Truin Science Ltd.

TruTaq

Taq DNA Polymerase

500 U (100µl)

Cat. # ETS4010

Concentration: 5U/µl

Contents:

Taq DNA Polymerase	100 µl
10x PCR Buffer (Mg^{2+}Plus)	1.4 ml
6x Loading Buffer	1 ml

***Store at -20°C**

MSDS Sheets available at www.truinsci.com

Description

Taq DNA Polymerase is a thermostable recombinant DNA polymerase derived from thermophilic bacterium *Thermus aquaticus.* Its molecular weight is 94 kDa. Taq DNA Polymerase can amplify DNA target up to 5 kb (simple template). The elongation velocity is 0.9-1.2 kb/min (70-75°C). It has 5' to 3' polymerase activity but lacks 3' to 5' exonuclease activity. It generates 3'-dA overhangs in PCR reactions.

Unit Definition

One unit is defined as the amount of the enzyme required to catalyze the incorporation of 10 nmoles of dNTPs into an acid-insoluble form in 30 minutes at 70°C using herring sperm DNA as substrate.

Storage Buffer

20mM TrisCl (pH 8.0), 100mM KCl, 3mM $MgCl_2$, 1mM DTT, 0.1% NP-40, 0.1% Tween20, 0.2 mg/ml BSA, 50% (v/v) glycerol

10x PCR Buffer with

120mM Tris-HCl (pH 8.8), 500mM MKCl, 1% Triton-X-100, 100mM Lysine, 25mM Mg^{2+}Plus

Product Use Limitation

This product is developed, designed and sold exclusively for research purposes and *in vitro* use only. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

Note:

- The recommended dNTP concentration to be used is 0.2 mM of each nucleotide.
- The recommended extension temperature is 72°C.
- The half-life of the enzyme is >40 minutes at 95°C.
- The error rate of Taq DNA Polymerase in PCR is $2.2x10^{-5}$ errors per nt per cycle; the accuracy (an inverse of the error rate) an average number of correct nucleotides incorporated before making an error, is $4.5x10^{-4}$.
- Taq DNA Polymerase accepts modified nucleotides (e.g. biotin-, digoxigenin-, fluorescent-labelled nucleotides) as substrates for the DNA synthesis.
- The time of the final extension step can be extended for amplicons that will be cloned into T/A vectors.