

Molecular Diversity of HLA-A, HLA-B, HLA-DRB1 and HLA-DQB1 Alleles from Mumbai India

S. Kankonkar¹ and U. ShankarKumar²

¹*Tissue Typing Laboratory, PG Institute of Medical Sciences, Bombay Hospital, Marine Lines, Mumbai 400 020, Maharashtra, India*

²*HLA and Transplantation Department, National Institute of Immunohaematology, ICMR, 13th Floor, NMS Bldg, K.E.M. Hospital Campus, Parel, Mumbai 400 012, Maharashtra, India*

KEYWORDS HLA. Population Study. Western India

ABSTRACT Indian population exhibits not only a wide variety of ethnic but also great cultural and linguistic diversities. In the present study, 296 unrelated individuals belonging to different linguistic groups from Maharashtra are studied for HLA A, B, Cw, DRB1 and DQB1 gene frequencies using commercial PCR-SSOP kits. The results revealed that A*02 (19.25%), A*11 (13.17%), A*24 (15.70%), A*33 (11.82%), B*35 (15.37%), B*40 (12.66%), DRB1*15 (19.25%) DRB1*07 (12.83%) DQB1*02 (20.17%), DQB1*03 (20.85%), DQB1*06 (21.52%), and DQB1*06 (32.73%) are the common alleles. The common subtypes among these alleles are A*02:01:01:01, A*02:03:02, A*02:06:01, A*02:11, A*02:22:01 out of 160 A*02 alleles, A*11:01:01, A*11:03 out of 78 A*11 alleles, A*24:02:01:01, A*24:06, A*24:07 out of 128 A*24 alleles, A*33:03:01 out of 34 A*33 alleles, B*35:01:01, B*35:03:01, B*35:20:01 out of 135 B*35 alleles, B*40:06:01:01 only allele out of 120 B*40 alleles, DRB1*07:01:01:01, DRB1*07:06 out of 19 DRB1*07 alleles, DRB1*15:01:01:01, DRB1*15:01:02, DRB1*15:02:02 out of 63 DRB1*15 alleles, DQB1*02:01:01, DQB1*02:02, out of 6 DQB1*06 alleles, DQB1*03:01:01, DQB1*03:02:01, DQB1*03:03:02 out of 36 DQB1*03 alleles, DQB1*05:01:01, DQB1*05:02:01, DQB1*05:03:01 out of 8 DQB1*05 alleles, DQB1*06:01:01, DQB1*06:01:02, DQB1*06:02:01, DQB1*06:03:01 out of 50 DQB1*06 alleles, existing alleles are identified as per the recent HLA 2010 Nomenclature. When compared with other reported studies on Indian population differential frequencies are observed suggesting an influence of a genetic drift caused by selection geography. The Indian population may not be considered as a single panmictic population.