Cesium Klentaq-C 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-C 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. 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-C Polymerase**	0.1 - 0.5µl	
de-ionized distilled H_2O	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. Denaturating: 94° for 2 minutes for 1 cycle
2. Denaturating: 94° for 30-45 seconds
3. Annealing: 50°-68° depending on the specific primers' Tm 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.