

## 한국인 생체 신장이식환자의 HLA-A, -B, -DR 대립유전자와 일배체형 분포

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### Allele Frequencies of Human Leukocyte Antigen-A, -B, and -DR Loci in zero-HLA Mismatched Renal Allograft Recipients

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**Background:** The HLA system is known to be the most polymorphic genetic system in human and HLA allele and haplotype distribution varies widely among different ethnic groups. This study was performed to examine the frequencies of HLA alleles and haplotypes in Koreans renal allograft recipients. We assume that there are differences in allele frequencies between kidney transplant recipients and Korean general population, and also between cadaveric donor kidney transplant (CDKT) recipients and living donor kidney transplant (LDKT) recipients.

**Methods:** We examined HLA-A, -B, and -DR alleles at the serologic level in 3268 renal allograft recipients, who had transplant surgery between Jan 1989 and Jun 2012, and found 280 kidney recipients with fully matched HLA types using sequence specific primers. None of the subjects were in kinship with another. We compared the frequencies of HLA-A, -B, and -DR alleles between in renal allograft recipients with zero HLA- mismatches and in 150 healthy Koreans, the study population from a study of Department of Laboratory Medicine, University of Ulsan College of Medicine and Asan Medical Center. We also made a comparison allele frequency in cadaveric donor kidney transplant recipients with that in patients with living donor kidney transplant. The P-value in this study, as a "corrected p-value", was adjusted by numbers of alleles tested.

**Results:** There was no differences in frequencies of HLA-A, -B, and -DR alleles between in renal allograft recipients with zero-mismatched HLA types and in healthy Koreans. In comparison between cadaveric donor kidney transplantation (CDKT) and living donor kidney transplantation (LDKT), the frequency rate of HLA-A33 was significantly higher in CKT (HLA-A33: 27.03%) than in LRKT (HLA-A33: 12.76%) ( $p=0.0012$ /corrected  $p=0.0144$ ).

**Conclusions:** We provided the allele and haplotype frequencies of HLA-A, -B, and -DR alleles in zero HLA-mismatched LDKT. It was presented that the HLA-A, -B, and -DR alleles frequencies are not different from those in Korean general population. Our results will be valuable as a basic data for studies on disease association and kidney transplantation.

**Key Words:** HLA A-, B-, DR- 대립유전자 빈도, 생체신이식  
HLA typing, HLA-A,-B,-D, HLA allele, Living donor KT