



Product Information Sheet

Gamma High Fidelity DNA Polymerase#
Conc:2 U/μl Store at -20°C (non-frost-free)

Description Gamma DNA Polymerase is a high-fidelity thermophilic DNA polymerase from Syzygy Biotech Solutions. The gamma enzyme contains an integral 3'-5' proofreading exonuclease activity. SyFi is extremely thermostable at temperatures of 95 to 100°C.

Source Gamma DNA Polymerase is isolated recombinantly from an *E. coli* strain that carries the gene from *Pyrococcus species* GB-D. The native organism was isolated at 2,010 meters and is able to grow at temperatures as high as 104°C (1).

Storage Buffer 10mM Tris-HCl, 100mM KCL, 0.1mM EDTA, 1mM DTT, 50% glycerol, 0.1% Triton X-100 pH 7.4 @ 25°C.

10X gamma Reaction Buffer 20mM Tris-HCl, 10mM (NH₄)SO₄, 10mM KCl, 2mM MgSO₄, 2mM MgSO₄, 0.1% Triton X-100, pH 8.8 @ 25°C.

*Gamma Reaction Buffer is supplied as a 10X concentrate and should be diluted for use.

*Magnesium Concentration is ideal from 2 to 6mM. Concentration can be increased with provided solution.

Quality Control Gamma DNA Polymerase is highly purified and free of contaminating endonucleases, exonucleases, and nicking activity. Enzyme purity is evaluated by SDS-PAGE at >95% purity.

Reaction Conditions Initial Denaturation: 95°C (2-5min.). Denaturation: 95°C (15-30sec). Annealing: 55°C-65°C (15-30sec). *In general annealing temperatures tend to be higher than that for Taq DNA Polymerase. Extension: 72°C (1min./kb). Final Extension: (5-10min.).

This product is for research purposes only.

1. Jannasch, H.W. et al. 1992. *Applied Environ. Microbiol.* 58, 3472-3481.