CesiumTaq

Cat #: 200

Amount: 25 µl (0.05 ul/25 µl reaction)
Shipping conditions: Ambient temperature
Storage conditions: -20°C F, 4°C for 10x Taq Mutant Reaction Buffer
Thermostability: 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 is a double cold-sensitive mutant of Taq 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 8.3, 160 mM ammonium sulfate, 0.25% Brij 58, and 25 mM magnesium chloride.

TYPICAL PCR PROTOCOL for a 25 ul reaction:

Reagent	Volume	Final Concentration
10x Taq Mutant Reaction Buffer	2.5 µl	1x
dNTP mix (10 mM each)	0.5 µl	200 µM each
Left Primer	variable	200 nM
Right Primer	variable	200 nM
DNA template†	variable	0.1-100 ng
Betaine 5M*	6.5 µl	1.3M
CesiumTaq**	0.05	1 unit
De-ionized distilled H2O	Adjust final volume to 25 ul	

† 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 2-8 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/kb target
5. Repeat steps 2-4 for 25-40 cycles

Please visit us on the web at www.klentaq.com for troubleshooting and detailed protocols.

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.