

## Cesium Klentaq AC Cat #: 240

**Amount:** 25 µl (0.05 µl / 25 µl reaction)

**Shipping conditions:** Ambient temperature

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

Cesium Klentaq AC is a double cold-sensitive mutant of Klentaq1 DNA polymerase. 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 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 25µl reaction:

Reagent	Volume	Final Concentration
10x Cesium Klentaq reaction buffer <sup>†</sup>	2.5µl	1x
dNTP mix (10 mM)	0.5µl	200µM each
Left Primer	variable	0.2 µM
Right Primer	variable	0.2 µM
DNA template <sup>†</sup>	variable	0.1-100ng
Betaine 5M*	6.5µl (optional)	1.3 M
Cesium Klentaq AC**	0.05 - 0.25µl	
de-ionized distilled H <sub>2</sub> O	Adjust final volume to 25µl	-

<sup>†</sup> 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 30-45 seconds
3. Annealing: 50°-68° depending on the specific primers' T<sub>m</sub> 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](http://www.klentaq.com) for troubleshooting and detailed protocols.**

### Notice to Purchaser

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