# Klentaq1 Cat #: 100

**Amount:** 100 µl enyzme (sufficient for 2000 x 25 µl reactions up to 1 kb)
**Shipping conditions:** Ambient
**Storage conditions:** -20°C
**Thermostability:** Retains at least 85% activity after 1 hour at 95°C
**Shelf life:** At least 1 year from date of receipt under proper storage conditions.

**PRODUCT DESCRIPTION:**
Klentaq1 is a 5′-exonuclease deficient Taq polymerase (an N-terminal deletion of Taq) with improved fidelity and thermostability. 10x buffer composition is: 500 mM Tris-Cl pH 9.2, 160 mM ammonium sulfate, 0.5% Brij 58, and 35 mM magnesium chloride. We also offer (upon request) 10x buffer at pH 7.9 for better fidelity.

**TYPICAL PCR PROTOCOL for a 25 ul reaction:**

| Reagent | Volume | Final Concentration |
|---|---|---|
| 10x Klentaq1 reaction buffer | 2.5 µl | 1x |
| DNTP mix (10 mM) | 0.5 ul | 200 uM each |
| Left Primer | variable | 200 nM |
| Right Primer | variable | 200 nM |
| DNA template† | variable | 0.1-100 ng |
| Betaine 5M* | 6.5 µl (optional) | 1.3M |
| Klentaq1** | 0.05 – 0.25 µl ** | 2.5 units |
| De-ionized distilled $H_2O$ | Adjust final volume to 25 ul | - |

† 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.
** To determine specific optimal enzyme concentration, we strongly recommend an enzyme titration test for each target. Targets larger than 1 kb may require more enzyme or may benefit from the LA (Long-Accurate) version of the polymerase

**CYCLING CONDITIONS**

1. Denaturing: 94° for 2 minutes for 1 cycle
2. Denaturing: 94° for 40-60 seconds
3. Annealing: 50°-68° depending on the specific primers (5° less than Tm) for 40-60 seconds
4. Extension: 68° for 2 min/kb target
5. Repeat steps 2-4 for 25-40 cycles

**Please visit us on the web at www.klentaq.com for troubleshooting and detailed protocols.**

**REFERENCES:**
Barnes, W.M. (1994) PCR amplification of up to 35 kb DNA with high fidelity and high yield from bacteriophage templates, PNAS 91, 2216-2220.

U.S. Patent No. 5,436,149