

# Analisis Genotipe Human Platelet Antigen (HPA) Alel 1 2 3 4 5 6 dan 15 pada populasi Indonesia = Analysis Genotype Human Platelet Antigen (HPA) Allels 1 2 3 4 5 6 and 15 in Indonesian Population

Evira Putricahya, authot

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## Abstrak

Human platelet antigen (HPA) merupakan salah satu antigen yang berpengaruh dalam keberhasilan transfusi trombosit, selain human leukocyte antigen (HLA). Ketidakcocokkan HPA akan menyebabkan platelet transfusion refractoriness (PTR). Berdasarkan penelitian sebelumnya, diketahui bahwa HPA alel 1, 2, 3, 4, 5, 6, dan 15 sering dikaitkan dengan proses terjadinya PTR. Penelitian bertujuan untuk mengetahui frekuensi gen pada HPA alel 1, 2, 3, 4, 5, 6, dan 15 pada populasi Indonesia dan membuat panel data HPA alel 1, 2, 3, 4, 5, 6, dan 15 dari donor, khususnya donor lestari, untuk peningkatan pelayanan transfusi trombosit di Indonesia. Genotyping dilakukan dengan menggunakan metode polymerase chain reaction- sequence specific primer (PCR-SSP). Hasil penelitian menunjukkan bahwa pada populasi Indonesia, frekuensi gen HPA 1a dan 1b sebesar 0,97% dan 0,03%; frekuensi gen HPA 2a dan 2b sebesar 0,94% dan 0,06%; frekuensi gen HPA 3a dan 3b sebesar 0,52% dan 0,48%; frekuensi gen HPA 4a dan 4b sebesar 0,95% dan 0,05%; frekuensi gen HPA 5a dan 5b sebesar 0,97% dan 0,03%; frekuensi gen HPA 6a dan 6b sebesar 0,95% dan 0,05%; dan frekuensi gen HPA 15a dan 15b sebesar 0,51% dan 0,49%.

.....Human platelet antigen (HPA) is one of the antigens that influences the success of platelet transfusion, in addition to human leukocyte antigen (HLA). Human Platelet Antigen mismatch leads to platelet transfusion refractoriness (PTR). Based on previous research, it is known that the HPA alleles of 1, 2, 3, 4, 5, 6, and 15, are linked to the PTR process. This aims of this research are to determine the genotypes of HPA alleles 1, 2, 3, 4, 5, 6, and 15, and also to estimate the frequency of those alleles in Indonesia. The results will be put into the data panel, for improvement in platelet transfusion services for sustainable donors. Polymerase Chain Reaction-Sequence Specific Primers (PCR-SSP) was used in this research for allele detection. The result shows the frequency of those alleles are as follows; the frequency of HPA gene 1a and 1b are 0.97 and 0.03; HPA gene 2a and 2b are 0.94 and 0.06, HPA gene 3a and 3b are 0.52 and 0.48, HPA gene 4a and 4b are 0.95 and 0.05, GPA gene 5a and 5b are 0.97 and 0.03, HPA gene 6a and 6b are 0.95 and 0.05, and HPA gene 15a and 15b are 0.51 and 0.49.;Human platelet antigen (HPA) is one of the antigens that influences the success of

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