

## Overview

### Useful For

Serial testing in women with prior stage II or III breast cancer who are clinically free of disease

Predicting early recurrence of disease in women with treated carcinoma of the breast

Indicating that additional tests or procedures should be performed to confirm recurrence of breast cancer

This test is **not useful for** screening women for carcinoma of the breast.

### Method Name

Chemiluminometric Immunoassay

### NY State Available

Yes

## Specimen

### Specimen Type

Serum

### Specimen Required

#### Collection Container/Tube:

**Preferred:** Serum gel

**Acceptable:** Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 0.5 mL

#### Collection Instructions:

1. Centrifuge and aliquot serum into a plastic vial within 2 hours of collection. **Specimens that have not been aliquoted will be canceled.**
2. Send refrigerated.

### Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

[-General Request \(T239\)](#)

[-Oncology Test Request \(T729\)](#)

### Specimen Minimum Volume

0.25 mL

### Reject Due To

Gross hemolysis	Reject
Gross lipemia	OK

**Specimen Stability Information**

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	7 days	
	Frozen	90 days	
	Ambient	4 days	

**Clinical & Interpretive****Clinical Information**

Carcinoma of the breast is the most prevalent form of cancer in women. These tumors often produce mucinous antigens, which are large-molecular-weight glycoproteins with O-linked oligosaccharide chains.

Monoclonal antibodies directed against these antigens have been developed, and several immunoassays are available to quantitate the levels of tumor-associated mucinous antigens in serum. The antibodies recognize epitopes of a breast cancer-associated antigen encoded by the human mucin 1 (*MUC-1*) gene, which is known by several names including MAM6, milk mucin antigen, cancer antigen (CA) 27.29, and CA 15-3.

While CA 27.29 is expressed at the apical surface of normal epithelial cells, it is present throughout malignant epithelial cells of the breast, lung, ovary, pancreas, and other sites. The cancer-associated form of the antigen is less extensively glycosylated than the normal form and more specific for tumor cells.

**Reference Values**

Males

> or =18 years: < or =38.0 U/mL (use not defined)

Females

> or =18 years: < or =38.0 U/mL

Reference values have not been established for patients who are younger than 18 years of age.

Serum markers are not specific for malignancy, and values may vary by method.

**Interpretation**

Increased levels of cancer-associated antigen (CA 27.29) (>38 U/mL) may indicate recurrent disease in a woman with treated breast carcinoma.

**Cautions**

Currently, this test provides results for female patients only.

The use of cancer-associated antigen (CA 27.29) has not been demonstrated to provide clinical benefit to these patients, which has led some Mayo Clinic researchers to conclude there is insufficient justification for routine clinical use of this

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new marker.

Some patients who have been exposed to mouse antigens, either in the environment or as part of treatment or imaging procedure, may have circulating antimouse antibodies present. These antibodies may interfere with the assay reagents to produce unreliable CA 27.29 results.

**Clinical Reference**

1. Bon GG, von Mensdorff-Pouilly S, Kenemans P, van Kamp GJ, Verstraeten RA, Hilgers J: Clinical and technical evaluation of ACS BR serum assay of MUC1 gene-derived glycoprotein in breast cancer, and comparison with CA 15-3 assays. Clin Chem. 1997 Apr;43(4):585-593
2. Chan DW, Beveridge RA, Muss H: Use of Truquant BR radioimmunoassay for early detection of breast cancer recurrence in patients with stage II and stage III disease. J Clin Oncol. 1997 Jun;15(6):2322-2328
3. Lin DC, Genzen JR: Concordance analysis of paired cancer antigen (CA) 15-3 and 27.29 testing. Breast Cancer Res Treat. 2018 Jan;167(1):269-276

**Performance****Method Description**

Cancer antigen (CA) 27.29 is measured using an automated, competitive, chemiluminescent immunoassay. The signal (Lite) reagent is a monoclonal antibody specific for CA 27.29, which is labeled with acridinium ester. Purified CA 27.29 antigen attached to paramagnetic particles (solid phase) competes with the antigen in the specimen for binding to the monoclonal antibody. An inverse relationship exists between the amount of CA 27.29 in the patient specimen and the amount of relative light units detected by the system. (Package insert: Advia Centaur XPT CA 27.29. Siemens Assay Systems; 11206409\_EN Rev. U, 03/2020)

**PDF Report**

No

**Day(s) Performed**

Monday through Friday

**Report Available**

Same day/1 to 2 days

**Specimen Retention Time**

7 days

**Performing Laboratory Location**

Rochester

**Fees & Codes**

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**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**

86300

**LOINC® Information**

Test ID	Test Order Name	Order LOINC® Value
C2729	Breast Carcinoma Assoc Ag(CA 27.29)	17842-6

Result ID	Test Result Name	Result LOINC® Value
C2729	Breast Carcinoma Assoc Ag(CA 27.29)	17842-6