x-VITA™ Proofreading DNA Polymerase

TAQP-PF1-001

Description

The x-VITA proofreading DNA polymerase, derived from the hyperthermophilic archaeon *Pyrococcus furiosus*, boasts superior thermostability and proofreading abilities compared to other thermostable polymerases. With a molecular weight of 90 kDa, it efficiently amplifies DNA targets up to 2 kb in length from simple templates, with an elongation rate of 1 kb/min at temperatures between 70 to 75°C. Notably, this DNA polymerase possesses 3' to 5' exonuclease proofreading activity, enabling it to correct nucleotide-misincorporation errors during DNA synthesis. Consequently, the generated PCR fragments typically exhibit fewer errors compared to those produced by other Taq polymerases. Furthermore, using x-VITA proofreading DNA polymerase in PCR reactions yields blunt-ended PCR products, making them well-suited for cloning into blunt-ended vectors. Due to its high-fidelity DNA synthesis capabilities, it is particularly advantageous for techniques requiring precise DNA replication.

Applications

- ✓ High-fidelity PCR and primer-extension reactions
- ✓ High fidelity PCR for cloning into blunt ended vectors
- ✓ Site-directed mutagenesis

Unit definition

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

Storage

Store at -20 ºC.

Product use limitation

This product is developed, designed, and sold exclusively for research purposes and use. The product is not intended for diagnostics or drug development, nor is it suitable for administration to humans or animals.