Description
For decades, human neutrophil antigen (HNA) HNA-3a was thought to be involved in the condition known as Transfusion-related acute lung injury (TRALI); currently the leading cause of transfusion-related mortality reported to the FDA. However, until recently, little was known about the specific properties of HNA-3a. BloodCenter inventors, Brian Curtis and Dick Aster, have been working to identify the molecular properties of the HNA-3a or “5b” antigen and its role in fatal TRALI. They identified the carrier protein for HNA-3a and determined the molecular basis of the HNA-3a/b polymorphism.

Work in progress will facilitate low cost, large scale typing of donor populations to identify persons who are HNA-3a negative (5% of the general population). Blood donor typing will identify those who are at risk to have HNA-3a-specific antibodies. Methods should enable detection of antibodies specific for HNA-3b, the incidence and significance of which is not yet known.

Potential uses
- Screening of donors for TRALI antibodies

Technology benefits
- Prevention of death related to TRALI

Patent Status
- Patent pending

Publications
Curtis BR, Cox NJ, Sullivan MJ, Konkashbaev A, Bowens K, Hansen K, Aster RH. “The neutrophil alloantigen HNA-3a (5b) is located on choline transporter-like protein 2 (CTL2) and appears to be encoded by an R>Q154 amino acid substitution.” Blood. 2010 Mar 11;115(10):2073-6.


Contact
Laura Savatski  (414) 937-3833
Technology Transfer Office
Laura.Savatski@bcw.edu