



SensiFAST™ Probe Direct SuperMix

Exceed the limit

SensiFAST™ Probe Direct SuperMix and SensiFAST™ Probe One-Step Direct SuperMix are highly inhibitor-resistant qPCR/RT-qPCR master mixes that provide quick and easy extraction and amplification of DNA or RNA from a variety of tissue types.

- **Robust:** optimized proprietary buffer system designed for overcoming common PCR inhibitors in crude lysate or unprocessed blood, tissue and plant samples
- **Specific:** antibody-mediated hot-start DNA polymerase minimizes non-specific amplification for improved assay sensitivity and reliability
- **Sensitive:** reliable quantification of low abundance targets and scarce samples
- **Reproducible:** consistent results between technical replicates for increased confidence in results
- **Fast:** delivers reproducible, multiplex accurate assay results in as little as 30 minutes

SensiFAST™ Probe Direct SuperMix and SensiFAST™ Probe One-Step Direct SuperMix are a combination of the latest advances in buffer chemistry and PCR enhancers and stabilizers, together with an antibody-mediated hot-start polymerase, dNTPs and MgCl₂. In addition, SensiFAST™ Probe One-Step Direct SuperMix is a 4x mix that contains reverse transcriptase.

The advanced buffer chemistry and enhancers have been developed for fast qPCR or RT-qPCR and are designed for superior sensitivity and specificity with probe-detection technology, including TaqMan®, Scorpions® and molecular beacon probes, making SensiFAST Probe Direct SuperMixes perfect for multiplexing, allowing more samples to be run in a day with the highest confidence, ideal for high-throughput assays.

The supermixes maximize sensitivity while simultaneously minimizing the effect of blood, tissue and plant PCR inhibitors, to deliver greater experiment success rates. They have been designed for much higher reproducibility, to deliver accurate assay results in the presence of inhibitors, making them ideal for amplification from the most challenging samples.

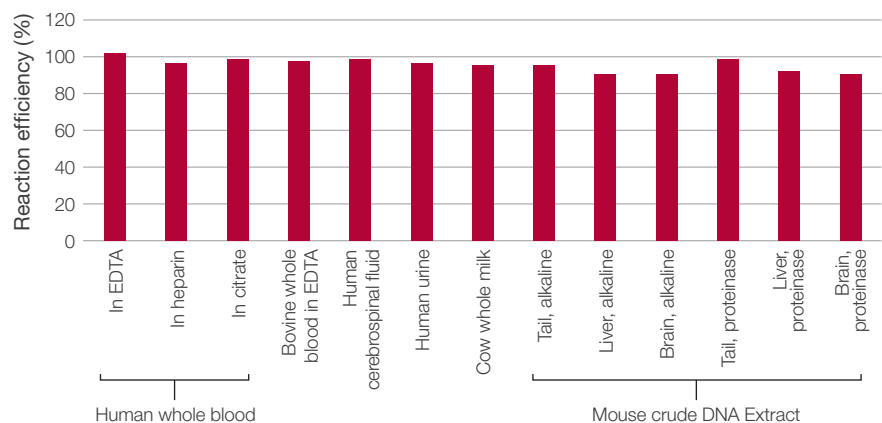


Fig. 1 Efficient amplification from different sample types

20% (final volume in reaction) samples of human whole blood containing anticoagulants (EDTA, Heparin and Citrate) and bovine whole blood (EDTA), human cerebrospinal fluid, human urine and cow whole milk were analysed using the SensiFAST Probe Direct SuperMix along with 2% alkaline or proteinase K mouse tail, liver and brain crude DNA extracts. The results illustrate that the reaction efficiency of the SensiFAST Probe Direct SuperMix remained within tolerances (90-110%) in the presence of a wide range of common PCR inhibitors.

APPLICATIONS

- Gene expression
- Viral and bacterial detection
- GMO testing
- SNP genotyping
- Mutation detection
- Environmental monitoring

SIMPLE, FAST AMPLIFICATION

SensiFAST Probe Direct SuperMixes have been tested with a variety of crude samples known to inhibit PCR, from whole blood to proteinase lysed crude DNA extracts (Fig. 1), making them ideal for everything from tissue lysates (Fig. 2) to biofluids, including sputum (Fig. 3) and stool (Fig.4) samples.

IDEAL FOR HIGH THROUGHPUT

Eliminating costly, time-consuming, cumbersome purification procedures that can lead to sample loss, not only increase the speed and sensitivity of the assay, but also makes SensiFAST Probe Direct SuperMix especially valuable for high-throughput applications with limited starting material, such as gene expression experiments.

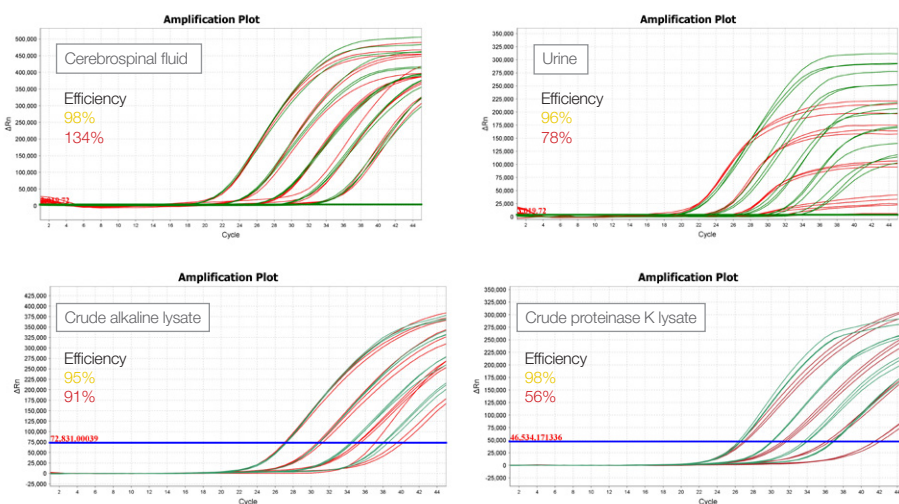


Fig. 2 Direct amplification from animal DNA in lysate solutions

A 10-fold serial dilution of genomic DNA from mouse tail clippings was spiked into alkaline lysis and proteinase K lysate and after neutralization, used with SensiFAST Probe Direct SuperMix (green) and an Inhibitor-Tolerant Mix from supplier K (red) using the manufacturers' recommended protocol. The results illustrate SensiFAST Probe Direct SuperMix is more sensitive than the mix from supplier K, particularly with the proteinase K lysate, as lower dilutions could be detected, with better efficiencies.

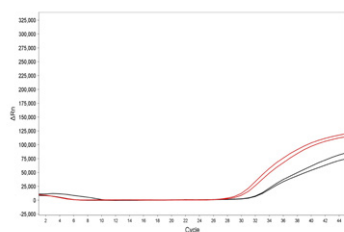


Fig. 3. Direct amplification with sputum

Amplification profiles of inactivated influenza virus (an RNA virus) spiked into samples containing 5% sputum. The results demonstrate the capability of SensiFAST Probe One-Step Direct SuperMix (red) to have a higher tolerance to inhibitors present in sputum compared to a standard One-Step RT-qPCR master mix (black).

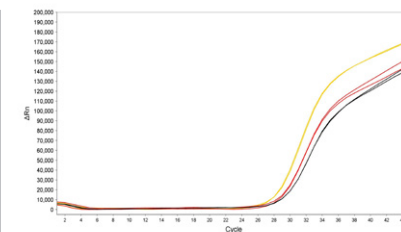


Fig.4. Direct amplification with stool extract

Amplification profiles of Rotavirus A (an RNA virus) in a multiplex reaction with increasing levels of stool extract, 5% (yellow), 10% (red) and 20% (black) stool extract. The results demonstrate the multiplexing capability SensiFAST Probe One-Step Direct SuperMix in the presence of inhibitors found in stool (up to 20% final volume).

ORDERING INFORMATION

Product	Size	Cat. #
SensiFAST™ Probe Direct SuperMix	500 Reactions	BIO-86105
	2000 Reactions	BIO-86120
SensiFAST™ Probe One-Step Direct SuperMix	200 Reactions	BIO-76101
	1000 Reactions	BIO-76105
SensiFAST™ Probe One-Step Direct Lo-ROX SuperMix	200 Reactions	BIO-74101
	1000 Reactions	BIO-74105

For related products such as cDNA synthesis kits, extraction controls visit www.bioline.com.

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