



# Test Definition: GBACS

Gamma-Amino Butyric Acid Type A (GABA-A)  
Receptor Antibody, Cell-Binding Assay, Serum

## Overview

### Useful For

Evaluating patients with suspected autoimmune encephalitis and autoimmune epilepsy using serum specimens

### Method Name

Cell-Binding Assay (CBA)

### NY State Available

Yes

## Specimen

### Specimen Type

Serum

### Specimen Required

**Supplies:** Sarstedt Aliquot Tube, 5 mL (T914)

**Collection Container/Tube:**

**Preferred:** Red top

**Acceptable:** Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 0.3 mL

**Collection Instructions:** Centrifuge and aliquot serum into a plastic vial.

### Forms

[If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request \(T732\)](#) with the specimen.

### Specimen Minimum Volume

0.25 mL

### Reject Due To

|                 |        |
|-----------------|--------|
| Gross hemolysis | Reject |
| Gross lipemia   | Reject |
| Gross icterus   | Reject |

### Specimen Stability Information

| Specimen Type | Temperature              | Time     | Special Container |
|---------------|--------------------------|----------|-------------------|
| Serum         | Refrigerated (preferred) | 28 days  |                   |
|               | Ambient                  | 72 hours |                   |
|               | Frozen                   | 28 days  |                   |

## Clinical & Interpretive

### Clinical Information

Gamma-amino butyric acid type A (GABA-A) receptor autoantibodies are highly predictive of GABA-A receptor autoimmune encephalitis. Patients who are seropositive for GABA-A receptor encephalitis have characteristic clinical-radiologic presentations including frequent seizures and multifocal lesions in the white matter. Majority of patients are treatable with immunotherapy.

### Reference Values

Negative

### Interpretation

Seropositivity for gamma-amino butyric acid type A receptor autoantibodies supports the clinical diagnosis of autoimmune encephalitis with neurological presentations including seizures and multifocal lesions in the white matter. A search for thymoma cancer and a trial of immunotherapy should be considered.

### Cautions

Negative results do not exclude the diagnosis of autoimmune encephalitis. Only 2% of autoimmune encephalitis cases are associated with autoantibodies against gamma-amino butyric acid type A receptor.

### Clinical Reference

1. O'Connor K, Waters P, Komorowski L, et al. GABAA receptor autoimmunity A multicenter experience. *Neurol Neuroimmunol Neuroinflamm* 2019;6(3):e552. doi:10.1212/NXI.0000000000000552
2. Spatola M, Petit-Pedrol M, Simabukuro MM, et al. Investigations in GABAA receptor antibody-associated encephalitis. *Neurology*. 2017;88(11):1012-1020. doi:10.1212/WNL.0000000000003713
3. Waters P, Irani S. GABA-A receptor antibodies and their clinical associations. *Neurology*. 2017; 88:1010-1011
4. Petit-Pedrol M, Armangue T, Peng X, et al. Encephalitis with refractory seizures, status epilepticus, and antibodies to the GABAA receptor: a case series, characterization of the antigen, and analysis of the effects of antibodies. *Lancet Neurol*. 2014;13(3):276-286

## Performance

### Method Description

Patient specimen is applied to a composite slide containing transfected and nontransfected EU90 cells. After incubation and washing, fluorescein-conjugated goat-antihuman IgG is applied to detect the presence of patient IgG binding. (Package insert: IIFT: Neurology Mosaics, Instructions for the indirect immunofluorescence test. EUROIMMUN,

FA\_112d-1\_A\_UK\_C13, 02/25/2019)

**PDF Report**

No

**Day(s) Performed**

Monday through Sunday

**Report Available**

5 to 10 days

**Specimen Retention Time**

2 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 was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

**CPT Code Information**

86255

**LOINC® Information**

| Test ID | Test Order Name    | Order LOINC® Value |
|---------|--------------------|--------------------|
| GBACS   | GABA-A-R Ab CBA, S | 101874-6           |

| Result ID | Test Result Name   | Result LOINC® Value |
|-----------|--------------------|---------------------|
| 620232    | GABA-A-R Ab CBA, S | 101874-6            |