SensiMix™ II Probe Kit

Superior Genotyping

- **Sensitive:** reproducible detection of low-copy number templates
- **Specific:** proprietary hot-start modification minimizes non-specific amplification for improved assay reliability
- **Reproducible:** consistent results between technical replicates ideal for multiplexing and gene expression analysis
- **Robust:** reliable and accurate detection of DNA and cDNA targets from a broad range of sample types

Outstanding assay reproducibility, sensitivity and specificity for both DNA and cDNA templates.

SensiMix™ II Probe Kit combines the latest advances in buffer chemistry and PCR enhancers with a chemical hot-start PCR enzyme that promotes highly-specific amplification, in turn improving assay sensitivity and dynamic range, ensuring that SensiMix II Probe Kit provides the sensitivity and specificity required for demanding assays under standard thermal cycling conditions (Fig. 1). The kit has been formulated for use with probe-detection technology, including hydrolysis probes (e.g. TaqMan®), displacement probes (e.g. Molecular Beacons, Scorpion®) and hybridization probes (e.g. FRET), delivering superior performance in gene expression analysis and multiplexing (Fig.2).

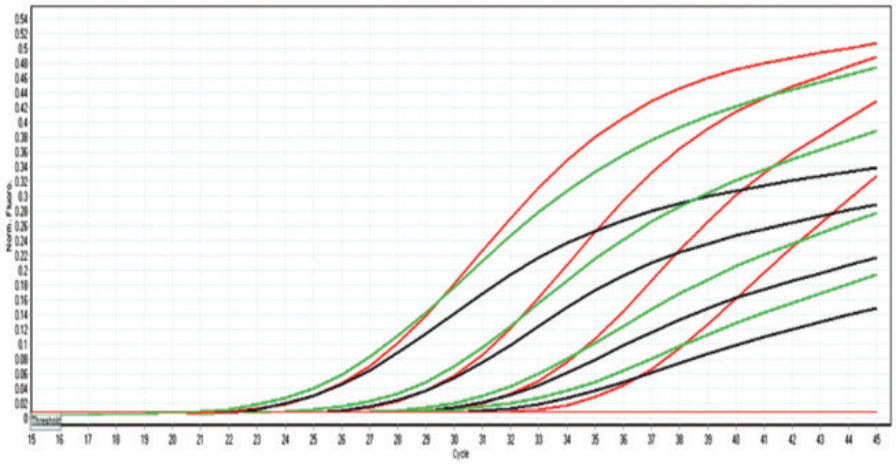

Fig. 1. Performance of SensiMix II Probe compared to other commercially available kits
The B2MG gene was amplified in triplicate (average shown) using a conventional TaqMan primer/probe set and standard cycling conditions (40 cycles 95 °C 10 s, 60 °C 60 s), on a Qiagen Rotor-Gene 6000, from 10-fold serial dilution of cDNA. SensiMix II (red) was more consistent (efficiency of 99%), higher signal and greater sensitivity than the main suppliers in the market, supplier B (green) (efficiency of 90%) and suppliers T (black) (efficiency 106%).

APPLICATIONS

- Genotyping
- Gene expression
- DNA/cDNA target detection
- miRNA profiling / quantification
- Copy number variation (CNV) analysis

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GENOTYPING

SensiMix II Probe Kit has been developed for fast, precise and highly reproducible genotyping of sequence variants, including loci with type 4 SNPs. The advanced buffer chemistry provides higher stringency and more specific binding of the allele-specific probes, resulting in much narrower probe melting temperature windows. This leads to wider and clearer separation of allele clusters (Fig. 3). SensiMix II Probe Kit has been validated on all real-time PCR platforms and includes a separate vial of passive reference dye ROX for normalization of well-to-well differences, if required.

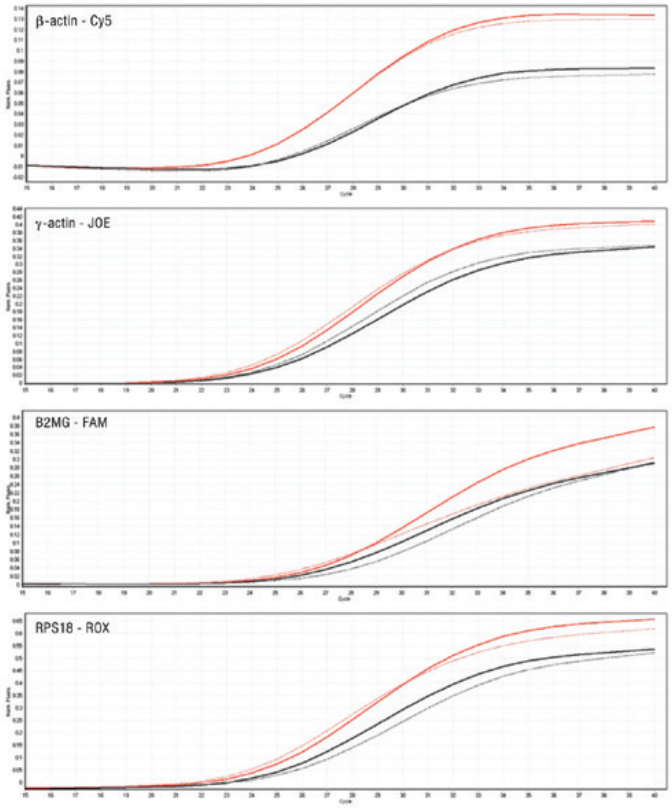

Fig. 2. Comparison of SensiMix II Probe (red line) and supplier Q using standard and fast cycling conditions
Human ß-actin and γ-actin genes were amplified in triplicate using a conventional primer/probe set with a FAM labeled probe according to each manufacturer's protocol, from 10-fold serial dilution of cDNA with either SensiMix II Probe (red), or a leading supplier mix Q (black). With fast cycling conditions (40 cycles 95°C 10s, 60°C 10s) SensiMix II Probe showed earlier Cts (1-2 Cts) for both genes and higher signal and greater sensitivity. With standard cycling conditions (40 cycles 95°C 10s, 60°C 60s) supplier Q results were better, however SensiMix II was more consistent, still showing earlier Cts (1-1.5 Cts) and higher signal.

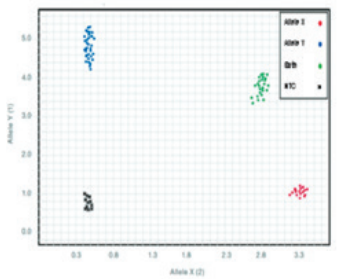

Fig. 3. Allelic discrimination plot of human genomic DNA samples
A total of 75 human genomic DNA samples and 11 no-template controls were accurately genotyped using an ABI 7900HT platform and ABI sequence detection software (95 % confidence level). Reactions were performed in 5 µL volumes with SensiMix II Probe, 10 ng human genomic DNA, 200 nM primers and 200 nM of each probe.

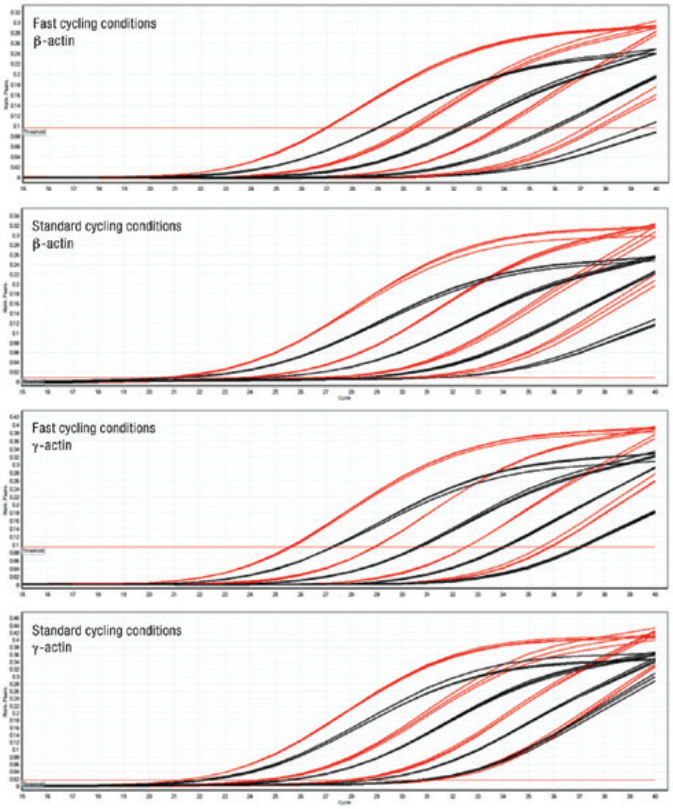

Fig. 4. Comparison of SensiMix II Probe and supplier Q in a quadruplex reaction
A 100-fold dilution of human cDNA was used with four different probes either in singleplex reactions (solid line) or a quadruplex reaction (dashed line) using a conventional TaqMan primer/probe set and standard cycling conditions on a Rotor-Gene Q. The seven replicates are shown as an average. The results illustrate SensiMix II Probe (red) works faster (consistently earlier Ct's) than supplier Q (black) and shows higher signal with all four genes.

Ordering Information

SensiMix II Probe Kit	Size	Cat. #
SensiMix II Probe Kit	500 Reactions	BIO-83005

For related products visit www.bioline.com

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