

5x Rapid Klentaq 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 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 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 Rapid Klentaq PCR Kit reagent	10 µl	1x
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template [†]	Variable	0.5-100ng
Betaine 5M*	13µl (optional)	1.3 M
de-ionized distilled H ₂ O	Adjust final volume to 50µl	-

[†] 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_m) 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 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. Cold sensitive mutant DNA Polymerases by DNA Polymerase Technology are licensed under US Patent No. 6,214,557. No license for Rapid Klentaq to be used in a Polymerase Chain Reaction has been purchased by DNA Polymerase Technology, Inc.