

**Validation of the Rizfiler PCR Amplification Kit:
DNA Typing for Degraded Specimens**

**Rahiminejad F¹, Joudaki A¹, Ostad zadeh F¹, Sharifi Z¹, Fouladi P¹, Sarhadi Bandehi A¹, Kianfar S¹,
Davoudi-Dehaghani E¹, Zeinali S^{1,2}**

1. Kawsar Human Genetics Research Center, Tehran, Iran
2. Department of Molecular Medicine, Biotech Research Center, Pasteur Institute of Iran, Tehran, Iran
Email: Rahiminejad_63@yahoo.com

Abstract:

Introduction: One of the main methods for molecular human identification is application of STRs (short tandem repeat) markers. This technique is now routinely used in human profiling kits. According to our experience in working by different commercial kits, we were eager to compare function of an in home kit with a commercial kit in the same conditions.

Method: An Iranian kit named RizFiler was used in this research. Rizfiler has some advantages over the commercial kit (Minifiler™) such as containing one more STR location. 3 loci are not included in Minifiler™ kit but due to their high allele diversity in Iranians, are included in RizFiler. The alleles contained in the allelic ladder are obtained from more than 7 years study of DNA profiling. Developed for accurate characterization of the alleles amplified by the Rizfiler Kit.

Result: According to our results, RizFiler kit is comparable with Minifiler™ kit. Rizfiler with higher heterozygote loci in Iranian population has greater discrimination power.

Discussion: Rizfiler is capable of amplifying 9 core STR loci and amelogenin that all loci are compatible with CODIS. The 9 loci used in the kit are D2S1338, D7S820, D8S1179, D13S317, D16S539, D18S51, D19S433, D21S11 and VWA. We used RizFiler kit produced for profiling degraded and damaged human DNA. RizFiler kit showed complete concordance with other commercial kits. Rizfiler Allelic Ladder is used to genotype the analyzed samples. Therefore, the profile of different kits would be applicable.

Keywords: DNA Fingerprinting, STR, Multiplex PCR, Allelic Ladder