



## DyNAzyme™ I DNA Polymerase, Native Enzyme, Mg<sup>2+</sup>-free buffer

**F-502S/L**

**100 U/500 U     2.0 U/μl**

**Store at -20°C**

DyNAzyme™ I is a thermostable DNA polymerase. It is isolated and purified from an *E.coli* strain carrying a plasmid with the cloned DyNAzyme DNA Polymerase gene from *Thermus brockianus* (Finnzymes' proprietary strain). DyNAzyme I DNA Polymerase has a half life of 3 hours at 96°C. DyNAzyme I DNA Polymerase possesses the following activities: 5'→3' DNA polymerase activity and 5'→3' exonuclease activity. DyNAzyme I DNA Polymerase lacks the 3'→5' proofreading activity, which makes it easy to use. DyNAzyme I DNA Polymerase is purified free of contaminating endo- and exonucleases.

**Storage buffer:** 20 mM Tris-HCl (pH 7.4 at 25°C), 0.1 mM EDTA, 1 mM DTT, 100 mM KCl, stabilizers, 200 μg/ml BSA and 50 % glycerol.

**Reaction buffer:** DyNAzyme I DNA Polymerase is supplied with 10x Mg<sup>2+</sup>-free DyNAzyme Buffer (1 x is 10 mM Tris-HCl (pH 8.8 at 25°C), 50 mM KCl, 0.1 % Triton X-100) and 50 mM MgCl<sub>2</sub>-solution.

**Unit definition:** One unit is defined as the amount of enzyme that will incorporate 10 nmoles of dNTPs into acid-insoluble form at 74°C in 30 minutes under the stated assay conditions.

**Unit assay conditions:** Incubation buffer: 25 mM TAPS-HCl, pH 9.3 (at 25°C), 50 mM KCl, 2 mM MgCl<sub>2</sub>, 1 mM β-mercaptoethanol, 100 μM dCTP, 200 μM each dATP, dGTP, dTTP. Incubation procedure: 20 μg activated calf thymus DNA and 0.5 μCi [α-<sup>32</sup>P] dCTP are incubated with 0.1 units DNA polymerase in 50 μl incubation buffer at 74°C for 10 minutes. The amount of incorporated dNTPs is determined by trichloroacetic acid precipitation.

**Exonuclease activity:** Incubation of 10 U for 4 hours at 72°C in 50 μl assay buffer with 1 μg sonicated <sup>3</sup>H ssDNA (2x10<sup>5</sup> cpm/μg) released < 1 % of radioactivity.

**Endonuclease assay:** No endonuclease activity is observed after incubation of 10 U of DNA polymerase with 1 μg of λ DNA or λ-*Hind* III DNA fragments in assay buffer at 72°C for 4 hours.

**Caution:** Repeated freezing and thawing of the enzyme may result in decreased activity of the polymerase. If the enzyme is frequently used, we recommend storage in refrigerator at +4°C or division into 100 U aliquots which then should be stored at -20°C. Stable for one year from the assay date.



## WARRANTY

Finnzymes Oy warrants that its products will meet the specifications stated on the technical data section of the data sheets, and Finnzymes Oy agrees to replace the products free of charge if the products do not conform to the specifications. Notice for replacement must be given within 60 days of receipt.

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