

## Genetic complexity in Peninsular Malaysia: a great challenge for blood donor recruitment centres

Providing safe blood and blood products (e.g. packed red blood cells, platelets and fresh frozen plasma) are important measurement in the modern era of transfusion practices. Transfusion of blood and blood products from donor to patient requires matching for several blood group systems which acting as markers of tissue identity. Currently, there are 33 blood systems being recognized by the panels of International Society of Blood Transfusion (ISBT) with ABO, Rhesus and Kell blood group systems being the most clinically significant in determining transfusion compatibility. The blood group systems are encoded by polymorphic genes within our genomes and their distributions vary between geographically and historically unrelated populations.

Blood group data (i.e. ABO, Rhesus, Kell, Kidd and Duffy) collected for the Malay subethnic groups and earlier study on Malays, Chinese and Indians showed diverse genepools of Malaysian population and thus present a great challenge to blood donor recruitment centres. The local recruitment centres might also need to supply blood or blood products that matched at multiple blood group systems (e.g. ABO, Rhesus, Kell, Kidd, Duffy and MNS) especially to chronically transfused patients and our statistical analyses also showed alloimmunization risk of random blood transfusion is higher for donors and recipients from different ethnic backgrounds. We are now typing the similar set of blood group loci in the aboriginal peoples of Peninsular Malaysia using various molecular techniques and anticipated that the data that will be generated from this blood group screening programme will be wide interest and useful to the general public and health professionals. In particular, knowledge of blood group antigens in various sub-populations in Malaysia is important for planning donor recruitment strategy and for searching for suitable donors especially those with rare blood group profiles.

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### Publication

[Molecular blood group typing in Banjar, Jawa, Mandailing and Kelantan Malays in Peninsular Malaysia.](#)

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