

HLA Antigen Distribution in Marathi Speaking Hindu Population from Mumbai, Maharashtra, India

U. Shankarkumar, S.V. Pednakar, S. Gupte, K. Ghosh and D. Mohanty

HLA Department, Institute of Immunohaematology (ICMR), 13th Floor, NMS Bldg, K.E.M. Hospital, Parel Mumbai 400 012, Maharashtra, India

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ABSTRACT Three hundred and ninety two unrelated Marathi speaking Hindu people residing in Mumbai, Maharashtra, (Western India) were studied for HLA A, B and C locus antigen profiles. The phenotypic frequencies of HLA A1, A2, A9, A11, A24, A33, B5, B7, B35, B40 and Cw4 were increased while frequencies of HLA A10, A23, A28, A31, B14, B16, B18, B21, B37, B39, B50, Cw1, Cw5 and Cw8 were decreased in the Marathi speaking Hindus. The genotype frequencies of HLA A9, A24, A33 and B40 were increased while that of A11, A28, A31, B15, B21, B37, B50, Cw1 and Cw8 were decreased when compared with gene frequencies of other Indians Hindu populations reported. Two loci haplotype analysis revealed that A1-B17, A10-B8 and A19-B12 were common Indian Hindu haplotypes where as A3-B35, A19-B15 and A11-B40 were unique for the Marathi Hindus. Haplotype A2-B40 observed in Marathi Hindus were also observed among South Indian Hindus, while A11-B35 have been observed among immigrant Indian Hindus. Another haplotype A3-B7 reported from both south Indian and north Indian Hindus was not observed in Marathi Hindus. Significantly negative linkage disequilibrium was observed for haplotypes A19-B40 and A2-B7 in Marathi Hindus. Thus the observed antigen frequencies and linkage disequilibrium in Marathi Hindus suggest the influence of genetic drift caused by selection, geography and culture. Further the study reveals that the Hindu population of India cannot be considered as a single panmictic population with reference to genetic characteristics.