

BACKGROUND:

Neonatal alloimmune thrombocytopenia (NAIT) is a rare syndrome caused by maternal IgG antibody directed against a fetal platelet antigen inherited from the father. Approximately 1 in 1000 pregnancies is affected, with about half of the cases occurring in first pregnancies. Although HPA-1a (PIA1) is the dominant human platelet alloantigen (HPA) incompatibility causing NAIT, a significant number of cases are caused by other HPA incompatibilities.

INCLUDED TESTS:

To demonstrate antibody in maternal serum:

Maternal platelet antibody detection and identification including alloantibodies reactive with alloantigens HPA-1a,-1b; HPA-2a,-2b; HPA-3a,-3b; HPA-4a,-4b; HPA-5a,-5b; HPA-15a,-15b; and other specificities on GPIIb/IIIa, GPIa/IIa, GPIb/IX, and GPIV. A crossmatch of maternal serum against paternal platelets is also performed to detect antibodies against low frequency and new HPA. Reactivity against Class I HLA antigens is also detected.

To demonstrate parental HPA incompatibility:

Maternal and paternal HPA genotyping including alleles of HPA-1 through 6, HPA-9 and HPA-15.

METHOD:

Antibody Detection - Flow Cytometry, Platelet Antibody Bead Array (PABA), Monoclonal Antibody Immobilization of Platelet Antigen (MAIPA)
HPA Genotyping - PCR + fluorescent allele – specific hydrolysis probes.

SPECIMEN REQUIREMENTS:

30 - 40 ml ACD-A whole blood and 10 ml serum from mother

30 - 40 ml ACD-A whole blood from father

Note: Samples must be received within 4 days of blood collection.

SHIPPING REQUIREMENTS:

Ship on an ice pack. Protect whole blood from freezing by wrapping in paper towels. Place the specimen and the test requisition into plastic bags and seal. Insert into an insulated container, place in a sturdy cardboard box, tape securely, and ship by overnight carrier. Ship the package in compliance with your overnight carrier guidelines. Label box with the following address:

Client Services/Platelet and Neutrophil Immunology Laboratory
BloodCenter of Wisconsin
638 N. 18th St.
Milwaukee, WI 53233
1-800-245-3117, ext. 6250

TURNAROUND TIME: 10 days

CPT CODES:

Maternal and Paternal Samples: 81400x16, 86022

Maternal Samples Only: 81400x8, 86022