MAYO CLINIC LABORATORIES

# Test Definition: ABTIR

Antibody Titer, Blood and Serum

## Overview

### Useful For

Monitoring antibody levels during pregnancy to help assess the risk of hemolytic disease of the newborn

This test is **not useful** for monitoring the efficacy of Rh-immune globulin administration.

### Reflex Tests

| Test Id | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| DCTR | Direct Antiglobulin Test (Poly) | Yes | No |
| SPAGR | Special Red Cell Ag Typing | Yes | No |
| ABIDR | Antibody Identification, RBC | Yes | No |
| ABTIR | Antibody Titer, RBC | Yes | No |
| STTX25 | Antibody Elution | No, (Bill Only) | No |
| STTX31 | Antibody Adsorption | No, (Bill Only) | No |
| STTX32 | Red Cell Antigen Typing | No, (Bill Only) | No |

### Additional Tests

| Test Id | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| STTX26 | Antibody Panel | No, (Bill Only) | Yes |

### Testing Algorithm

If the antibodies detected are not clinically significant with regard to hemolytic disease of the newborn or are too weakly reactive to titer, this test will be canceled, and the antibody identification will be ordered and performed at an additional charge.

### Method Name

Hemagglutination

### NY State Available

Yes

## Specimen

### Specimen Type

Varies

## Ordering Guidance

Testing is performed only on individuals who have a sex assigned at birth of female and who are pregnant or of child-bearing age (defined as < or =55 years old) to determine risk for hemolytic disease of the newborn. The test will be canceled if ordered on an individual who does not meet these criteria.

Order ATR / Isoagglutinin Titer, Anti-A, Serum or BTR / Isoagglutinin Titer, Anti-B, Serum if testing for anti-A or anti-B isoagglutinin titers is desired.

## Shipping Instructions

**Specimen must arrive within 72 hours of collection.**

## Specimen Required

**Blood cells, plasma, and serum are required.**

**Supplies:** Sarstedt Aliquot Tube, 5mL (T914)
**Specimen Type:** Plasma/Blood
**Collection Container/Tube:** 6-mL Pink top (EDTA)
**Submission Container/Tube:** Plastic vial
**Specimen Volume:**
3 mL Plasma
3 mL Red blood cells (RBCs)
**Collection Instructions:**
1. Centrifuge and aliquot plasma into plastic vial.
2. Label specimens as EDTA plasma or EDTA RBCs as appropriate.
3. Send both tubes.

**Specimen Type:** Serum/Blood
**Collection Container/Tube:** 10-mL Red top
**Submission Container/Tube:** Plastic vial
**Specimen Volume:**
5 mL Serum
5 mL RBCs
**Collection Instructions:**
1. Centrifuge and aliquot serum into a plastic vial.
2. Label specimens as serum or clotted RBCs as appropriate.
3. Send both tubes.

## Specimen Minimum Volume

Blood: 6 mL EDTA
Pediatric: 2 mL Serum

## Reject Due To

No specimen should be rejected.

## Specimen Stability Information

| Specimen Type | Temperature | Time | Special Container |
|---|---|---|---|
| Varies | Ambient (preferred) | 4 days | |
| | Refrigerated | 4 days | |

## Clinical & Interpretive

### Clinical Information

Some maternal IgG alloantibodies to red blood cell antigens will cross the placenta and cause hemolysis of antigen-positive fetal red blood cells. The resulting fetal anemia and hyperbilirubinemia can be harmful or possibly fatal to the newborn.

### Reference Values

Negative

If positive, result will be reported as the reciprocal of the highest dilution at with macroscopic agglutination (1+) is observed.

### Interpretation

The specificity of the maternal alloantibody will be stated. The titer result is the reciprocal of the highest dilution at which macroscopic agglutination (1+) is observed.

If the antibody problem identified is not relevant in hemolytic disease of the newborn or if titrations are not helpful, the titer will be canceled and will be replaced by ABIDR / Antibody Identification, Blood and Serum.

A consultation service is offered, at no charge, regarding the clinical relevance of red blood cell antibodies.

### Cautions

Recent administration of Rh-immune globulin may cause anti-D to be identified and appear falsely as an alloantibody.

### Clinical Reference

Cohn CS, Delaney M, Johnson ST, Katz LM, Schwartz J. eds: Technical Manual. 21st ed. AABB; 2023

## Performance

### Method Description

The strength and specificity of the antibody to be titered is first determined. Two-fold serial dilutions of serum are tested against antigen-positive erythrocytes. The result is the reciprocal of the highest dilution at which macroscopic agglutination (1+) is observed at the antihuman globulin phase of testing. Parallel titration of a previous specimen of the patient's serum (frozen) provides a baseline for comparison of antibody level. In the absence of a previous specimen from the patient, parallel titration of a control antiserum is used for standardization.(Cohn CS, Delaney M, Johnson ST, Katz LM, Schwartz J. eds: Technical Manual. 21st ed. AABB; 2023)

### PDF Report

No

### Day(s) Performed
Monday through Friday, Sunday

### Report Available
1 to 2 days

### Specimen Retention Time
14 days

### Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Main Campus

## Fees & Codes

### Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

### Test Classification
This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

### CPT Code Information
86886
86870 (if appropriate-per panel tested)
86860 (if appropriate)
86880 x 3 (if appropriate)
86905- (if appropriate)
86978 (if appropriate)
81403 (if appropriate)-Internal only

### LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---|---|---|
| ABTIR | Antibody Titer, RBC | 50962-0 |

| Result ID | Test Result Name | Result LOINC® Value |
|---|---|---|
| SPECR | Antibody Specificity | 888-8 |
| ALTIR | Allo Antibody Titer | In Process |
| CTPSR | Current Titer of Previous Specimen | In Process |