Thesis Title	Non Classical HLA Class I (HLA-E /-G) Typing
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ABSTRACT

The class I region of the human leukocyte antigen (HLA) complex includes genes encoding the classical transplantation antigens (HLA-A, -B, -C) at least three nonclassical class I genes (HLA -E , -F , and -G) , and many class I pseudogenes. The extensive polymorphism of the classic class I antigens has been well described. In contrast , the nonclassical HLA antigens are distinguished by their low polymorphism. This study describes the polymorphism of HLA -E and HLA -G locus. HLA-E typing was determined by using the polymerase chain reaction (PCR) amplification exon 2 and exon 3 from genomic DNA and hybridization with oligonucleotide probes (PCR-SSO) ,and by using PCR amplification (on exon 2 and 3) followed by restriction endonuclease (PCR-RFLP) for HLA-G typing. In this study 40 HLA-typed Thai individuals were examined to determine the relative frequency of HLA -E and HLA -G alleles in the population and their association with the classical antigens.

This identified the presence of four HLA - E alleles (E*0101 , E*0102 ,E*0103 ,and E*0104) and three HLA-G allele (G*0101 , G*01012 ,and G*01013). The relative frequent of these alleles were E*0101 (53.75%) , E*0102(2.5%) ,E*0103(30%) ,E*0104(13.75%),and G*01011 (28.75%) ,G*01012 (45%) ,G*01013 (26.25%) . Linkage disequilibrium between HLA-E alleles and HLA-A / -B alleles in this study were found relatively weaker than between HLA-G and HLA-A/-B alleles. The significant linkage disequilibrium between HLA-G and HLA-A alleles was also found in the following combinations , HLA-G*01011 / A2(χ^2=34.99; p<0.001) , G*01012 / A24(χ^2=21.69; p<0.001) , and G*01013 / A11 (χ^2=49.59; p<0.001). Furthermore associations between HLA-G and HLA-B alleles were also observed , they were relatively weaker. The associations of HLA-E and HLA-G alleles in this study were as follows : HLA-E*0101 / G*01012 (χ^2=11.89; p<0.001) , and HLA-E*0103 / G*01011 (χ^2=10.81; p<0.005).The analysis of HLA-E and -G allele frequencies and the association between HLA-E , -G alleles and classical class I antigens performed in this study , could be beneficial in furthering outstanding of the treatment of hematologic disease by using an unrelated bone marrow transplantation , toxemia of pregnancy , habitual abortion , and infertility.