

DisplaceAce™ DNA Polymerase

Cat. No. D090710K

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1. Introduction

DisplaceAce™ DNA Polymerase* is a recombinant enzyme derived from a thermophilic bacterium that has been altered by truncation to remove the 5'→3' exonuclease activity of the full-length enzyme. It has strong strand-displacing DNA polymerase activity, similar to that of *Bacillus* DNA polymerases. The DNA-dependent DNA polymerase activity is optimal at approximately 65°C. It also has RNA-dependent DNA polymerase activity. The enzyme can be inactivated by incubation at 80°C for 20 minutes. Thus, if thermal denaturation of a DNA substrate is intended (>75°C), the enzyme must be added after this step to ensure activity.

DisplaceAce DNA Polymerase is provided in a 10,000-unit size (100 U/μl) along with 10X DisplaceAce Reaction Buffer.

2. Product Specifications

Storage: Store only at –20°C in a freezer without a defrost cycle.

Storage Buffer: DisplaceAce DNA Polymerase is supplied in a 50% glycerol solution containing 50 mM Tris-HCl (pH 7.5), 0.1 M NaCl, 0.1 mM EDTA, 1 mM dithiothreitol, and 0.1% Triton® X-100.

Unit Definition: One unit converts 10 nmol of dNTPs into acid-insoluble material in 30 minutes at 65°C.

Activity Assay: The activity assay is performed in a 50-μl reaction containing 25 mM TAPS (pH 9.3), 50 mM KCl, 2.0 mM MgCl₂, 0.2 mM of each dNTP, 10 μg activated calf thymus DNA, and varying amounts of enzyme.

10X DisplaceAce Reaction Buffer: 0.2 M Tris-HCl (pH 8.5) and 50 mM MgCl₂.

Contaminating Activity Assays: DisplaceAce DNA Polymerase is free of detectable exo- and endonuclease and RNase activities.

3. Related Products

The following products are also available:

- dNTP Solutions

*patent pending

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