TaKaRa Ex Taq® DNA Polymerase (Cat.# RR001A)

Application: Amplification of short DNA fragments using *TaKaRa Ex Taq* DNA Polymerase

TaKaRa Ex Taq DNA Polymerase is a thermostable DNA polymerase having an efficient 3'->5' exonuclease activity. This formulation provides unsurpassed PCR performance, even for difficult amplifications. This experiment compares the ability of TaKaRa Ex Taq DNA Polymerase versus standard Taq to amplify short DNA fragments.

Methods

Short fragments were amplified from 100 ng of human genomic DNA using either Taq or Ex Taq DNA polymerase in a 50 µl reaction volume. Reactions were performed using a TaKaRa PCR Thermal Cycler (Cat. # TP2000, discontinued) with the following conditions:

94°C, 30 sec 55°C, 30 sec 72°C, 1 min

30 cycles

After the reactions were complete, 5 µl of each reaction was loaded onto a 3% agarose gel for electrophoresis.

Results

After PCR, 8 µl of each reaction mixture was loaded on a 3% NuSieve 3:1 Agarose gel. Amplification product was observed for all reactions using *TaKaRa Ex Taq* DNA, whereas the 100 bp fragment (lane A) was not present in the *Taq* DNA polymerase reaction (Figure 1).



Figure 1. DNA fragments amplified using either standard *Taq* or *TaKaRa Ex Taq* DNA Polymerase. Small fragments (lane A, 100 bp; lane B, 400 bp; lane C, 250 bp) were amplified from human genomic DNA. Lane M, pHY Marker (Cat. # 3404A).



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Conclusions

Standard *Taq* DNA polymerase was unable to amplify the 100 bp fragment. In contrast, *TaKaRa Ex Taq* DNA Polymerase was able to amplify all of the fragments, including the smallest (100 bp). Moreover, in all cases, *TaKaRa Ex Taq* DNA Polymerase generated more product than standard *Taq*.