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HLA DRB1 and DQB1 Gene Diversity in Maratha Community from Mumbai India

U. Shankarkumar *, J. P. Devaraj, 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
Email: shankarkumar16@hotmail.com

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ABSTRACT Indian Population exhibits not only a wide variety of ethnic but also great cultural and linguistic diversity. In the present study 113 unrelated Marathas residing in Mumbai, Maharastra, (Western India) were studied for HLA DRB1 and HLA DQB1 locus antigen profiles**.** The HLA antigens were identified using commercially procured PCR- SSP typing kits. The genotype frequency, haplotype frequency and Linkage disequilibrium estimates were calculated following the standard methods. The HLA antigen frequencies of HLA DRB1*02, DRB1*15, DRB1*0701, DQB1*06 and DQB1*0203 were increased while that of HLA DRB1*0301, DRB1*12, DRB1*09, and DQB1*04 were decreased in the Marathas. Two Locus haplotype analyses revealed the presence of DRB1*02 - DQB1*06, and DRB1*04 - DQB1*0303 haplotypes with positive linkage disequilibrium among the Maratha. Haplotype DRB1*0701 - DQB1*06 and DRB1*0401 – DQB1*06 were the haplotypes identified in negative linkage disequilibrium. The observed antigen frequencies, haplotype frequencies and linkage disequilibrium in Marathas 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 due to vast allelic diversity and immense heterozygosity in haplotypes.

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