

## 5x Rapid Klentaq PCR Kit Cat #: 460

**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 Rapid Klentaq, a cold-sensitive double mutant of Klentaq1 (a 5'-exonuclease deficient Taq polymerase with improved fidelity and thermostability). This enzyme is designed to provide robust amplification with a very short extension time. Due to its suppressed activity at low temperatures, it can perform hot-start PCR as well. 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. The 5x Rapid Klentaq PCR kit is optimized for targets up to 1 kb in length. **For longer targets, please choose the 5x Rapid Klentaq LA PCR Kit.** 5X composition is: 5x Rapid Klentaq, 1 mM dNTPs, 250 mM Tris-Cl pH 9.2, 80 mM ammonium sulfate, 0.125% Brij 58, and 17.5 mM magnesium chloride.

### TYPICAL PCR PROTOCOL for a 25 µl reaction:

Reagent	Volume	Final Concentration
5x Rapid Klentaq PCR Kit reagent	5 µl	1x
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template <sup>†</sup>	variable	0.5-100ng
Betaine 5M*	6.5 µl (optional)	1.3 M
de-ionized distilled H <sub>2</sub> O	Adjust final volume to 25µl	-

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

\*Betaine is a general PCR enhancer. It usually improves the yield and specificity of amplification especially for longer targets.

### 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 as little as 10 seconds for a 600 bp target (longer targets may require longer extension for optimal results. Try 2 min/kb to start.)
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.

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

### Notice to Purchaser

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