KAPABIOSYSTEMS
evolving better science

ATCGGCA
TTTGGCC
CGCATCG
GACTACG
NGS | qPCR | PCR

KAPA SYBR® FAST qPCR KITS

The first DNA polymerase engineered for real-time PCR.

KAPA SYBR FAST qPCR Kits contain the first DNA polymerase engineered via directed evolution to be more tolerant of SYBR Green I dye inhibition.

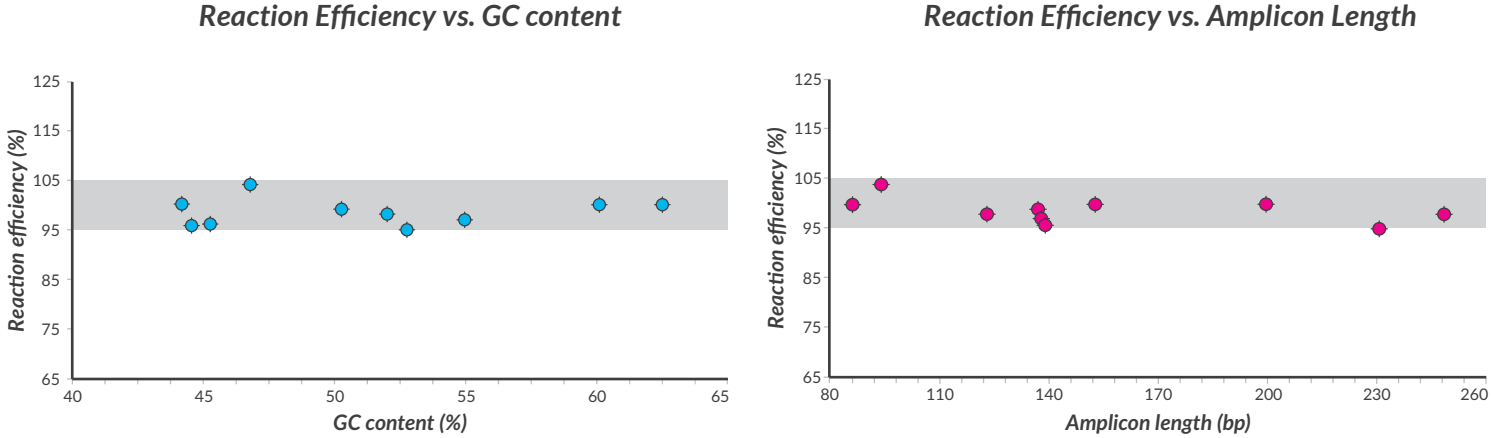
The improved robustness, processivity, and speed of KAPA SYBR FAST qPCR Kits result in consistently high amplification efficiencies enabling more accurate relative quantification for gene expression analysis. Kits exhibit dramatic improvements to signal-to-noise ratio (fluorescence), quantification cycle (Cq), linearity, and sensitivity.

Kits are ideally suited for:

- gene expression analysis
- microarray validation
- low-copy detection
- gene knockdown validation
- ChIP analysis
- next-generation sequencing library quantification

Quantitate Changes in Gene Expression more Accurately

- High reaction efficiency between 95 – 105% improves accuracy and reproducibility
- Unbiased efficiency across a wide range of GC contents and amplicon lengths



No bias in amplification efficiency across a wide range of GC contents (44.2 – 62.5%) or amplicon lengths (86 – 249 bp) was observed with KAPA SYBR FAST. Amplification efficiencies achieved for ten housekeeping genes with the KAPA SYBR FAST Universal qPCR Kit were plotted against GC content (left) or amplicon length (right). The reaction efficiency achieved for each of the ten genes fell within the optimal range of 95 – 105%, independent of the nature or length of the amplicon.

Unless otherwise stated in references, presented data on file

For Research Use Only. Not for use in diagnostic procedures.

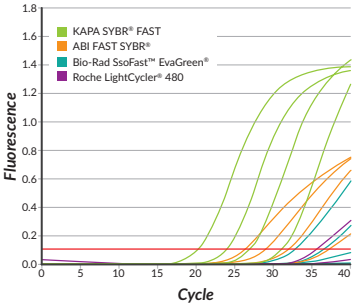
Detect Low Copy and Difficult Targets Consistently

- Improved processivity results in earlier Cq scores
- Higher fluorescence detection across varying AT- and GC-rich targets
- Novel enzyme is resistant to SYBR® inhibition

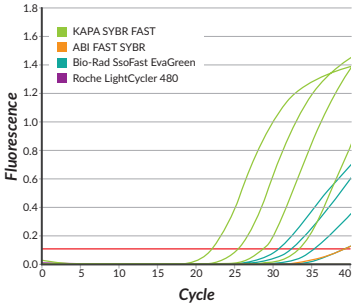
Complete Real-time PCR Runs in just 40 Minutes

- 55% shorter run times with fast cycling protocol
- Maintain high performance when switching from standard to fast protocols

DMD (23.1% GC)

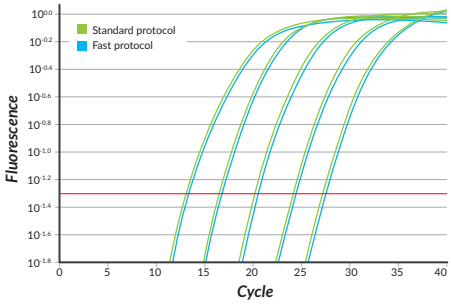


NOTCH (72.2% GC)



Two target genes were amplified using a 10-fold dilution series of human genomic DNA (16 ng to 1.6 pg per 20 µL reaction) comparing four commercial kits. KAPA SYBR FAST consistently provides high performance for accurate expression quantitation across a range of difficult targets.

Amplification Plot



A 150 bp fragment of the human coagulation factor V gene was amplified from a set of 5 10-fold dilutions of human genomic DNA (20 ng - 2 pg) with a standard-cycling protocol (green) and a fast-cycling protocol (blue).

Ordering Information

Roche Cat. No.	Kapa Code	Description	Kit Size
07959362001	KK4600	KAPA SYBR® FAST, Universal	1 x 1 mL
07959389001	KK4601	KAPA SYBR FAST, Universal	1 x 5 mL
07959397001	KK4602	KAPA SYBR FAST, Universal	2 x 5 mL
07959419001	KK4603	KAPA SYBR FAST, ABI Prism®	1 x 1 mL
07959427001	KK4604	KAPA SYBR FAST, ABI Prism	1 x 5 mL
07959435001	KK4605	KAPA SYBR FAST, ABI Prism	2 x 5 mL
07959443001	KK4606	KAPA SYBR FAST, Bio-Rad iCycler™	1 x 1 mL
07959451001	KK4607	KAPA SYBR FAST, Bio-Rad iCycler	1 x 5 mL
07959460001	KK4608	KAPA SYBR FAST, Bio-Rad iCycler	2 x 5 mL
07959478001	KK4609	KAPA SYBR FAST, for Roche LightCycler® 480	1 x 1 mL
07959486001	KK4610	KAPA SYBR FAST, for Roche LightCycler® 480	1 x 5 mL
07959494001	KK4611	KAPA SYBR FAST, for Roche LightCycler® 480	2 x 5 mL

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MC-US-00364 S201001 A373 5/18