Klentaq1 Cat #: 100

Amount: 100 ul (sufficient for 2000 25 ul reactions up to 1 kb)
Shipping conditions: Ambient temperature
Storage conditions: -20°C for enzyme, 4°C for 10x Klentaq reaction 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, 0.25% 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 µl reaction:

Reagent	Volume	Final Concentration
10x Klentaq1 PCR buffer	2.5 µl	1x
dNTP mix (10 mM)	0.5 µl	200 µM each
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template†	variable	0.1-100 ng
Betaine 5M*	6.5 µl (optional)	1.3 M
Klentaq1 Polymerase**	0.05 µl	2.5 units
de-ionized distilled H_2O	Adjust final volume to 25 µl	-

†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 Tm 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.