

## **MUTATION ANALYSIS OF 18 STR LOCI IN 3165 CASES OF PATERNITY TESTING**

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To observe and analyze the confirmed cases of paternity testing, and to explore the mutation rules of STR loci.

The mutant STR loci were screened from 3165 confirmed cases of paternity testing by DNATyper<sup>TM</sup>19 system. The mutation rates, and fragment length, steps and increased or decreased repeat sequences of mutant alleles were counted for the analysis of the characteristics of mutation-related factors.

A total of 39 mutations were found on 18 STR loci. The loci mutation rate was 0‰-1.42‰. One step mutation was the main mutation, and the number of the increased repeat sequences was almost the same as the decreased repeat sequences. Mutation mainly occurred in the medium allele, and the number of the increased repeat sequences was almost the same as the decreased repeat sequences. Conclusion There are significant differences in the mutation rate of each locus. When one or two loci do not conform to the genetic law, other detection system should be added, and PI value should be calculated combined with the information of the mutate STR loci in order to further clarify the identification opinions.