EcoNova Taq Premix Ready-to-Load

5X concentrated, 12,5 mM

Reference: AB12021; AB12022; AB12023

INTENDED USE AND PRESENTATION:

This Taq Premix is widely used in molecular biology research.
AB12021, 1 mL. 1 mL.
AB12022, 3 mL. 1 mL x 3.
AB12023, 5 mL. 1 mL x 5.
One unit is defined as the amount of enzyme required to catalyze the incorporation of 10 ηmoles of dNTPs into acid-insoluble material in 30 minutes at 74°C.
For research use only.

SUMMARY, EXPLANATION AND LIMITATIONS:

EcoNova Taq PCR Premix Ready-to-Load is a premixed ready-to-use solution containing: all reagents required for PCR (except template, primers and water), additional compound needed for direct loading onto agarose gel and two tracking dyes (blue and yellow) that allow to monitor progress during electrophoresis.
We recommend using EcoNova Taq PCR Premix Ready-to-Load in any PCR application that will be visualized by agarose gel electrophoresis and ethidium bromide staining.
We do not recommend using the EcoNova Taq PCR premix Ready-to-Load for PCR reactions where detergent free buffer system is required.
EcoNova Taq PCR premix Ready to Load is not recommended for use in applications where spectro-photometric measurements (absorbance or fluorescence) are necessary because yellow and blue dyes can interfere with these applications.
Quality Control: Endonuclease, Exonuclease, DNase, RNase and Protease activity is not detected.

APPLICATIONS:

EcoNova Taq Premix Ready-to-Load is a premix for all your everyday PCR reactions, gene expression profiling, Microbial & Viral pathogen detection. This EcoNova Premix allows efficient amplification from GC-rich and AT-rich templates, under fast and standard cycling conditions.

PRODUCT COMPOSITION:

-EcoNova Taq DNA Polymerase
-5X reaction buffer: 0,4 mM Tris-HCl, 100 mM $(NH_4)_2SO_4$, 0,1% w/v Tween-20, 1mM of each dNTP and compound that increases sample density for direct loading.
-12,5 mM $MgCl_2$.
-Blue dye: Migration equivalent to 3.5-4.5 kb DNA fragment
-Yellow dye: Migration rate in excess of primers in 1% agarose gel: <35-45 bp

METHODS AND PROCEDURE:

Optimal reaction conditions, such as reaction time, temperature, and amount of template DNA, may vary and must be individually determined.
General Reaction Protocol:
1. Thaw 5X EcoNova Taq Premix Ready-to-Load.
2. Prepare a master mix.

Recommended PCR reaction mix:

Component	Volume	Final Conc.
5X EcoNova Taq Premix RTL	10 µL	1X
Upstream Primer (10 pmoles/µL)	0,5-1,5 µL	0,1-1,0 µM
Downstream Primer (10 pmoles/µL)	0,5-1,5 µL	0,1-1,0 µM
Template DNA	Variable	5-50 ηg/µL
Sterilized D.W.	Up to 50 µL	-
Total Volume	50 µL	-

*Primers should have a predicted melting temperature of around 60°C, using default Primer 3 settings (http://frodo.wi.mit.edu/primer3/).

Amount of template:
Bacteriophage λ, cosmid, plasmid → 10 fg~300 ηg
Total genomic DNA → 100 ηg~1 µg

3. Mix the master mix thoroughly and dispense appropriate volumes into PCR tubes. Centrifuge the reactions in a microcentrifuge for 10 seconds.
4. Perform PCR using your standard parameters (3-step cycling).

Step	Temperature & Reaction Time		
Initial denaturation	3-5 min. at 95°C	-	-
25-35 cycles	20-40 sec. at 95°C	30-60 sec. at 54-66°C	40 sec.-4 min. at 72°C
Final extension	-	-	5-10 min at 72°C

*For PCR products longer than 3~4 Kb, use an extension time of approximately 1 min per Kb DNA.

5. Separate the PCR products by agarose gel electrophoresis and visualize with EtBr or any other means.

A DNA fragment which is amplified by EcoNova Taq DNA Polymerase has A (adenine) overhang, and it enables you to do cloning by using T-vector.

REQUIRED MATERIALS BUT NOT SUPPLIED:

All reagents, materials, and laboratory equipment for qPCR procedures are not provided with this polymerase. This includes sterile reaction tubes, micropipettes and tips, template DNA, gen-specific PCR primer pair, dNTPs mixture, PCR grade H_2O, heat pretreatment equipment (thermoblock, microwave), centrifuge, cold store and thermal block cycler.
Buffered solutions for DNA extraction or purification, enzyme treatments, highly sensitive detection systems, and other auxiliary reagents are available from Gennova 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

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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.
Gennova 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 Gennova 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 Gennova Scientific's technical support department (techsupport@gennovalab.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:

Gennova 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.

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REF Catalog number
LOT Batch code
RUO Research use only
Temperature limitation
Expiration date
Manufacturer
See instruction for use

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