

## 5x Omni Klentaq-LA PCR Kit

**Amount:** 2 x 1.25 ml (250 reactions)

**Shipping conditions:** Ice pack

**Storage conditions:** for best performance, store at -20°C

**Shelf life:** At least 1 year if stored at -20°C and 10 freeze/thaws or at least 3 months if stored at 4°C.

### PRODUCT DESCRIPTION:

Our 5x ready-to-use PCR kit contains Omni Klentaq-LA, a triple mutant of Klentaq polymerase that makes the enzyme resistant to the inhibitory effects of blood, soil and more, with the Long-Accurate feature that allows for amplification of longer products with higher fidelity and accuracy. It remains functional in up to 20-25% whole blood, especially in the presence of our enhancer products, or in some concentrations of crude soil extract where other commercial enzymes fail. Due to its suppressed activity at low temperatures this enzyme also provides a hot start for PCR. This kit can be used for regular, as well as real-time PCR. It contains everything necessary for a PCR reaction to work perfectly, just add your template, primers/probes and water. For real time reactions you may need to add a fluorescent dye as an alternative to probes. 5X composition is: 5x Omni Klentaq-LA DNA Polymerase, 1 mM dNTPs, 250 mM Tris-Cl pH 9.2, 80 mM ammonium sulfate, 0.5% Tween 20, and 17.5 mM magnesium chloride.

### TYPICAL PCR PROTOCOL for a 50µl reaction:

Reagent	Volume	Final Concentration
5x Omni Klentaq-LA PCR Kit Reagent	10 µl	1x
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template <sup>†</sup>	Variable	0.5-100ng
PCR Enhancer Cocktail (PEC) (recommended)*	25 µl	1x
de-ionized distilled H <sub>2</sub> O	Adjust final volume to 50µl	-

<sup>†</sup> DNA amount depends mostly on genome size and target gene copy number.

\*For optimal performance, we recommend using one of our PCR Enhancer Cocktails (PEC-1, PEC-1GC, PEC-2, or PEC-2-GC) which are specially formulated for use with whole blood, serum or plasma.

### CYCLING CONDITIONS

1. Pre-incubation: 94° for 2 minutes for 1 cycle
2. Denaturing: 94° for 40-60 seconds
3. Annealing: 55°-70° depending on the specific primers (5° less than T<sub>m</sub>) for 40-60 seconds
4. Extension: 68° for 2 min / 1kb target
5. Repeat steps 2-4 for 25-40 cycles

### REFERENCES:

Kermekchiev, M.B., et al. (2003) Cold-sensitive mutants of Taq DNA polymerase provide a hot start for PCR. Nucl Acids Res. 31, 6139-6147.

Kermekchiev, M.B. et al. (2009) Mutants of Taq DNA polymerase resistant to PCR inhibitors allow DNA amplification from whole blood and crude soil samples. Nucl. Acids Res., 37 (5):e40 E pub.

**Please visit us on the web at [www.klentaq.com](http://www.klentaq.com) for troubleshooting and detailed protocols.**

### Notice to Purchaser :

DNA Polymerase Technology products may not be resold, modified for resale or used to manufacture products without an agreement with DNA Polymerase Technology, Inc. The Omni mutant DNA Polymerases are trademarked and patented (US 7,462,475, and US patent pending). No license for Omni Klentaq-LA to be used in a Polymerase Chain Reaction has been purchased by DNA Polymerase Technology, Inc.