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HLA Antigen Distribution in Selected Population Groups from Maharashtra

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ABSTRACT Indian population is well known for its genetic diversity. Among the numerous endogamous communities, which are restricted very much by custom, marriage and occupation we have collected 195 unrelated individuals, belonging to Marathi, Gujarathi, Punjabi, South Indian, Christian and Muslim population groups. We present here the HLA- A, B, and C locus antigen distribution of these population groups compared with each other. The HLA antigens were identified by using the standard complement mediated NIH microlymphocytotoxicity assay. The results revealed that HLA A1, A2, A3, A11, A24, B5, B35, B40, B44, Cw4 and Cw7 were the most frequent alleles while HLA A28, A36, A69, B14, B16, B38, Cw2 and Cw8 were the less frequent alleles represented in all the populations studied. Further, HLAA30, A36, A69, B50 and B55 alleles were observed among the Punjabis, A29 and B62 among the Gujarathi population, High frequencies of HLAB5 and Cw4 among the South Indians as well as rare allelic splits like A23 among the amalgamated Christians were also observed. The study reveals that the population or caste groups in India cannot be considered as a single panmictic population with reference to HLA genetic characteristics, which may have a clinical relevance in unrelated donor selection for allogeneic bone marrow transplantation in India.

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