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).

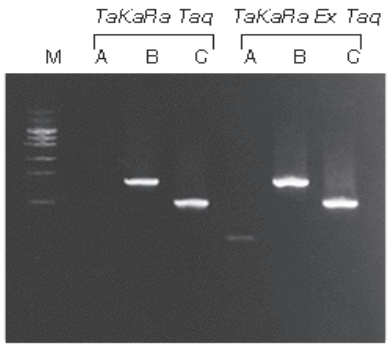

Figure 1. DNA fragments amplified using either standard *Taq* or *TaKaRa Ex Taq* DNA Polymerase. Small fragments (lane A, 100 bp; lane B, 400 bp; lane C, 250 bp) were amplified from human genomic DNA. Lane M, pHY Marker (Cat. # 3404A).

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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*.