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OPTIMIZATION OF PCR FOR RAPD ANALYSIS OF *BIFIDOBACTERIUM* SPP.

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Random amplified polymorphic DNA(RAPD) is based on the use of a single arbitrary primer in the polymerase chain reaction(PCR) to amplify segments of the genome. The resulting fragments indicate the polymorphism of the sample DNA. The aim of this study was to establish simple and rapid identification procedures for *Bifidobacterum* spp. by RAPD technique. The optimal condition for PCR was obtained in a solution with a total volume of 50 $\mu\ell$ containing 20 ng of template DNA, 0.8 μM random primer(5'GTAACGCC3'), 2.5 U *Taq* polymerase, 4 mM $MgCl_2$ and 200 μM dNTPs. Samples were amplified for 45 cycles of 1 min at 94℃, 2 min at 35℃ and 2 min at 72℃. Different band patterns of resulting PCR products on agarose gel could distinguish species of *Bifidobacterium*. For rapid RAPD analysis, we have attempted to use DNA from freeze-thaw lysed cells without further purification of the nucleic acids, and successful amplifications were also obtained. This latter method took only 7 hours to comlete RAPD analysis from DNA preparation to electrophoresis.