



>> KAPALongRange HotStart

Long Targets. High Sensitivity. Higher fidelity.

Product Description

The KAPALongRange HotStart PCR system is a blend of *Taq* DNA polymerase and an engineered archaeal (Type B) DNA polymerase possessing proofreading capability. This two-enzyme system is designed specifically to support long range and/or sensitive PCR from complex targets. In the hot start formulation, the enzyme is combined with a proprietary antibody that inactivates the enzyme until the first denaturation step. This eliminates spurious amplification products resulting from non-specific priming events during reaction setup and initiation, and increases overall reaction efficiency.

KAPALongRange HotStart DNA Polymerase possesses 2x – 4x higher fidelity than *Taq* polymerase.

The majority of PCR products from a KAPALongRange HotStart DNA Polymerase reaction have a single deoxyadenosine added to the 3' ends of the amplicon and can be used for ligation into single 3'-T-overhang cloning sites.

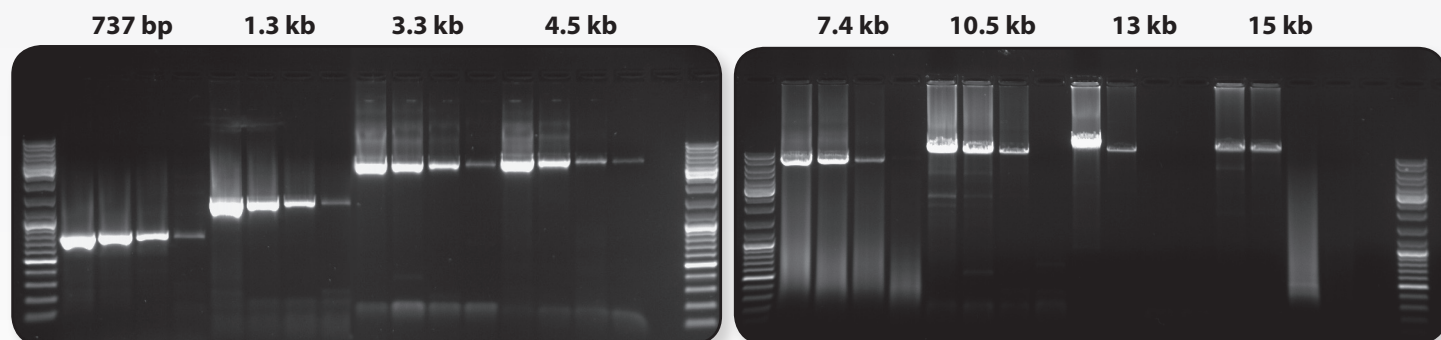
The KAPALongRange HotStart PCR system is ideally suited for:

- PCR amplification of long targets and/or PCR using low amounts of template DNA.
- Standard short- and mid-range PCR amplification.
- Production of PCR products to be used for ligation into 3'-T-overhang cloning vectors.
- Targeted sample enrichment for next-generation DNA sequencing.

Product Performance

Amplification of Long and Complex Targets with High Sensitivity

KAPALongRange HotStart amplifies long and complex targets with high sensitivity and specificity up to 15 kb.



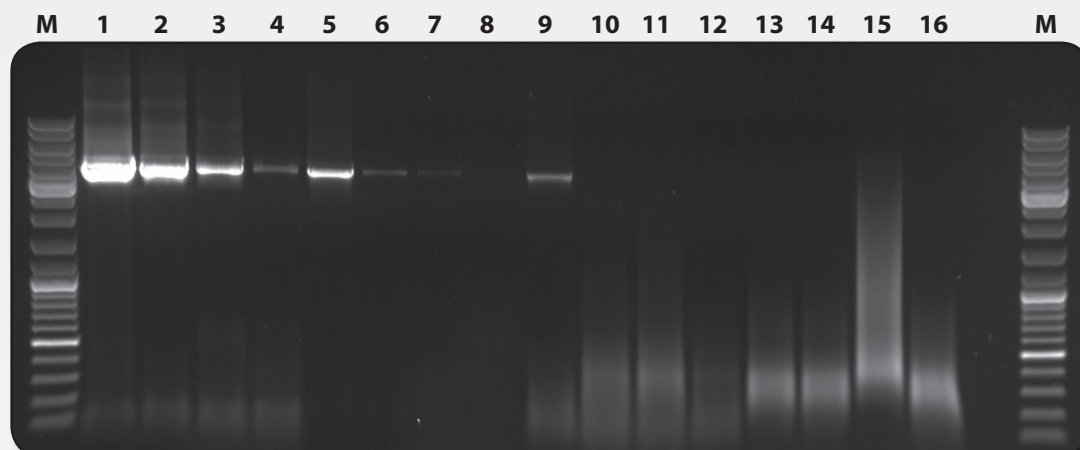
Left panel: Amplification of template dilution of human genomic DNA starting with 50 ng, 10 ng, 2 ng, and 400 pg per 25 μ l reaction. Amplicons were 737 bp, 1.3 kb, 3.3 kb, and 4.5 kb in length. 35 cycles, 72 $^{\circ}$ C extension temperature. 1% agarose gel.

Right panel: Amplification of template dilution of human genomic DNA starting with 50 ng, 10 ng, 2 ng, and 400 pg per 25 μ l reaction. Amplicons were 7.5 kb, 10.5 kb, 13 kb, and 15 kb in length. 35 cycles, 68 $^{\circ}$ C extension temperature. 0.8% agarose gel.

Product Performance

KAPALongRange HotStart Outperforms with Complex Targets

KAPALongRange HotStart exhibits high yield, sensitivity, and long range when competitor long range systems fail.

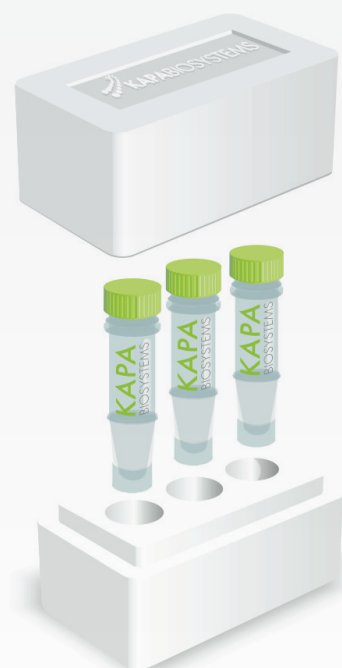


Amplification of 4.5 kb fragment from 50 ng, 10 ng, 2 ng and 400 pg of human genomic DNA per 25 μ l reaction. Lanes: (M) Marker, (1-4) KAPALongRange HotStart, (5-8) Competitor I, (9-12) Competitor T, (13-16) Competitor R. 1% agarose gel.

KAPALongRange HotStart Kit Components:

- KAPALongRange HotStart DNA Polymerase (2.5 U/ μ l in storage buffer)
- 5X KAPALongRange Reaction Buffer
- 25 mM MgCl₂
- 250 μ l KAPA dNTP Mix

| Product Code | Kit Size |
|--------------|-----------|
| KK3500 | 50 units |
| KK3501 | 100 units |
| KK3502 | 250 units |
| KK3503 | 500 units |



For more information please contact sales@kapabiosystems.com or your local representative of Kapa Biosystems.