Progenika ID Core+

Methodology

Blood Group Genotyping uses genomic DNA from a patient sample to detect DNA variants in blood groups RHCE, Duffy, Kell, Kidd, MNS, Diego, Dombrock, and Colton. Target sequences are amplified by PCR, labeled and hybridized to Luminex beads with sequence-specific oligonucleotide probes. Data are processed using proprietary software. DNA variants are analyzed singly or in combination to determine the blood group genotypes and predict the phenotypes.

Benefits of Blood Group Genotyping

- Provides an accurate genotype and predicted phenotype for RBC antigens in blood groups relevant to transfusion safety
- Provides extensive profile of RBC antigens in a single test, increasing throughput and decreasing operator errors associated with multiple testing
- Predicts RBC antigen profiles in cases where the precision of serology is limited, such as:
    - recently transfused patients
    - patients whose RBCs are coated with immunoglobulins (DAT+)
    - multi-transfused patients, such as in Sickle Cell Disease or Beta Thalassemia patients
- Adds certainty to serology results:
    - in patients with weakly expressed antigens
- Resolves inconsistencies that arise as a consequence of batch-to-batch variations in the specificity of serotyping antibodies
- Provides an alternate method for blood typing when antisera are in short supply, too costly, or unavailable

Limitations

For research use only, not for In Vitro Diagnostic Use

- New or rare genetic variants or variant combinations that are not part of the Blood Group Genotyping reference database will not be detected
- The test will not detect variants when PCR is blocked by the presence of previously unreported mutations at primer binding sites
- Gene expression and post transcription events are not measured by the test. In rare cases, the actual phenotype might differ from the predicted phenotype because of post transcriptional events.