

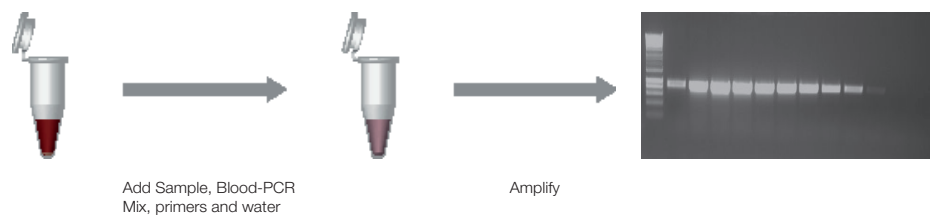
MyTaq™ Blood-PCR Kit

PCR Direct From Whole Blood

- **Fast:** eliminates complex, slow and costly DNA extraction steps, thereby reducing time to results
- **Simple:** fewer protocol steps greatly reduce the risk of sample loss and contamination and minimizes manual effort
- **Robust:** novel buffer system developed to overcome PCR inhibitors in blood
- **Sensitive:** incorporates MyTaq HS DNA Polymerase that exhibits increased affinity for DNA, thereby improving yield of even the most challenging targets
- **Flexible:** developed for a wide range of blood samples, including samples containing EDTA, citrate and heparin
- **Versatile:** suitable for a range of PCR applications, including multiplexing, amplification of GC-rich templates and long amplicons

MyTaq™ Blood-PCR Kit offers very fast, highly-specific, direct PCR from a wide range of human and animal whole blood samples, including those preserved with anticoagulants.

MyTaq Blood-PCR Kit is recommended for fast, specific and direct PCR from human (Fig. 1) and animal (Fig. 2) blood samples. MyTaq Blood-PCR Kit incorporates MyTaq HS DNA Polymerase, the latest generation of very high-performance polymerases unique to Bioline. Furthermore, MyTaq HS has an increased affinity for template DNA, giving a high PCR product yield from the most challenging templates.



From blood sample to PCR product in only 40 minutes.



Fig. 1 Amplification from human whole blood

An 844 bp fragment of the EGFR gene was amplified from human whole blood preserved with the anticoagulant lithium heparin. A 2-fold serial dilution from 20% blood was amplified in reactions using MyTaq Blood-PCR Kit and blood kits from suppliers K, T and N (lanes 1—12 (HyperLadder 1 kb (M)), according to the manufacturers' standard protocol. The results illustrate the significantly improved yield at both higher and lower blood concentrations with MyTaq Blood-PCR Kit.



Fig. 2 Amplification from animal whole blood

MyTaq Blood-PCR Kit was used with species-specific primers for Phe (237 bp), shp (440 bp), cyt-b (672 bp) and cyt-b (808 bp) to amplify fragments from horse, sheep, cat and dog blood respectively (lanes 1—4 (HyperLadder 1 kb (M))). The results illustrate the excellent compatibility of MyTaq Blood-PCR Kit with blood from different vertebrates.

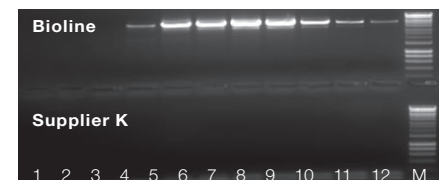


Fig. 3 Superior sensitivity with longer amplicons

MyTaq Blood-PCR Kit and a kit from supplier K were used to amplify a 5 kb fragment of DNA according to the manufacturers' standard protocol. A 2-fold serial dilution from 20% human whole blood (lanes 1—12 (HyperLadder 1 kb (M))) in lithium heparin was used. The results illustrate that MyTaq Blood-PCR Kit is able to amplify a 5 kb fragment with greater sensitivity, compared with the kit from supplier K.

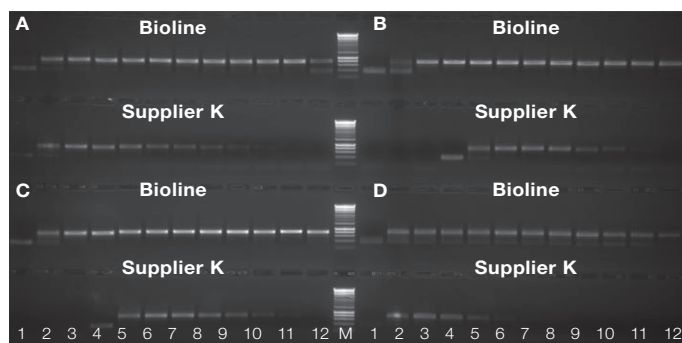


Fig. 4 Superior sensitivity with GC-rich templates

MyTaq Blood-PCR Kit and an equivalent kit from supplier K were used to amplify a 788 bp fragment of the NM_033178.2 gene (70.9% GC-rich), according to the manufacturers' standard protocol. A 2-fold serial dilution from 20% human whole blood (lanes 1—12 (HyperLadder 1 kb (M)) in a) EDTA b) lithium heparin c) sodium heparin d) sodium citrate were used. The results illustrate that MyTaq Blood-PCR Kit delivers improved yield at higher blood concentrations and is more sensitive at lower concentrations than the kit from supplier K.

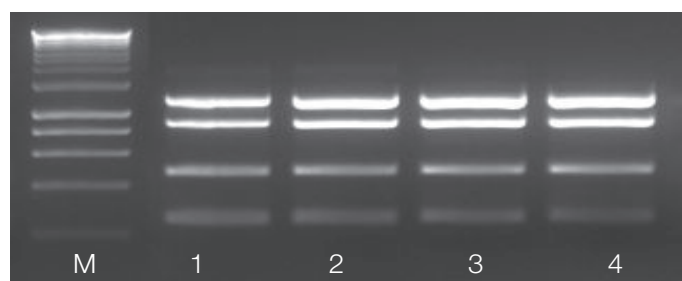


Fig. 5 Multiplexing with human whole blood

A 4-plex reaction of a 2-fold serial dilution from 10% whole blood (in lithium heparin) was amplified using primers for fragments of Phe (237 bp), Myc (450 bp), EGFR (844 bp) and ATP (1.2 kb) (lanes 1 - 4 (HyperLadder 1 kb (M))). The results illustrate that MyTaq Blood-PCR Kit is highly efficient at multiplexing without compromising PCR specificity or yield.

APPLICATIONS

- SNP genotyping
- Genetic testing
- Pathogen detection
- Blood screening
- Paternity testing

RAPID, SENSITIVE AND ROBUST

The combination of a unique, inhibitor-tolerant buffer system and MyTaq HS DNA Polymerase, ensures the MyTaq Blood-PCR Kit overcomes the PCR inhibitors typically present in blood samples, including anticoagulants (EDTA, citrate and heparin). This leads to significantly increased sensitivity and PCR success rates even with demanding applications such as long amplicons (Fig. 3) and GC-rich templates (Fig. 4) In addition to supporting robust PCR amplification, the novel buffer system replaces the need for complicated extraction and purification steps or the use of additives.

HIGHLY EFFICIENT MULTIPLEXING

The speed and high specificity of MyTaq Blood-PCR Kit makes it highly suited for multiplex PCR (Fig. 5) and high-throughput genotyping assays. The advanced formulation of MyTaq Blood-PCR Kit allows fast cycling conditions to be used, without compromising PCR specificity and yield.

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I've tested a number of products and by far the best one was MyTaq Blood-PCR Kit. The major advantage is that it works on whole blood samples and crude lysates. This product will also amplify larger amplicons than other products tested, even in a multiplex scenario. Other key advantages include the hot-start and its ability to withstand 30 freeze-thaw cycles.

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Markus Zeller, AutoGenomics, California, US

Ordering Information

MyTaq™ Blood-PCR Kit	Size	Cat. #
MyTaq Blood-PCR Kit	250 Reactions	BIO-25054

Please contact us for institutional pricing, special price quotations and availability of bulk pack sizes.

For related products, such as agarose and molecular weight markers visit www.bioline.com

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