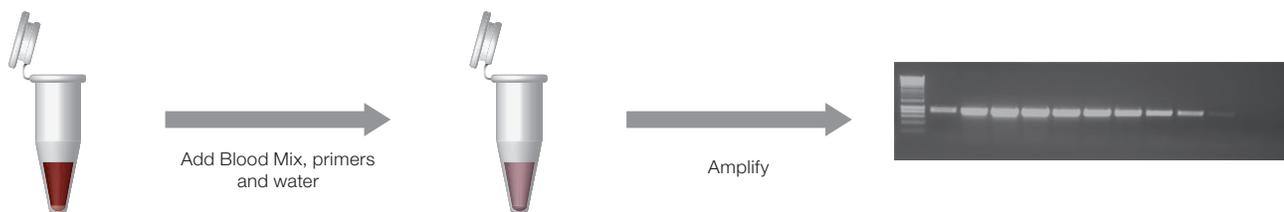


A quantum leap for PCR

MyTaq™ Blood-PCR Kit

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. The novel buffer system eliminates the need for complicated extraction or purification steps and the use of additives. The advanced formulation of MyTaq Blood-PCR Kit allows fast cycling conditions to be used without compromising PCR specificity and yield.

- **Extraction-free** - Eliminates complex DNA extraction protocols
- **Novel buffer system** - Overcomes blood inhibition for PCR success and sensitivity
- **Versatile** - Perfect for a wide range of human and animal bloods including those preserved in EDTA, citrate and heparin
- **Powered by MyTaq HS DNA Polymerase** - Unsurpassed specificity and yield
- **Application validated** - Ideal for multiplexing, GC rich templates and longer amplicons



From blood sample to PCR product in only 40 mins

Direct PCR from blood is challenging because of the presence of multiple inhibitors in samples (hemoglobin, hemin, lactoferrin, serum IgG, proteases, anticoagulants and salts), as well as template/primer inaccessibility or degradation in the crude sample. Native DNA polymerases are totally inhibited by less than 0.2% whole human blood. The novel and highly optimized MyTaq Blood-PCR Kit buffer, proprietary to Bioline, is specially engineered to overcome PCR inhibitors and deliver significant improvements in yield and sensitivity across all your assays.

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MyTaq™ Blood-PCR Kit

Superior performance with a wide range of blood samples and anticoagulants

Laboratory blood tests are often performed on samples collected with anticoagulants to inhibit clotting and help maintain specimen quality. Anticoagulation occurs by binding calcium ions (EDTA, citrate) or by inhibiting thrombin activity (heparin). However, these anticoagulants have an inhibitory effect in PCR assays, resulting in false-negative results. MyTaq Blood-PCR Kit significantly improves amplification success rates from human (fig. 1) and animal (fig. 2) whole blood samples containing commonly used anticoagulants EDTA, sodium citrate and sodium or lithium heparin.

Industry-leading performance with longer amplicons and GC-rich templates

MyTaq Blood-PCR Kit consistently delivers highly robust results with longer amplicons (fig. 3) or GC-rich templates (fig. 4) with various anticoagulants.

Highly efficient gene multiplexing

Multiplex PCR is a useful technique for many assays such as identifying multiple pathogens in clinical samples, genetic linkage studies with microsatellite markers, or genotyping applications such as knockout animal screening. MyTaq Blood-PCR Kit is ideal for multiplexing applications on whole blood samples (fig. 5).

Rapid, sensitive and robust

MyTaq Blood-PCR Kit has been specifically engineered to overcome PCR inhibitors typically present in blood samples, to give significantly increased sensitivity and PCR success rates even with demanding applications such as GC-rich templates or longer amplicons. The speed and high specificity of MyTaq Blood-PCR Kit also makes it highly suited for multiplex PCR and high-throughput genotyping.

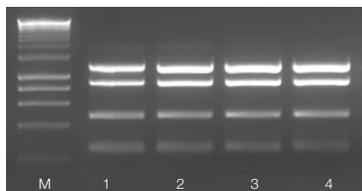


Fig. 5 Multiplexing with human whole blood

A 4-plex reaction was run using primers for fragments of Phe (237bp), Myc (450bp), EGFR (844bp) and ATP (1.2kb). Two-fold serial dilutions from 10% human whole blood (lanes 1-4) in lithium heparin were used. The results illustrate that MyTaq Blood-PCR kit is highly efficient at multiplexing with blood samples. HyperLadder 1kb marker (M).

References

Al-Soud, W.A. & Rådström, P. *Appl. Environ. Microbiol.* **64(10)**: 3748-3753. (1998).
Al-Soud, W.A. & Rådström, P. J. *Clin. Microbiol.* **38(12)**: 4463-4470. (2000).
Kermekchiev, M.B., *et al.*, *Nucleic Acids Res.* **37(5)**: e40. (2009).

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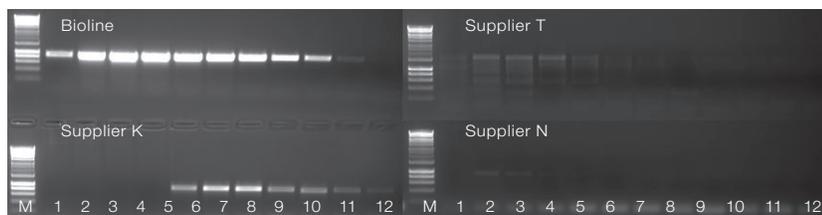


Fig. 1 MyTaq Blood-PCR Kit amplification from human whole blood

An 844bp fragment was amplified from human blood preserved with the anticoagulant lithium heparin. Two-fold serial dilutions from 20% blood were used in reactions using MyTaq Blood-PCR Kit and blood kits from suppliers K, T and N (lanes 1-12). The results illustrate the significantly improved yield at both higher and lower blood concentrations with MyTaq Blood-PCR Kit out performing other kits. HyperLadder 1kb marker (M).



Fig. 2 MyTaq Blood-PCR Kit amplification from animal whole blood

Species-specific primers were used to amplify fragments from horse, sheep, cat and dog blood (lanes 1-4). The results illustrate the excellent compatibility of MyTaq Blood-PCR Kit with blood from different vertebrates. HyperLadder 1kb marker (M).



Fig. 3 Superior sensitivity with longer amplicons

MyTaq Blood-PCR Kit was used to amplify a 5kb fragment of DNA. Two-fold serial dilutions from 20% human whole blood (lanes 1-12) in lithium heparin was used. The results illustrate that MyTaq Blood-PCR Kit is able to amplify a 5kb, in contrast to supplier K. HyperLadder 1kb marker (M).

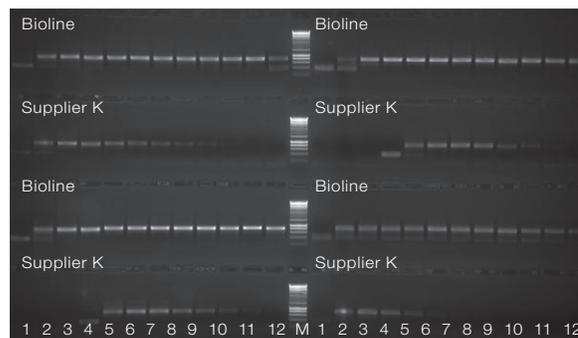


Fig. 4 Significantly improved sensitivity with GC-rich templates

MyTaq Blood-PCR Kit and a blood kit from supplier K were used to amplify a 70.9% GC-rich fragment of DNA. Two-fold serial dilutions from 20% human whole blood (lanes 1-12) in a) EDTA b) lithium heparin c) sodium heparin d) sodium citrate were used. The results illustrate that MyTaq Blood-PCR kit delivers greater amplification at higher blood concentrations and is more sensitive at lower concentrations than alternative kits. HyperLadder 1kb markers (M).

Ordering Information

| PRODUCT | PACK SIZE | CAT NO. |
|---------------------|---------------|-----------|
| MyTaq Blood PCR Kit | 100 Reactions | BIO-25053 |
| | 250 Reactions | BIO-25054 |

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