KAPATaq | DNA Polymerase

Product Description

KapaTaq is the single-subunit *Taq* DNA polymerase enzyme from the thermophilic bacterium Thermus aquaticus, purified from recombinant *Escherichia coli*. Taq polymerizes DNA from a primer annealed to a DNA template in the presence of deoxyribonucleoside triphosphates. *Taq* possesses 5′→3′ polymerase activity, as well as double-strand dependent 5′→3′ exonuclease activity. The enzyme lacks 3′→5′ exonuclease activity and therefore does not possess a proofreading function.

All KapaTaq kits are supplied with high yield and standard reaction buffers and separate magnesium chloride solution to accommodate PCR optimization.

Product Applications

- Standard PCR
- DNA labelling
- DNA sequencing
- Numerous applications for which a high-quality, thermostable DNA polymerase is required

Product Performance

HIGH YIELD AND SENSITIVITY

PCR reactions were performed on a 700 bp plasmid target using 1 unit of Taq polymerase in standard reaction buffer as recommended by each supplier. Sensitivity of the reaction was tested using a 10x template dilution series starting at 1 ng of DNA. As can be seen from the results, KapaTaq exhibits greater sensitivity as compared with competing suppliers.

Quality Control

- KapaTaq is extensively purified to >99% total protein and is free of contaminating exonuclease and endonuclease. KapaTaq meets strict requirements with regard to DNA contamination.
- KapaTaq is ideal for PCR reactions where endogenous templates would lead to misleading amplification products.

next generation thinking
in enzyme technology

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>> **KAPA**Taq with loading dye

KapaTaq DNA polymerase is also available with loading/tracking dye reaction buffer. The green loading dye will not inhibit the efficiency of the PCR reaction **(Fig. 1)** allowing you to save time and effort without compromising performance.

After PCR cycling you can simply load your PCR product directly onto the agarose gel with no extra steps for adding loading or tracking dye **(Fig. 2).**

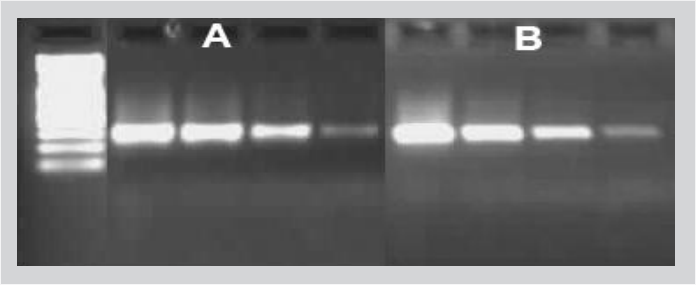


Figure 1. KapaTaq with Loading Dye Reaction Buffer (B) shows no inhibition of PCR performance when compared to KapaTaq Reaction Buffer without tracking dye (A). Sensitivity was tested on a 10X dilution series starting with 1 ng of human genomic DNA and Alu primer set.

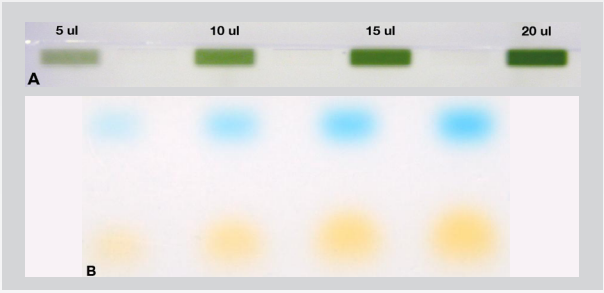


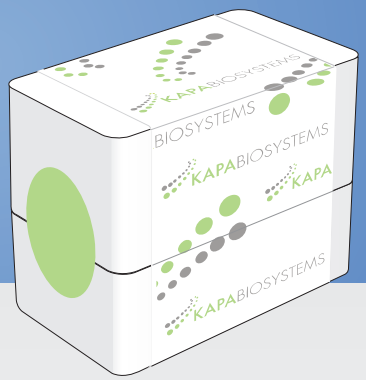
Figure 2. KapaTaq reactions with 1X Loading Dye Reaction Buffer
A. Volumes above wells indicate the volume of the PCR reaction loaded on the gel.
B. On a 1% agarose gel, the blue dye migrates at the same rate as a 5 kb DNA fragment, and the yellow dye migrates at 75 bp.

>> **KAPA**Taq ReadyMix

KapaTaq is also avaliable in a 2X ReadyMix format that contains KapaTaq DNA Polymerase, reaction buffer MgCl2, and dNTPs. Just add primers, template & PCR-grade water.

KapaTaq Kit Components:

- **KapaTaq DNA Polymerase (5 U/ul in storage buffer)**
- **High Yield Reaction Buffer with Mg^{2+} (Buffer A)**
- **10x Standard Reaction Buffer with Mg^{2+} (Buffer B)**
- **25 mM $MgCl_2$**



KAPATaq

Product Code	Kit Size
KK1014	250 units
KK1015	500 units
BK1000	2500 units
BK1002	5000 units

KAPATaq with loading dye

Product Code	Kit Size
KK1020	250 units
KK1022	500 units
BK1004	2500 units
BK1006	5000 units

KAPATaq ReadyMix

Product Code	Kit Size
KK1006	250 rxn

KAPATaq ReadyMix with loading dye

Product Code	Kit Size
KK1024	250 rxn

*** All kits are also available with Kapa dNTPs**
For custom orders please contact: sales@kapabiosystems.com

Boston, Massachusetts, United States
600 West Cumming Park, Suite 5350
Woburn, MA, 01801 U.S.A.
Tel: +1 781 497 2933 Fax: +1 781 497 2934
Email: info@kapabiosystems.com

Cape Town, South Africa
Research, Development, and Manufacturing Facility
2nd Floor, Old Warehouse Building, Black River Park,
Fir Road, Observatory, 7925 Cape Town, South Africa
Tel: +27 21 448 8200 Fax: +27 21 448 6503
Email: info@kapabiosystems.com

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www.kapabiosystems.com