

HLA Antigen Distribution in Gujarathi Speaking Hindu Population from Mumbai, Maharastra, India

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ABSTRACT Four hundred and fourteen unrelated Gujarathi speaking Hindu people residing in Mumbai, Maharastra (Western India) were studied for HLA A, B, C and DR locus antigen profiles. The phenotypic frequencies of HLA A1, A2, A9, A11, A24, B5, B35, B40, Cw4, DR2, DR3, DR4, DR5 and DR7 were increased while frequencies of HLA A10, A19, A26, A28, A29, B14, B16, B18, B21, B22, B27, B37, Cw1, DR1, DR6 and DR9 were decreased in the Gujarathi speaking Hindus. The genotype frequencies of HLA A3, A9, B18, B21, B22, B40, DR3 and DR5 were increased while that of A19, A28, B7, B13, B15, Cw1, Cw2, Cw8, DR1, DR6 and DR9 were decreased when compared with gene frequencies of other Indian Hindu populations reported. Two Locus haplotype analysis revealed that A1-B17, A10-B8 and A19-B12 were common Indian Hindu haplotypes where as A3-B18, A9-B5, A24-B5 and A11-B62 were unique for the Gujarathi Hindus. Haplotype A2-B40 observed in Gujarathi 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 Gujarathi Hindus. Significant negative linkage disequilibrium was observed for haplotype A1-B35 in Gujarathi Hindus. Thus the observed antigen frequencies and linkage disequilibrium in Gujarathi 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 single panmictic population with reference to genetic characteristics.