

## Omni Klentaq 2 LA

Cat #: 344



**Amount:** 125 µl (500 x 25 µl reactions)

**Shipping conditions:** Ambient temperature

**Storage conditions:** -20°C F

**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:

Omni Klentaq 2 is a new mutant of Klentaq showing resistance to even more blood (at least 40% by volume) or chocolate than Omni Klentaq. The Long-Accurate feature allows for amplification of longer products with higher fidelity and accuracy. LA enzymes are not recommended for use with dUTP. 10x buffer composition is: 500 mM Tris-Cl pH 9.2, 160 mM ammonium sulfate, 0.25% Brij 58, and 35 mM magnesium chloride.

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

| Reagent                               | Volume                       | Final Concentration |
|---------------------------------------|------------------------------|---------------------|
| 10x Klentaq mutant reaction buffer    | 2.5 µl                       | 1x                  |
| dNTP mix (10 mM each)                 | 0.5 µl                       | 200 µM each         |
| Left Primer                           | variable                     | 200 nM              |
| Right Primer                          | variable                     | 200 nM              |
| DNA template†                         | variable                     | 0.1-100 ng          |
| PCR Enhancer Cocktail (recommended)*  | 12.5 µl                      | 1x                  |
| Omni Klentaq 2 LA                     | 0.05 – 0.25 µl **            |                     |
| De-ionized distilled H <sub>2</sub> O | Adjust final volume to 25 ul |                     |

† 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.

\*\* To determine specific optimal enzyme concentration, we strongly recommend an enzyme titration test for each target. Good starting amount of the enzyme per 25 ul reaction is 0.05 ul for purified DNA templates and 0.25 ul for crude samples containing 5-10% whole blood, plasma or serum. Targets larger than 1 kb may require more enzyme.

### CYCLING CONDITIONS:

1. Denaturing: 94° for 2-8 minutes for 1 cycle \*
2. Denaturing: 94° for 40-60 seconds
3. Annealing: 50°-68° depending on the specific T<sub>m</sub> primers for 40-60 seconds
4. Extension: 68° for 2 min/kb target
5. Repeat steps 2-4 for 25-40 cycles

Initial 2-8 min heating step is recommended for crude samples containing 5-10% whole blood, plasma or serum.

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

### 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.

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