

5x CesiumTaq PCR Kit

Amount: 2 x 1.25 ml (250 reactions)

Shipping conditions: Ice pack

Storage conditions: for best performance, store at -20°C

Shelf life: At least 1 year if stored at -20°C and 10 freeze/thaws or at least 3 months if stored at 4°C.

PRODUCT DESCRIPTION:

Our 5x ready-to-use PCR kit contains CesiumTaq, a cold-sensitive double mutant of Taq polymerase. Due to its suppressed activity at low temperatures this enzyme is designed for hot-start PCR performance. This kit can be used for regular, as well as real-time PCR. It contains everything necessary for a PCR reaction to work perfectly, just add your template, primers/probes and water. For real time reactions you may need to add a fluorescent dye as an alternative to probes. The 5x CesiumTaq PCR kit is optimized for targets up to 1 kb in length. **For longer targets, please choose the 5x CesiumTaq-LA PCR Kit.** 5X composition is: 5x CesiumTaq DNA Polymerase, 1 mM dNTPs, 250 mM Tris-Cl pH 8.3, 80 mM ammonium sulfate, 0.5% Tween 20, and 12.5 mM magnesium chloride.

TYPICAL PCR PROTOCOL for a 50µl reaction:

| Reagent | Volume | Final Concentration |
|---------------------------------------|-----------------------------|---------------------|
| 5x CesiumTaq PCR Kit reagent | 10 µl | 1x |
| Left Primer | variable | 0.2 µM |
| Right Primer | variable | 0.2 µM |
| DNA template [†] | Variable | 0.5-100ng |
| Betaine 5M* | 13µl (optional) | 1.3 M |
| 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.

CYCLING CONDITIONS

1. Pre-incubation: 94° for 2 minutes for 1 cycle
2. Denaturing: 94° for 40-60 seconds
3. Annealing: 55°-70° depending on the specific primers (5° less than T_m) for 40-60 seconds
4. Extension: 68° for 2 min / 1kb target
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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