

**Determination of Molecular Identity of Individuals through Capillary System by Surveying of 16 STRs Zones Using Multiplex PCR Method, for the First Time in Iran**

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Repetitive sequences of DNA throughout the human genome occur in about 10% of total genome and it naturally leads to generation of certain polymorphisms. This sequence is used as an important genetic maker in investigation of gene mapping, diagnosis of diseases and identity recognition.

The STR (Short Tandem Repeat) sequences include those short sequences consisted of 2-6 bp repetitive units and they are identifiable and reproducible by PCR.

STRs are widely extensive utilized in forensic medicine laboratories over the world. It is due to this point that this method requires low amount of DNA (about 0.5-1 ngr) and even degraded DNA will be sufficient for working, including blood, bone, tissue specimens, etc.

We have used ABI prism Sequencer (Genetic Analyzer) to determine STR profiling of **400** DNA samples from Iranian population of different ethnic origin. For this we have used 16 plex AmpFESTR®Powerplex Identifile™ PCR Amplification Kit. We have used this system for paternity test as well. We think using this system human identification, in Iran, can be done with high precision and speed. This system can be used for forensic and criminal investigation as well. At time Kawsar center is the only non-governmental organization capable of providing this service in Iran.

*Keyword : Alleles Frequencies, Short Tandem Repeat, Iranian Population, STR*

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