Thesis Title HLA Class I (A, B) Polymorphic Studies of the Population in the Southern Part of Thailand

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ABSTRACT

The polymorphism of HLA class I (HLA-A and -B) was investigated using serology assays in 308 healthy non-related individuals chosen at random from the southern part of Thailand. 100 Thai Buddhists (TTB), 103 Thai Muslims (TTM), 65 Chinese Buddhists (CCB) and 40 Thai-Chinese Buddhists (TCB) were subjects in the study. Antigens and gene frequencies have been determined in these groups. Gene frequencies were compared among subpopulations of southern Thais and also with present-day Thais (PDT) who are the main group in this country and Dai Lue (DL)

In this study 18 recognized HLA-A and 31 recognized HLA-B serotypes were observed. Concerning HLA-A locus A11.1, A2, A24 and A33 were most frequently observed in all groups of southern Thais. A31 occurred very similarly in CCB, TCB and TTM (GF = 1.96 %, 2.33 % and 3.82 % respectively) but it was not detected in TTB (N = 100), and it has significant difference between TCB and TTB, p = 0.0221. A34 occurred more frequently in TTM than in TTB (GF = 7.04 % and 0.50 %), and there is significant difference (p = 0.0016) (Table 12). For HLA-B locus

B13, B35 and B75 were most frequently in all groups of southern Thais whereas B46 and B60 were predominently in CCB (GF = 13.18 % and 21.55 %, respectively). B46 has significant difference between TTM and CCB (GF = 2.96 % and 13.18 %, p = 0.0010). B60 has significant difference between TTB and CCB (GF = 5.13 % and 21.55 %, respectively; p = 0.0002). While B18 occurred in TTB, TTM and TCB but did not occur in CCB (N = 65) there is significant difference between TTB and CCB, and also between TTM and CCB (p = 0.0008 and 0.0004, respectively) (Table 14).

In our study, gene frequencies of HLA-A and -B in southern Thais were compared with PDT and DL. HLA-A gene frequencies in southern Thais were similar to those observed in PDT but there has been no significant difference (Table 15). A11.2 has significant difference between TTB and DL (GF = 1.01 % and 7.6 %, respectively; p = 0.0031). A24 has significant difference between TTM and DL (GF = 24.32 % and 10.4 % orderly; p = 0.0009. Also A34 has significant difference between TTM and DL (GF = 7.04 % and 0 %, respectively; p = 0.0009. For HLA-B gene frequencies in southern Thais, compared with PDT it was found that B52 had significant difference between TTM and PDT (GF = 6.52 % and 0.7 %, respectively; p = 0.0009). The comparison of HLA-B gene frequencies among southern Thais and DL was found that B18 in TTB and TTM has significant difference in DL, p = 0.0001. B35 in TTB, TTM, CCB and TCB has significant difference in DL. B46 in TTB, TTM and CCB has significant difference in DL. B58 in TCB has significant difference in DL, p = 0.0009. B60 which occurs most frequently in CCB has significant difference in DL (GF = 21.55 % and 7 %, respectively; p = 0.0005). However in this study Ax and Bx may be possible homozygote or new allele, which can be identified only in family study. Some differences found in these studies may be a consequence of the many ethnic admixtures found in PDT or represent rare types in each group. The data which are presented in this population study should be useful in many fields such as anthropology, disease susceptibility, organ transplantation and evolutionary genetics.