

KAPA2G FAST

The first DNA polymerase evolved for speed and performance

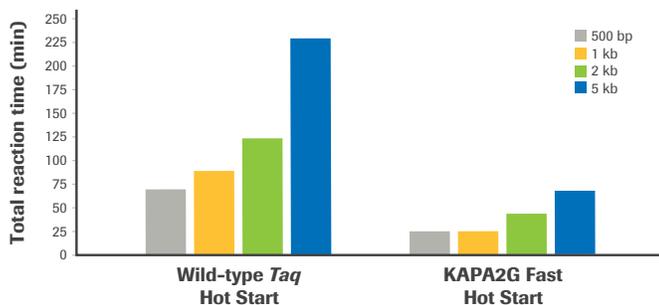
KAPA2G Fast DNA Polymerase is a second-generation (2G) enzyme engineered for higher processivity and speed, offering significantly faster extension rates than wild-type *Taq* polymerase. In addition to speed, KAPA2G Fast provides higher yields and sensitivity than competitor enzymes across a broad range of targets.*

Benefits include:

- extension times as low as 1 sec/kb
- broad coverage of both AT- and GC-rich targets
- reduced PCR reaction times by up to 75%
- high speed without compromising performance
- HotStart and ReadyMix formulations

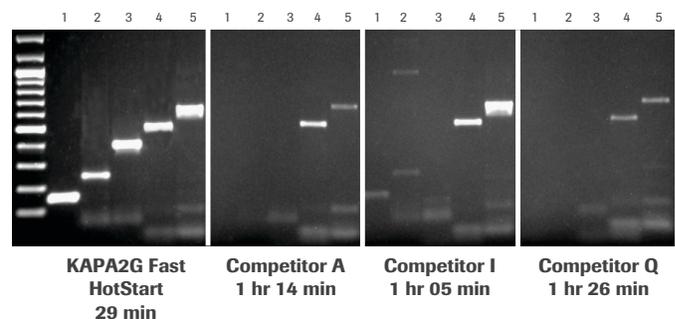
Reduced cycling times up to 75%

- Extension times as low as 1 sec per kilobase
- Broad coverage of both AT- and GC-rich targets



*Total PCR times for the generation of different sized amplicons for human genomic DNA (≤ 3.5 kb) and lambda (≤ 5 kb) using wild-type *Taq* DNA polymerase and KAPA2G Fast DNA Polymerase. The amount of time that can be saved using protocols based on wild-type *Taq* is limited by the extension rate of the enzyme. KAPA2G Fast DNA Polymerase is based on a second-generation polymerase with an ability to synthesize DNA faster than wild-type *Taq* or other DNA polymerases. Reaction times are based on a 35-cycle program using the cycling profile recommended by each kit manufacturer.

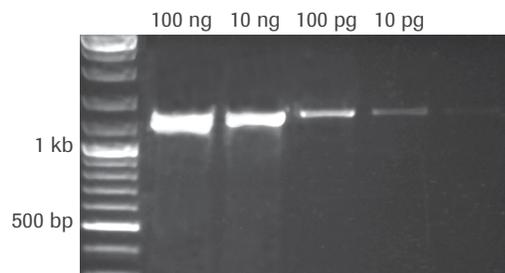
High speed and performance



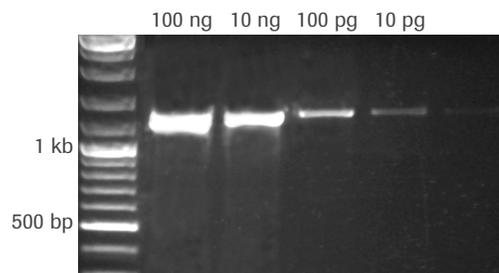
*Amplification of 5 human gene fragments using KAPA2G Fast HotStart or competitor hot-start *Taq* formulations. Reactions (25 μ L) contained 5 ng human genomic DNA and 0.5 units (KAPA2G Fast HotStart and Competitor I) or 0.625 units (Competitor A and Q) enzyme. For amplicons with a GC content $> 65\%$ (lanes 2 and 3), 7.5% DMSO was included in reactions. A 3-step cycling profile (35 cycles) with 15 sec denaturation (95°C) and 15 sec annealing (60°C) per cycles was used for all enzymes. The extension (72°C) was 1 sec/cycle for KAPA2G Fast HotStart and 60 sec/cycle for competitor enzymes. The total reaction time for each enzyme is indicated.

High speed, higher performance

- Single-copy sensitivity from complex targets
- Increased yields



Amplification of a 626 bp fragment of the epidermal growth factor receptor gene from a 10-fold dilution series of human genomic DNA using KAPA2G Fast HotStart. 0.5 units of enzymes were used per 25 μ L reaction. A standard 3-step cycling profile (35 cycles) with a total extension time of 1 sec per cycle was used.



Amplification of a 1.3 kb fragment of the macrophage stimulating 1 receptor gene from a 10-fold dilution series of human genomic DNA using KAPA2G Fast HotStart. 0.5 units of enzymes were used per 25 μ L reaction. A standard 3-step cycling profile (35 cycles) with a total extension time of 15 sec/kb per cycle was used.

Ordering information

Roche cat. no.	KAPA code	Description	Kit size
07960816001	KK5020	KAPA2G Fast	100 units
07960824001	KK5021	KAPA2G Fast	250 units
07960760001	KK5008	KAPA2G Fast + KAPA dNTP Mix	100 units
07960778001	KK5009	KAPA2G Fast + KAPA dNTP Mix	250 units
07961111001	KK5523	KAPA2G Fast HotStart	100 units
07960964001	KK5503	KAPA2G Fast HotStart	250 units
07960948001	KK5501	KAPA2G Fast HotStart	500 units
07961090001	KK5519	KAPA2G Fast HotStart	2500 units
07961162001	KK5530	KAPA2G Fast HotStart + KAPA dNTP Mix	100 units
07960956001	KK5502	KAPA2G Fast HotStart + KAPA dNTP Mix	250 units
07960930001	KK5500	KAPA2G Fast HotStart + KAPA dNTP Mix	500 units
07961235001	KK5603	KAPA2G Fast HotStart Ready Mix	100 rxns
07961227001	KK5601	KAPA2G Fast HotStart Ready Mix	500 rxns
07961006001	KK5511	KAPA2G HotStart PCR Kit with Mg-free Buffer M	500 units
07961014001	KK5512	KAPA2G HotStart PCR Kit with Mg-free Buffer M, with dNTPs	250 units
07960999001	KK5510	KAPA2G HotStart PCR Kit with Mg-free Buffer M, with dNTPs	500 units
07961022001	KK5513	KAPA2G HotStart PCR Kit with Mg-free Buffer M	250 units
07960883001	KK5101	KAPA2G ReadyMix with dye	1.25 mL
07961260001	KK5608	KAPA2G HotStart ReadyMix with dye	1.25 mL
07961278001	KK5609	KAPA2G HotStart ReadyMix with dye	6.25 mL

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