



Laboratory Service Manual

Lab Dept: Transfusion Services

Test Name: DIRECT COOMBS/ANTIBODY SCREEN

General Information

Lab Order Codes: DCAS

Synonyms: Direct and Indirect Coombs, Direct and Indirect Antiglobulin Test, Direct Antiglobulin Test and Antibody Screen

CPT Codes: 86880 – Direct Coombs

86850 – Antibody Screen

Test Includes: Direct antiglobulin testing with polyspecific anti-human globulin serum. It may include use of monospecific (anti-IgG, anticomplement) when indicated.

Screen for unknown circulating antibodies in plasma/serum by use of known red cells.

Additional testing may be done if unexpected antibody(s) are detected. Refer to [Antibody Identification](#).

Logistics

Test Indications: To evaluate potential cause of hemolysis as in autoimmune hemolytic anemia or to evaluate the presence of hemolytic disease of the newborn. Used for the detection of alloantibody and/or autoantibody that is freely circulating or bound to patient's red cells.

Lab Testing Sections: Transfusion Service

Phone Numbers:

Minneapolis: 612-813-6824

Saint Paul: 651-220-6558

Test Availability: Daily, 24 hours

Turnaround Time: 1 hour, longer if unexpected antibodies are detected.

Special Instructions: Provide diagnosis, transfusion history, and pertinent medications to the laboratory. Additional specimen may be requested if elution studies or antibody identification is indicated.



Laboratory Service Manual

Specimen

Specimen Type:	Whole blood
Container:	Lavender top (EDTA) tube Alternate tube: Red top tubes will be accepted, but will delay specimen processing to allow for clotting. (SST tubes are Not acceptable.)
Draw Volume:	0.5 mL blood (small EDTA) or 2 mL blood (large EDTA)
Collection:	All specimens submitted to the Transfusion Service must be appropriately labeled at bedside with the time and date of collection, and the signature of the individual collecting the specimen. A completed order, either through the HIS or general requisition must accompany each specimen. It is not always necessary to collect a new sample prior to the provision of blood for patients. Consult with the Transfusion Service prior to collecting additional samples if status is unknown.
Special Processing:	Lab Staff: Refrigerate specimen
Patient Preparation:	Refer to Collection of Patient Specimens for full details. The patient must be positively identified when the specimen is collected. The label on the blood specimen must correspond with the identification on the patient's Medical Record wrist or ankle band (or ED ID) and on the physician's/practitioner's orders. The specimen must be timed, dated and signed by the phlebotomist at bedside.
Sample Rejection:	Gross hemolysis, sample placed in a serum separator tube, specimen tube not properly labeled.

Interpretive

Reference Range:	Negative
Limitations:	Abnormal proteins and cold agglutinins may interfere and cause delays in interpretation. Test will not detect all antibodies (e.g. antibodies in low titer, antibodies to low-incidence antigens). In some instances of autoimmune hemolytic anemia, the antibody may be completely adsorbed into the erythrocytes and is not detectable by the indirect antiglobulin test. 2 - 4% of patients with clinical autoimmune hemolytic anemia have a negative Direct Coombs Test.
Methodology:	Hemagglutination, tube. Antiglobulin test
Contraindications:	Not appropriate for pretransfusion testing since battery does not include an ABO or Rh.



Laboratory Service Manual

References:

Snyder EL and Spivak M (1979) Clinical and serological management of patients with methyldopa-indices positive antiglobulin tests. Transfusion 19:313-6

Brecher M, Technical Manual, Current Edition, Bethesda, MD AABB