

CHIMERIC INDIVIDUALS MASQUERADING AS MIXTURES

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Short tandem repeat (STR) analysis is commonly used in forensic DNA analysis for human identification. Mixed DNA profiles resulting from the recovery of DNA originating from more than one individual are commonly encountered in forensic casework. This work outlines the discovery of a chimeric individual through the forensic analysis of crime samples originally considered to be mixed, at the Forensic Biology Group of ESR, Auckland, New Zealand.

The DNA analysed from the samples collected at the two crime scenes span over three years and are thought to have originated from blood and 'wearer' DNA (epithelial skin cells shed by wearer when items of clothing are worn). Subsequent analysis of the suspect's reference samples involved the analysis of DNA recovered from buccal cells.

This work describes the implications of chimerism to forensic DNA analysis as encountered by the workers involved in these cases. We also include an explanation of the statistical method used to evaluate the strength of the DNA results in court.