

Thesis Title            Study in paternity exclusion rate from gene frequency  
                          in Thai population

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#### ABSTRACT

Since their discovery, blood groups have been used as a proof in disputed paternity case in combination with statistics to validate the reliability in interpretation. Then the present study is aimed to find out the combined paternity exclusion rate from gene frequency of the blood groups in Thai population, which have not been previously studied.

The blood groups were tested in unselected 100 healthy Thai nationality donors at the Blood Bank of Siriraj Hospital in order to determine the gene frequency of each blood group system. Combining with previous studies, the combined probabilities of exclusion for the eight blood group systems (ABO, Rh, MNSs, Kell, P, Lutheran, Kidd and Duffy) were 67.79 percent.

As a result, the more various the blood group systems included, the higher the combined probabilities of exclusion, that means the reliability of testing was improved. However, it would be realized that this also increased missclassification chance by technical and biological errors. Thus the blood tests for the purpose of disputed paternity should be examined and interpreted by the experts engaged in such work.