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## Certificate of Analysis

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### Human DNA Polymerase Gamma

Catalog No: 1076

**Lot No:** See Product Label

**Package Size:** See Product Label

**Concentration:** See Product Label

**Protein (Bradford):** 13.66 mg/ml

**Specific Activity:** 732 units/mg

**Storage Conditions:** Store at -80°C

**Notes:** Avoid multiple freeze/thaw cycles or frequent temperature changes

#### Description

- The simplest DNA polymerase known in both size and catalysis (1)

#### Applications

- Mitochondrial enzyme used for testing the toxicity of drugs on critical human oxidative functions and testing replication of mitochondrial DNA

#### Unit Definition

One unit is the amount of enzyme required to incorporate 1 pmol of total nucleotide into acid-insoluble form in 60 minutes at 37°C.

#### Storage Buffer

20 mM Tris-HCl (pH 8.0)  
50 mM NaCl  
0.05% Triton X-100™  
50 µg/ml PMSF  
5% glycerol  
10% DMSO

#### Quality Control

**SDS-PAGE Gel:** 20 µg loaded on an SDS-PAGE gel resulted in four bands at approximately 55, 65, 90, and 125 kDa with 80% homogeneity.

**Nicking:** Incubation of 1 µg of pBR322 with 1, 2.5, and 5 units of enzyme for 1 hour at 37°C resulted in <5% conversion of RF I to RF II and <5% conversion to RF III.

**DNase, double-stranded:** Incubation of 1, 2.5, and 5 units units of enzyme resulted in ≤4% slope of %-end label released per unit of enzyme.

**RNase:** Incubation of 1, 2.5, and 5 units units of enzyme resulted in ≤1% slope of %-end label released per unit of enzyme.

**Endogenous Proof Reading Activity:**  
Present

#### References

(1) *Abbotts, J., SenGupta, D.N., Zmudzka, B., Widen, S.G., Notario, V., and Wilson, S.H. (1988) Biochemistry 27, No. 3, 901-909*

*For more information or to re-order, please visit [www.chimerx.com](http://www.chimerx.com)*