Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	9/29/1986
Gender:	Unknown
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

Red Blood Cell Antigen Genotyping, Fetal

ARUP test code 3016639

RBC Antigen Genotyping, Fetal Specimen	Cultured Amnio
Rh Antigen C/c	C+c-
Rh Antigen E/e	E-e+
Rh Antigen V/VS	V-VS-
Kell Antigen K/k	K-k+
Kell Antigen Kpa/Kpb	Kp(a-b+)
Kell Antigen Jsa/Jsb	Js(a-b+)
Duffy Antigen Fya/Fyb	Fy(a-b+)
Kidd Antigen Jka/Jkb	Jk(a+b+)
MNS Antigen MN	M+N-
MNS Antigen S/s/U	S-s+U+
Lutheran Antigen Lua/Lub	Lu(a-b+)

H=High, L=Low, *=Abnormal, C=Critical

Diego Antigen Dia/Dib	Di(a-b+)
Colton Antigen Coa/Cob	Co(a+b-)
Dombrock Antigen Doa/Dob	Do(a-b+)
Dombrock Antigen Hy	Hy+
Dombrock Antigen Joa	Joa+
Landsteiner-Wiener Antigen LWa/LWb	LW(a+b-)
Scianna Antigen Sc1/Sc2	Sc:1,-2
Hemoglobin S Antigen	Negative
RBC Antigen Genotyping Fetal, Interp	See Note Two copies of the C allele were identified. This genotype is predictive of a C+c- phenotype. Two copies of the Fy(b) allele were detected; the Fy(a) and Fy(bES) (erythroid silent; FY*02N.01) alleles were not identified. This genotype is predictive of an Fy(a-b+) (FY: -1, 2) phenotype. Two copies of the s allele were identified. This genotype is predictive of an S-s+U+ (MNS: -3, 4, 5) phenotype. Indication for testing: Predict RBC antigen specificities expressed to aid in selecting antigen negative RBCs for transfusion if indicated. Assess risk for hemolytic disease of the fetus / newborn. Antigen of interest: C/c Interpretation: Predicted phenotypes are reported for each antigen based on the alleles present. Rare nucleotide changes leading to altered or partial antigen expression and null phenotypes may not be detected. The genotype for the hemoglobin S variant is reported. Single genotype. A maternal specimen was not submitted for correlation. The fetal sample was tested using STR markers to rule out maternal cell contamination. Only a single genotype was detected. Testing a maternal sample can confirm that this genotype is from the fetus. This result has been reviewed and approved by [redacted]

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BACKGROUND INFORMATION: Red Blood Cell Antigen Genotyping, Fetal

CHARACTERISTICS: Erythrocyte alloimmunization may result in hemolytic transfusion reactions or hemolytic disease of the fetus and newborn (HDFN). Clinical presentation is variable and dependent on the specific antibody and recipient factors.
INCIDENCE: Erythrocyte alloimmunization occurs in up to 58 percent of sickle cell patients, up to 35 percent in other transfusion-dependent patients, and in approximately 0.8 percent of all pregnant individuals.
INHERITANCE: Typically codominant for red blood cell (RBC) antigens, autosomal recessive for hemoglobin S (HbS).
CAUSE: Antigen-antibody mediated red-cell hemolysis between donor/recipient or transferred maternal antibodies.
VARIANTS TESTED: See the "Additional Technical Information" document.
CLINICAL SENSITIVITY: >99 percent for c (RH4), C (RH2), e (RH5), E (RH3), k (KEL2), K (KEL1), Jka (JK1), Jkb (JK2), Fya (FY1), Fyb (FY2), M (MNS1), N (MNS2), S (MNS3), s (MNS4). Unknown for Kpa (KEL3), Kpb (KEL4), Jsa (KEL6), Jsb (KEL7), Lua (LU1), Lub (LU2), Dia (DI1), Dib (DI2), Coa (CO1), Cob (CO2), Doa (DO1), Dob (DO2), Joa (DO5), Hy (DO4), LWa (LW5), LWb (LW7), Sc1 (SC1), Sc2 (SC2), U (MNS5), V (RH10), VS (RH20), Hemoglobin S (HbS).
METHODOLOGY: Immucor PreciseType (TM) HEA Molecular BeadChip which is FDA-approved for clinical testing. Predicted phenotypes are reported for each antigen and HbS based on the variants tested/Polymerase Chain Reaction (PCR)/Fragment Analysis.
ANALYTICAL SENSITIVITY AND SPECIFICITY: >99 percent for c (RH4), C (RH2), e (RH5), E (RH3), k (KEL2), K (KEL1), Jka (JK1), Jkb (JK2), Fya (FY1), Fyb (FY2), M (MNS1), N (MNS2), S (MNS3), s (MNS4). Unknown for Kpa (KEL3), Kpb (KEL4), Jsa (KEL6), Jsb (KEL7), Lua (LU1), Lub (LU2), Dia (DI1), Dib (DI2), Coa (CO1), Cob (CO2), Doa (DO1), Dob (DO2), Joa (DO5), Hy (DO4), LWa (LW5), LWb (LW7), Sc1 (SC1), Sc2 (SC2), U (MNS5), V (RH10), VS (RH20), Hemoglobin S (HbS).
LIMITATIONS: Bloody amniotic fluid samples may give false-negative results because of maternal cell contamination. Only the targeted variants will be interrogated. Rare nucleotide changes leading to altered or partial antigen expression and null phenotypes may not be detected by this assay. This assay does not assess for RhD nor is it designed to diagnose sickle cell disease. 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 all tested antigens/HbS.
This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

Maternal Contamination Study Fetal Spec	Fetal Cells
	Single fetal genotype present; no maternal cells present. Fetal and maternal samples were tested using STR markers to rule out maternal cell contamination.
Maternal Contam Study, Maternal Spec	Whole Blood

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VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
RBC Antigen Genotyping, Fetal Specimen	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Rh Antigen C/c	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Rh Antigen E/e	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Rh Antigen V/VS	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Kell Antigen K/k	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Kell Antigen Kpa/Kpb	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Kell Antigen Jsa/Jsb	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Duffy Antigen Fya/Fyb	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Kidd Antigen Jka/Jkb	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MNS Antigen MN	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
MNS Antigen S/s/U	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Lutheran Antigen Lua/Lub	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Diego Antigen Dia/Dib	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Colton Antigen Coa/Cob	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Dombrock Antigen Doa/Dob	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Dombrock Antigen Hy	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Dombrock Antigen Joa	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Landsteiner-Wiener Antigen LWa/LWb	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Scianna Antigen Sc1/Sc2	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Hemoglobin S Antigen	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
RBC Antigen Genotyping Fetal, Interp	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Maternal Contamination Study Fetal Spec	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Maternal Contam Study, Maternal Spec	23-305-103028	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

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