Molecular analysis of HLA Class I and Class II genes in four indigenous Malaysian populations

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This is the first report of high-resolution human leukocyte antigen (HLA) typing in four indigenous groups in Malaysia. A total of 99 normal, healthy participants representing the Negrito (Jehai and Kensiu), Proto-Malay (Temuan) and a native group of Borneo (Bidayuh) were typed for HLA-A, -B, -DRB1 and -DQB1 genes using sequence-based typing. Eleven HLA-A, 26 HLA-B, 16 HLA-DRB1 and 14 HLA-DQB1 alleles were detected, including a new allele, HLA-B*3589 in the Jehai. Highly frequent alleles were A*2407, B*1513, B*1801, DRB1*0901, DRB1*1202, DRB1*1502, DQB1*0303 and DQB1*0502. Principal component analysis based on high-resolution HLA-A, -B and -DRB1 allele frequencies showed close affinities among all four groups, including the Negritos, with other Southeast Asian populations. These results showed the scope of HLA diversity in these indigenous minority groups and may prove beneficial for future disease association, anthropological and forensic studies.