

Cesium Klentaq-AC-LA DNA Polymerase

Amount: 25 µl (0.1 µl / 50 µl reaction)

Shipping conditions: Ambient temperature

Storage conditions: -20°C for enzyme, 4°C for 10x Cesium Klentaq 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:

Cesium Klentaq-AC-LA Polymerase is a double cold-sensitive mutant of Klentaq1 polymerase. Due to its suppressed activity at low temperatures this enzyme is designed for hot start PCR performance. It also features the Long-and-Accurate feature that allows amplification of longer products with higher fidelity and accuracy. 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 Cesium Klentaq PCR buffer [†]	5µl	1x
dNTP mix (10 mM)	1µl	200µM each
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template [†]	variable	0.1-100ng
Betaine 5M*	13µl (optional)	1.3 M
Cesium Klentaq-AC-LA Polymerase**	0.1 - 0.5µl	
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 longer than 1 kb may require more enzyme.

CYCLING CONDITIONS

1. Denaturing: 94° for 2 minutes for 1 cycle
2. Denaturing: 94° for 30-45 seconds
3. Annealing: 50°-68° depending on the specific primers' T_m for 40-60 seconds
4. Extension: 72° for at least 1 min
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.

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