 40 cycles of PCR reactions at 95°C. Tested for the absence of human DNA contamination by PCR with Alu-specific primers.

Unit definition:

One unit of the enzyme catalyzes the incorporation of 10 nanomoles of deoxy-ribonucleotides into a polynucleotide fraction in 30 min at 70°C.

Recommended PCR reaction mix:

| Component | Quantity |
|--|---------------------|
| HotTaq (10 U/μl) | 1.25-2.5 U |
| 10x Reaction Buffer (or with (NH ₄) ₂ SO ₄) | 5 μl (1x) |
| 25 mM MgCl ₂ | 3-5 μl (1.5-2.5 mM) |
| 10 mM dNTP mix | 1 μl (200 μM) |
| Primer Forward | 0.3 -1 μM |
| Primer Reverse | 0.3 -1 μM |
| DNA template | 1-100 ng/μl |
| H ₂ O PCR grade | Up to 50 μl |
| Total | 50 μl |

Recommended PCR cycles:

| Cycle step | Temp. | Time | Cycles |
|----------------------|---------|----------|--------|
| Initial denaturation | 95°C | 15 min | 1 |
| Denaturation | 95°C | 30-60 s | 26-35 |
| Annealing | 50-68°C | 30-60 s | |
| Elongation | 72°C | 1-4 min | |
| Final elongation | 72°C | 5-10 min | 1 |

IMPORTANT: Annealing temperature should be 2-6°C lower than the primer melting temperature.

Safety warnings and precautions:

This product is designed for research purposes and *in vitro* use only. According to common laboratory safety practice, it is recommended to wear protective clothing, gloves and safety glasses.

Some applications this product is used in may require a license which is not provided by the purchase of this product. Users should obtain the license if required.