

Product/Protein : Quik-load 2x MidasMix with *Thermus aquaticus* DNA Polymerase I

Lot # : 102809LS

Concentration : 200 20- μ l reactions, 250 units/ml

Package format : 2 X 1,000 μ l = 25,000 μ l MidasMix.

**1X Reaction
Conditions:**

75mM Tris pH 8.8
2mM MgCl₂
20mM (NH₄)₂SO₄
0.01% (v/v) Tween 20
5.5 % (v/v) glycerol
< 0.1% (w/v) xylene cyanol
0.22mM dNTP
100 units/ml Taq Polymerase

Description : This convenient, easy to use 2x formulation combines *Taq* DNA polymerase, buffer and all of the reaction components required for *Taq* mediated DNA amplification. The 2x formulation allows complete control of final reaction volume - all you need to add is an equal volume of your primer/template mix in water. Incorporation of glycerol and tracking dye in the reaction mix allows you to load your reaction directly to the gel, saving you valuable time, but does not inhibit DNA amplification.

Protein Uses : Primer extension (2) , polymerase chain reaction (1,5) , DNA sequencing (3,4) and site-directed mutagenesis.

Properties : The enzyme features strand displacement capability , an error rate of one in @4.5x10⁴ bases and has low 5'-3' exonuclease activity. Like other DNA polymerases without 3'-5' exonuclease activity, *Taq* DNA Polymerase exhibits deoxynucleotidyl transferase activity, which results in the addition of extra adenines at the 3'-end of PCR products.



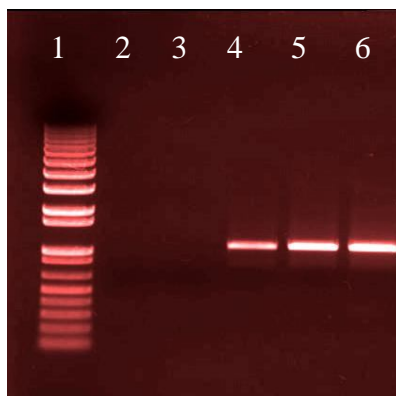
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40 cycles amplification

LaneSample

1. 1 kb + Marker
2. No template control
3. No template control
4. 5pg Bact. Genomic
5. 20pg Bact. Genomic
6. 100pg Bact. Genomic

Quality Assessment	Assay	Result
dsDNA endonuclease	Degrade FX174 RF	None Detected
ssDNA endonuclease	Degrade M13mp18	None Detected
5'dsDNA exonuclease	Removal of labeled nucleotide from 5' end of a dsDNA oligonucleotide	None Detected
5' ssDNA exonuclease	Removal of labeled nucleotide from 5' end of a ssDNA oligonucleotide	Active
3' ssDNA+dsDNA exonuclease	Removal of labeled nucleotide from 3' end of a ssDNA or a dsDNA oligonucleotide	None Detected
unit functional assay	1 unit incorporates 10nMol ³² P dCTP into acid insoluble material in 30 minutes at 74°C using activated salmon testes DNA as substrate	Greater than 100,000 units/mg protein

1. Cha, R.S. and Thilly, W.G. (1995) in: PCR Primer, Dieffenbach, C.W. and Dveksler, G.S. (eds.), CSH Press, New York, 37..
2. Eckert KA, and Kunkel TA. Nucleic Acids Res. (1990), 18(13), 3739-44.
3. Ishino, Y et al. (1994) J. Biochem. 116 (5), 1019-1024
4. Kusakawa N et al. Biotechniques. 1990 9(1), 66-8, 70, 72.
5. Schmidt T. M. et al. Biotechniques. (1991) 11(2):176-7

