

DFS-Taq DNA Polymerase DNA-free

Source: *E. coli*

Size: Bulk

Concentration: 5 U/ μ L

Storage Buffer: 25 mM Tris-HCl (pH 8.0), 150 mM NaCl, 0.05 mM EDTA, 1 mM DTT, 50% glycerol.

Reaction Buffer 10X: 200 mM Tris-HCl (pH 8.8), 100 mM KCl, 100 mM $(\text{NH}_4)_2\text{SO}_4$, 20 mM MgSO_4 , 1% Triton X-100.

Unit Definition: One unit is defined as the amount of enzyme that will incorporate 15 nmol of dNTP into acid-insoluble material in 30 minutes at 75 °C.

Purity: Single protein band at 96 kd (SDS-Page polyacrylamide gel electrophoresis).
No DNA contamination detected (PCR assay).

Contaminating

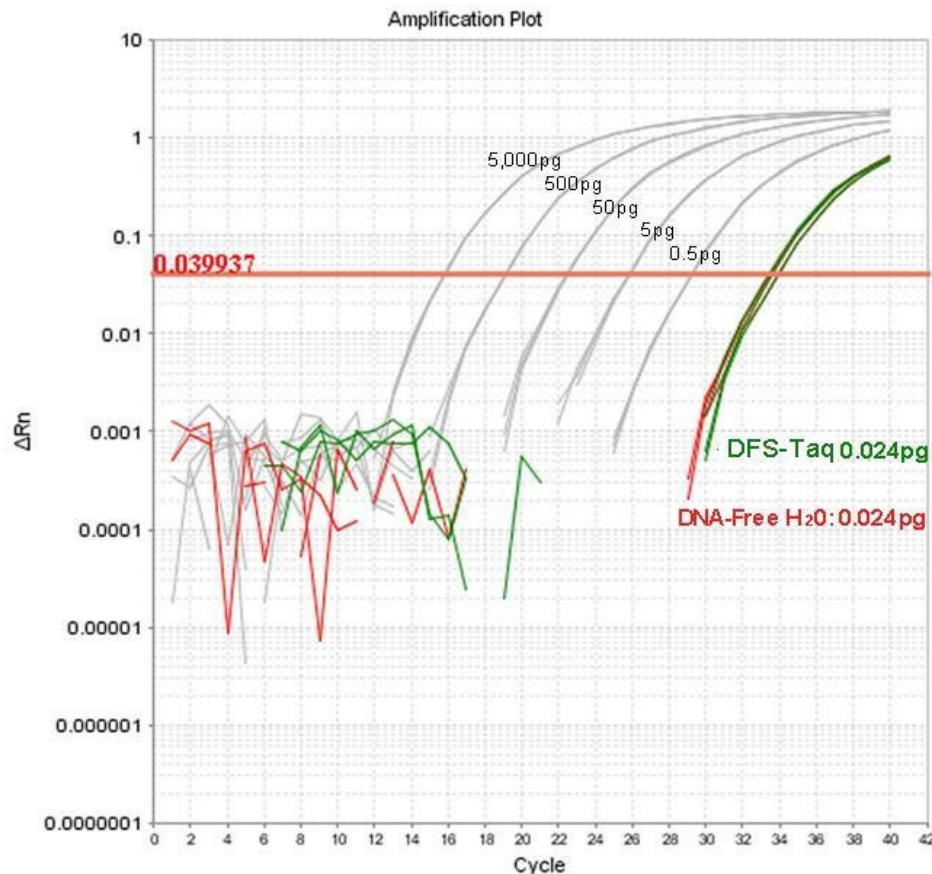
Nuclease Activity: Endonuclease Activity: Incubation of 10 units of DFS-Taq DNA Polymerase with 1 μ g of supercoiled plasmid DNA for 16 hours at 37 °C resulted in no detectable conversion to relaxed or linear forms by agarose gel electrophoresis.

Exonuclease Activity: Incubation of 10 units of DFS-Taq DNA Polymerase with 1 μ g of 1kb ladder DNA for 16 hours at 37 °C resulted in no smearing of bands on agarose gels.

Storage and Handling: -20 °C

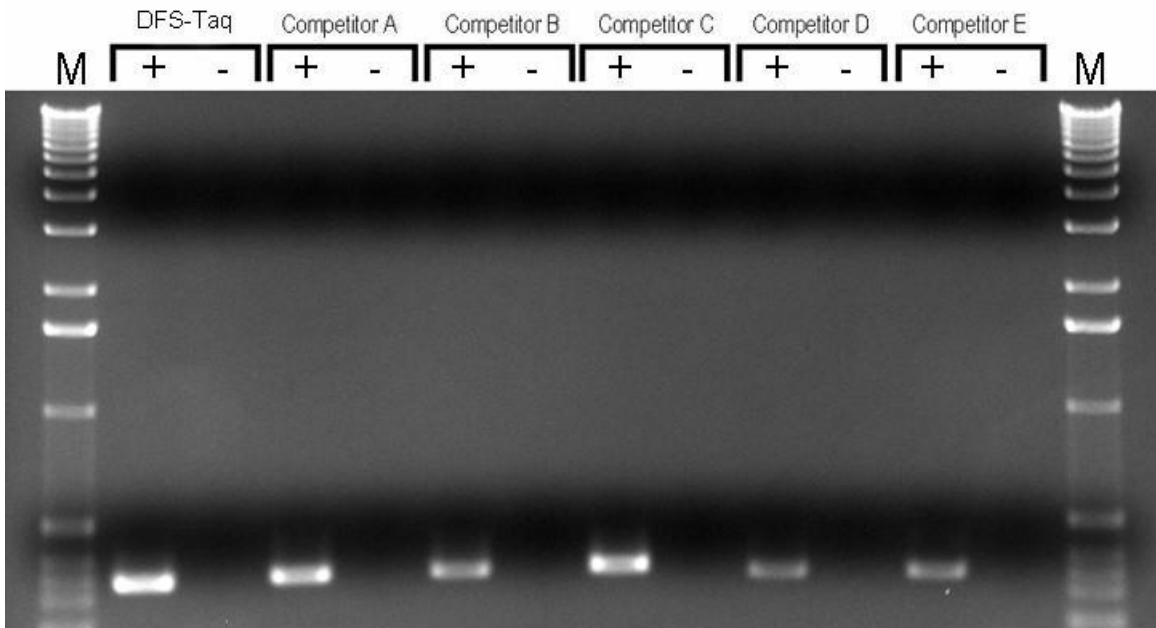
Tests and evaluations:

Figure I:



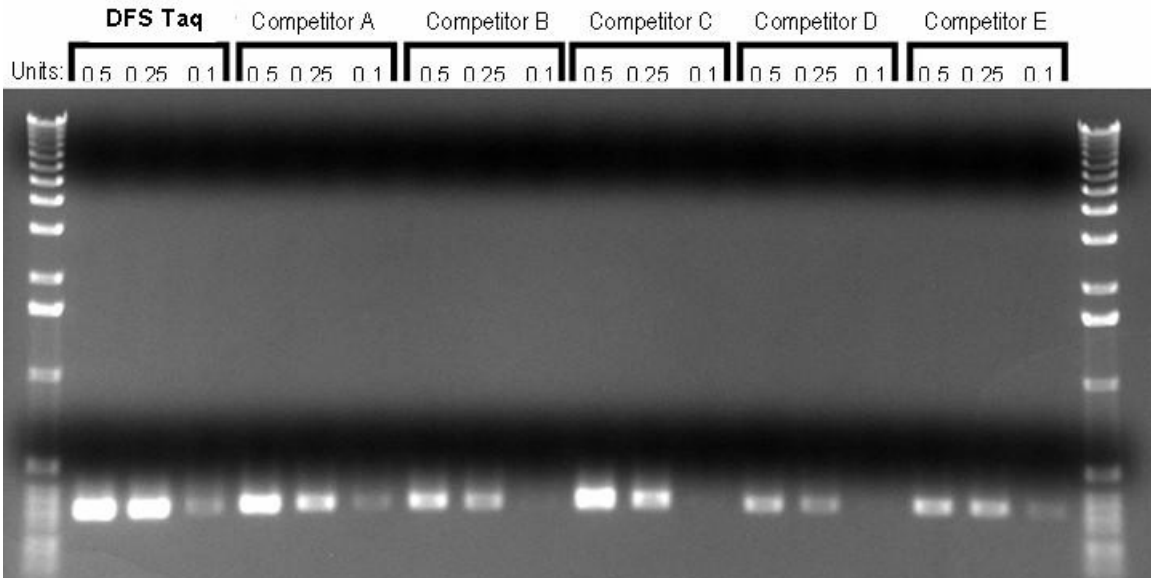
DFS Taq DNA polymerase (5 Units) was tested against DNA-free water for presence of *E. coli* gDNA contamination in qPCR using 23S primers. Standard curve with serial dilution (5,000pg, 500pg, 50pg, 5pg, 0.5pg), $R^2 = 1.000$.

Figure II



DFS Taq DNA polymerase was compared to Taq DNA polymerase from competitors (0.5 U Taq DNA polymerase) in amplifying E. coli 23S rRNA DNA template. (+), DNA added; (-), no DNA added; (M), 1 kb DNA ladder

Figure III:



DFS Taq DNA polymerase was compared to Taq DNA polymerase from competitors for performance and activity (0.5, 0.25, and 0.1 units Taq DNA polymerase) in amplifying E. coli 23S rRNA DNA template: (M), 1 kb DNA ladder.