

# EcoNova Thermo DNA Polymerase

Without dNTPs

Reference: AB12014



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## INTENDED USE AND PRESENTATION:

This polymerase is a highly processive thermostable DNA polymerase suited for MALDI-TOF mass spectrometry version widely used in molecular biology.

**AB12014, 2000 units.** Concentration of enzyme 5 units/ $\mu$ L.

One unit is defined as the amount of enzyme required to catalyze the incorporation of 10  $\mu$ moles of dNTPs into acid-insoluble material in 30 minutes at 74°C.

For research use only.

## SUMMARY, EXPLANATION AND LIMITATIONS:

EcoNova Thermo DNA Polymerase is a highly processive thermostable DNA polymerase suited for MALDI-TOF mass spectrometry and other primer extension platforms. The enzyme has only the 5'  $\rightarrow$  3' polymerization-dependent exonuclease replacement activity and enhanced efficiency for incorporating unconventional nucleotides (labeled ddNTPs & acyclo nucleotides).

Have been purified from an *E.coli* strain that carries an overproducing plasmid containing a modified gene of *Thermus aquaticus* DNA polymerase.

**Quality control:** The enzyme is free of nicking and priming activities, exonucleases and non-specific endonucleases. Activity and stability tested via thermo cycling. The error rate per nucleotide per cycle is  $\sim 8 \times 10^{-5}$ . Estimated half-life at 95°C is 1,5 hours.

## APPLICATIONS:

The EcoNova Thermo Polymerase is a robust enzyme for all your everyday primer extension, MALDI-TOFF mass spectrometry and mass-array.

## PRODUCT COMPOSITION:

-EcoNova Thermo DNA Polymerase

-Storage Buffer: 50% glycerol (v/v), 20 mM Tris-HCl pH 8,7 at 25°C, 100 mM KCl, 0,1 mM EDTA and stabilizers.

-10X Reaction Buffer Thermo: Contains 500 mM Tris-HCl (pH 9,5).

-100 mM  $MgCl_2$ .

## METHODS AND PROCEDURE:

Optimal reaction conditions, such as reaction time, temperature, and amount of template DNA, may vary and must be individually determined.

## REQUIRED MATERIALS BUT NOT SUPPLIED:

All reagents, materials, and laboratory equipment for PCR procedures are not provided with this polymerase. This includes sterile reaction tubes, micropipettes and tips, template DNA, dNTPs mixture, gen-specific PCR primer pair, PCR grade  $H_2O$ , heat pretreatment equipment (thermoblock, microwave), centrifuge, cold store and thermal block cyler.

Buffered solutions for DNA extraction or purification, enzyme treatments, highly sensitive detection systems, and other auxiliary reagents are available from Genova Scientific.

## STORAGE AND STABILITY:

Store at -20°C until the expiration date printed on product label. Avoid prolonged exposure to light. Avoid multiple freeze-thaw cycles and exposure to frequent temperature changes. Do not use after the expiration date. If the product is stored under different conditions from those stipulated in these technical indications, the new conditions must be verified by the user. The validity period of the ready to use products when opened, is the same as the expiration date indicated on the label of intact product.

Genova Scientific guarantees that the product will maintain all of the described characteristics from the production date until the expiration date, as long as the product is stored and used as recommended. No other guarantees are provided. Under no circumstances Genova Scientific is obliged to cover damages caused by use of this reagent.

## TROUBLESHOOTING:

If unusual amplification is observed or any other deviations from the expected results, please read these instructions carefully, along with the instructions from the PCR system. If this does not solve the problem, please contact Genova Scientific's technical support department ([techsupport@genovalab.com](mailto:techsupport@genovalab.com)) or your local distributor.

## PRECAUTIONS:

Use only by qualified personnel.

Use proper protective equipment in order to avoid contact with reagents and samples in the eyes, skin, and mucosal tissues. In case of contact with sensitive areas, immediately flush the affected area with water. Avoid microbial contamination of the reagent, as this may produce nonspecific amplification results.

Material safety data sheet (MSDS) is available upon request.

## PERFORMANCE CHARACTERISTICS:

Genova Scientific has performed studies to evaluate the functioning of this polymerase for use with standard amplification systems, concluding that the product is both specific and sensitive for PCR performance.

## BIBLIOGRAPHY:

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Catalog number



Batch code



Research use only



Temperature limitation



Expiration date



Manufacturer



See instruction for use



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