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## **Dynamics of Molecular Genetic Diversity in the East Midlands (UK): Some Forensic and Paternity Implications**

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**ABSTRACT** The main objectives of this investigation were to establish a database of minisatellite (VNTRs) and microsatellite (STRs) allele frequencies for the regionally sub-divided populations of the East Midlands, which is suitable for forensic and population genetic investigations. The secondary objective was to determine if Caucasian sub-population heterogeneity exists within the United Kingdom and how this affects the forensic and paternity inferences. Blood samples were collected from random blood donors belonging to five regions of the East Midlands. Using standard molecular genetic techniques, we analysed MS1, MS31, YNH24, MS43a VNTRs and HumTHO1, HumF13A, HumFESFPS, HumTPOX, HumCSF1PO and HumvWA STRs. There was appreciable genetic variation in regionally subdivided populations. Overall efficiency of these loci for forensic and paternity work in the East Midlands is at par with other Caucasian populations though estimates show considerable variation within the region.

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[Home](#)

[Back](#)

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