New Test **3000193** **Platelet Antigen Genotyping Panel** **HPA GENO**

Additional Technical Information

Methodology: Polymerase Chain Reaction/Fluorescence Monitoring
Performed: Varies
Reported: 2-7 days

Specimen Required: Collect: **Fetal Genotyping:** Amniotic fluid OR 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 (EDTA), Pink (K_2EDTA), or Yellow (ACD Solution A or B).
Parental Genotyping: Lavender (EDTA).
Specimen Preparation: **Amniotic Fluid:** Transport 10 mL unspun fluid. (Min: 5 mL)
Cultured Amniocytes: Transport two T-25 flasks at 80 percent confluency filled with culture media. Backup cultures must be retained at 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.
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: Unacceptable

Interpretive Data:

Background Information for Platelet Antigen Genotyping Panel:
Characteristics: Spontaneous fetal intracranial bleeding may occur in 20 percent of pregnancies affected with severe perinatal alloimmune thrombocytopenia (PAT); there is a risk of fetal death. Post-transfusion purpura may occur in transfusion recipients with antibodies to a specific platelet antigen.
Incidence: PAT occurs in 1 in 5000 births.
Inheritance: For women homozygous for the less common "b" HPA allele with antibodies to the common "a" allele, there is a 50 percent risk a pregnancy will be affected if her partner is heterozygous for the "a" allele and 100 percent risk if her partner is homozygous for the "a" allele.
Cause: Maternal-fetal HPA incompatibility.
Polymorphisms Tested: HPA-1 (*ITGB3,* GPIIIa) c.176T>C, p.L59P; HPA-2 (*GP1BA,* GPIba) c.482C>T, p.T161M; HPA-3 (*ITGA2B,* GPIIb) c.2621T>G, p.I874S; HPA-4 (*ITGB3,* GPIIIa) c.506G>A, p.R169Q; HPA-5 (*ITGA2,* GPIa) c.1600G>A, p.E534K; HPA-6 (*ITGB3,* GPIIIa) c.1544G>A, p.R515Q; HPA-15 (*CD109,* CD109) c.2108C>A, p.S703Y
Clinical Sensitivity: Variable, dependent on ethnicity.
Methodology: PCR followed by fluorescent monitoring.
Analytic Sensitivity and Specificity: 99 percent.
Limitations: Bloody amniotic fluid specimens may give false-negative results because of maternal cell contamination. Diagnostic errors can occur due to rare sequence variations.
Informed consent: Recommended; forms are available at www.aruplab.com.

See Compliance Statement C: www.aruplab.com/CS

PA 1-6, 15 Polymorphism

HPA System	"a" Allele Common	"b" Allele Variant
HPA 1	T	C
HPA 2	C	T
HPA 3	T	G
HPA 4	G	A
HPA 5	G	A
HPA 6	G	A
HPA 15	C	A

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): 81105; 81106; 81107; 81108; 81109; 81110; 81112

New York DOH approval pending. Call for status update.

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