# 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.

### 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

# Test Definition: GBACS

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

### 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 |