



IBIAN®-HotTaq DNA Polymerase

i01-H02

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Description: IBIAN®-HotTaq DNA Polymerase is the optimized mixture of Taq DNA polymerase and anti-Taq DNA polymerase monoclonal antibodies. Antibodies block polymerase activity during set-up of the PCR reactions at ambient temperature (20 - 22 °C). The inhibition of Taq DNA polymerase is completely reversed when the temperature increased above 70 °C. The PCR products obtained with IBIAN®-HotTaq DNA Polymerase are free of unspecific products and primer-dimers.

Content

IBIAN®-HotTaq DNA Polymerase	200 units	1000 units
Catalog no.	i01-H02	i01-H02X5
Incomplete NH ₄ [*] Reaction Buffer (10x)	1.8 ml	5x 1.8 ml
Complete NH ₄ ^{**} Reaction Buffer (10x)	1.8 ml	5x 1.8 ml
Complete KCl ^{***} Reaction Buffer (10x)	8 ml	5x 1.8 ml
MgCl ₂ 100 mM	1.8 ml	5x 1ml
Datasheet	1	1

* Incomplete NH₄ Reaction Buffer (10x): pH 8.8, 0.1% Tween 20, free of MgCl₂.

** Complete NH₄ Reaction Buffer (10x): pH 8.8, 0.1% Tween 20, 25 mM MgCl₂.

***Complete KCl Reaction Buffer (10x): pH 8.8, 0.1% Tween 20, 15 mM MgCl₂.

Performance and purity tests: IBIAN®-HotTaq DNA Polymerase effectively directs PCR with the template up to 5 kb in length. The enzyme was tested on the absence of endonuclease and nickase activities.:

- PCR with various templates – human and bovine genomic DNA, Phage Lambda DNA
- exo-endo nucleases contamination tests
- tested for Real Time and Multiplex PCR
- storage (3 days at room temperature) test – no change in performance

Concentration: 5 Units/μl

Applications: IBIAN®-HotTaq DNA Polymerase is suitable for all regular applications but especially for PCR with complex genomic or cDNA templates, low copy number targets, large number of thermal cycles, Multiplex and Real Time PCR.

Sensitivity: High sensitivity of PCR reaction, at least 6 DNA molecules are necessary for detection.

Unit definition: One unit of activity is defined as the amount of enzyme required to incorporate 10 nmoles of dNTP into acid-insoluble DNA fraction in 30 minutes at 72 °C.

Recommended MgCl₂ concentration: 1.5 mM – 6 mM

Storage condition Store at -20°C. Avoid repeated freeze/thaw cycles. Product is shipped on blue-ice.

IBIANLab
www.ibianlab.com

Pipetting scheme

Components	Volume / 50 µl PCR-Reaction	Final concentration
10 x PCR-Buffer	5 µl	1 x
dNTP-Mix (40 mM)	1 µl	800 µM (200 µM each)
Upstream Primer	variable	0.1 - 0.5 µM
Downstream Primer	variable	0.1 - 0.5 µM
IBIAN®HotTaq DNA	0.25 - 1.0 µl	1.25 - 5.0 units
Template DNA	variable	10 to 500 ng/reaction
Sterile dest. water	Adjust to 50 µl final volume	

Separate MgCl₂ solution can be used, if incomplete buffer is used, or if you have to titrate MgCl₂ for optimal PCR results.

Thermocycler protocol

step	time	temperature
initial denaturation	2 minutes	94 °C
30 cycles:		
denaturation	10 seconds	94 °C
annealing	20 seconds	55 - 68 °C *
extension	1 minute	72 °C

* Usually the optimal annealing temperature is 5 °C below the melting temperature of the primers

Notes:

Program the cycler according to the manufacturers instructions. Each program should start with an initial denaturation step at 94 °C for 2 to max. 5 min.

Recommended elongation time is 1 min per 1 kb of target.

For maximum yield and specificity, temperatures (annealing) and cycling times should be optimized for each new template target or primer pair.

Order information

Catalog #	Concentration	Pack size
i01-H02S	5 u/µl	Sample size
i01-H02	5 u/µl	200 u
i01-H02X5	5 u/µl	1000 u (200 u x 5)