HOTLINE: Effective November 18, 2019

New Test **3002001** **Kell K/k (KEL) Antigen Genotyping** **KEL GENO**

Time Sensitive

Out of Pocket Estimator

Additional Technical Information

Methodology: Polymerase Chain Reaction/Fluorescence Monitoring
Performed: Varies
Reported: 3-10 days

Specimen Required: Collect: **Fetal Genotyping:** Amniotic fluid OR two T-25 flasks at 80 percent confluency of cultured amniocytes. If the client is unable to culture amniocytes, this can be arranged by contacting ARUP Client Services at (800) 522-2787.
WITH Maternal Cell Contamination Specimen (see Note)**:** Lavender (K_2EDTA), Pink (K_2EDTA), or Yellow (ACD Solution A or B).
Parental Genotyping: Lavender (K_2EDTA), Pink (K_2EDTA).
Specimen Preparation: **Amniotic Fluid:** Transport 10 mL unspun fluid. (Min: 5 mL)
Cultured Amniocytes: Fill flasks with culture media. Transport two T-25 flasks at 80 percent confluency of cultured amniocytes filled with culture media. Backup cultures must be retained the client's institution until testing is complete.
Maternal Cell Contamination Specimen: Transport 3 mL whole blood (Min: 1 mL)
Whole Blood (Parental Genotyping): Transport 3 mL whole blood. (Min: 1 mL)
Storage/Transport Temperature: **Amniotic fluid:** Room temperature.
Cultured Amniocytes: CRITICAL ROOM TEMPERATURE. Must be received within 48 hours of shipment due to liability of cells.
Whole Blood or Maternal Cell Contamination Specimen: Refrigerated.
Remarks: Patient History Form is available on the ARUP website or by contacting ARUP Client Services.
Unacceptable Conditions: Plasma or serum. Specimens collected in sodium heparin tubes.
Stability (collection to initiation of testing):
Fetal Specimen: Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable
Whole Blood or Maternal Cell contamination Specimen: Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month

Reference Interval: By report.

Interpretive Data:
Background information: Kell K/k (KEL) Antigen Genotyping:
Characteristics: Erythrocyte alloimmunization may result in hemolytic transfusion reactions or hemolytic disease of the fetus and newborn (HDFN).
K Antigen Frequency: 9 percent of Caucasians, 2 percent of African Americans, rare in Asians.
Inheritance: Co-dominant.
Cause: Antigen-antibody mediated red-cell hemolysis between donor/recipient or transferred maternal antibodies.
Polymorphism Tested: Kell blood group KEL*01 (K), KEL*02 (k): c.578C>T, p.Thr193Met. The presence of KEL*01 allele predicts a K positive phenotype.
Clinical Sensitivity: 99 percent.
Methodology: Immucor PreciseType™ HEA Molecular BeadChip which is FDA-approved for clinical testing.
Analytic Sensitivity and Specificity: 99 percent.
Limitations: Bloody amniotic fluid samples may give false-negative results because of maternal cell contamination. Rare nucleotide changes leading to altered or partial antigen expression and null phenotypes are not detected by this assay. Patients who have had hematopoietic stem cell transplants may have inconclusive results on this test. Abnormal signal intensities may result in indeterminate genotyping results.

For quality assurance purposes, ARUP Laboratories will confirm the above result at no charge following delivery. Order Confirmation of Fetal Testing and include a copy of the original fetal report (or the mother's name and date of birth) with the test submission. Please contact an ARUP genetic counselor at (800) 242-2787 extension 2141 prior to specimen submission.

Note: Maternal specimen is recommended for proper test interpretation if contamination of the fetal specimen from the mother is suspected. Order Maternal Cell Contamination.

CPT Code(s): 0001U

New York DOH Approved.

HOTLINE NOTE: Refer to the Test Mix Addendum for interface build information.