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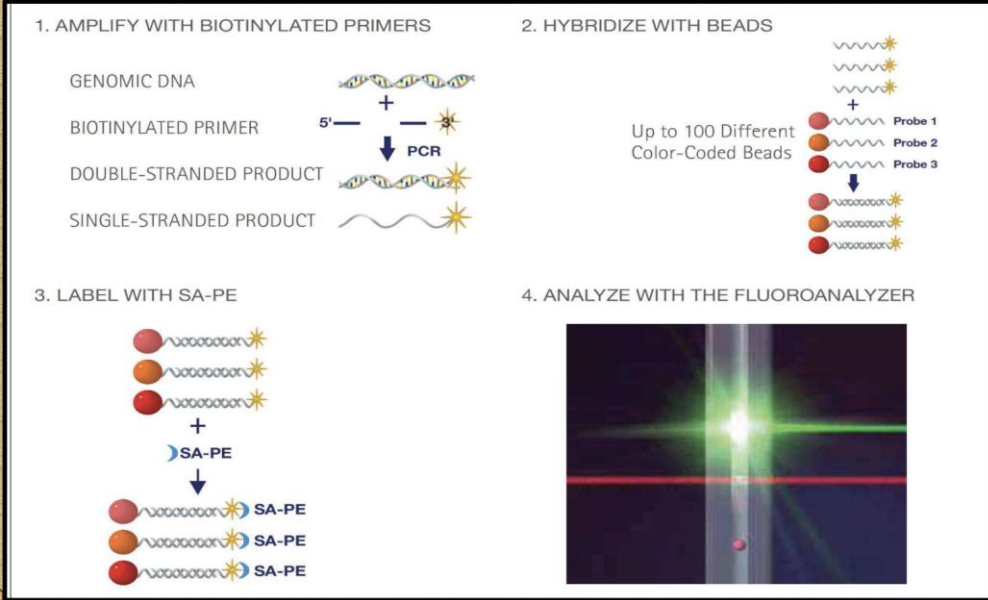
Abstract Topic : Basic Research

Prevalence of human leukocyte antigen alleles frequency in north Indian population

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Case Study : Abstract: Human leukocyte antigens are highly polymorphic glycoprotein expressed on the surface of immune and non-immune cells, required for antigenic molecules presentation to T and B cell for their activation and triggering immune response, which determines the overall health of an individual in a community. Organ sharing for transplantation require an HLA matching for minimizing the risk of donor specific antibody formation and acute rejection. Therefore, knowing the HLA alleles frequency in a community may be helpful in determining the probability of getting a suitable organs donor and allocating the organs for transplantation. Result: The top 5 most abundant major HLA-A1 antigen alleles were HLA-A*01(17.8%), HLA-A*02 (16.1%), HLA-A*11 (17.6%), HLA-A*24 (10.4%), HLA-A*03 (8.9%). HLA-B1 antigen alleles were HLA-B*35 (20.4%), HLA-B*15 (15.6%), HLA-B*40 (12.0%), HLA-B*07 (8.9%), HLA-B*44 (7.7%). HLA-C1 antigen alleles subtype was HLA-C*70 (27.4%), HLA-C*40 (19.4%), HLA-C*30 (15.4%), HLA-C*60 (13.4%), HLA-C*12 (5.5%) . HLA-DRB1 alleles subtype were HLA-DRB1*07 (15.8%), HLA-DRB1*15 (8.0%), HLA-DRB1*4 (11.7%), HLA-DRB1*10 (9.0%), HLA-DRB1*11 (8.4%). HLA-DQA1 subtype were HLA-DQA1*30(36.2%), HLA-DQA1*20(30.0%), HLA-DQA1*50(21.0%), HLA-DQA1*60(9.6%), HLA-DQA1*40(1.4%). Methods: In the current study, we have analyzed the HLA antigen alleles A, B, DR alleles in 2336, and HLA-C, DQ alleles in 795 individuals by the polymerase chain reaction and single strand specific oligonucleotide methods (PCR-SSO) using alleles specific primers and oligonucleotide probe following kit manufactures protocol (Immucor, diagnostic, USA) on xPonent Luminex platform. Conclusion: The most frequent HLA alleles were HLA-A*01(17.8%), HLA-B*35 (20.4%), HLA-C*70 (27.4%), HLA-DRB1*07 (15.8%), HLA-DQA1*30 (36.2%) in north Indian population.

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