D-36: Paternity analysis of two Sri Lankan families using the multilocus human DNA probe 33.15

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Identification of humans based on differences at the level of DNA, or DNA fingerprinting, is now a widely accepted tool in forensic investigations.

We have previously shown that the multilocus human DNA probe 33.15 can be successfully used for DNA typing of the Sri Lankan population. We now report the paternity analysis of 2 Sri Lankan families using the DNA probe 33.15.

DNA samples (15 mcg) extracted from human blood obtained from the father, mother, and children were digested by Hinf 1 and subjected to agarose (0.8%) gel electrophoresis followed by Southern blotting and hybridization with ^{32}P labelled 33.15 probe. The hybridization was performed at 61°C (1xSSC, 0.5% dried milk, 1% SDS, 6% PEG) followed by washing under low stringency conditions (3 x SSC, 0.1% SDS, 61°C).

All individuals in the 2 families gave unique DNA fingerprints. In each family, all bands of the child that did not co-migrate with a band from the mother, comigrated with a band of the father. The control group of 3 males had very different banding patterns, and could be readily eliminated.

We have demonstrated that the multilocus probe 33.15 can be used in the Sri Lankan population to establish paternity. The same technique can also be used to establish the identity of mutilated bodies, provided DNA samples are available from living relatives.

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