

Klentaq1 DNA Polymerase

Amount: 100 ul (sufficient for 1000 reactions up to 1 kb)

Shipping conditions: Ambient temperature

Storage conditions: -20°C for enzyme, 4°C for 10x Klentaq1 buffer

Thermo stability: 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, 1% Tween 20, and 35 mM magnesium chloride. We also offer (upon request) 10x buffer at pH 7.9 for better fidelity.

TYPICAL PCR PROTOCOL for a 50µl reaction:

Reagent	Volume	Final Concentration
10x Klentaq1 PCR buffer	5µl	1x
dNTP mix (10 mM)	1µl	200 µM each
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template [†]	variable	0.1-100 ng
Betaine 5M*	13µl (optional)	1.3 M
Klentaq1 Polymerase**	0.1µl	2.5 units
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.

**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 use of an 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 T_m primers for 40-60 seconds
4. Extension: 68° for 2 min / 1kb target
5. Repeat steps 2-4 for 25-40 cycles

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

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

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