

CesiumTaq-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 CesiumTaq 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:

CesiumTaq-LA Polymerase is a double cold-sensitive mutant of Taq polymerase with the Long-and-Accurate feature that allows amplification of longer products with higher fidelity and accuracy. Due to its suppressed activity at low temperatures this enzyme is designed for hot start PCR performance. 10x buffer composition is: 500 mM Tris-Cl pH 8.3, 160 mM ammonium sulfate, 1% Tween 20, and 25 mM magnesium chloride.

TYPICAL PCR PROTOCOL for a 50µl reaction:

Reagent	Volume	Final Concentration
10x CesiumTaq 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
CesiumTaq-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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