

Overview

Useful For

Determining proliferation of tumor cells in paraffin-embedded tissue blocks from patients diagnosed with breast carcinoma

Special Instructions

- [Pathology/Cytology Information](#)

Method Name

This is not an orderable test. Order PATHC / Pathology Consultation. The consultant will determine the need for special stains.

Immunohistochemistry, Manual Semi-Quantitation

NY State Available

Yes

Specimen

Specimen Type

Special

Ordering Guidance

Ki-67 immunohistochemistry testing on intracystic papillary carcinoma and solid papillary carcinoma, without clearly stating invasive carcinoma, is not appropriate and will be canceled without processing.

Shipping Instructions

Attach the green pathology address label included in the kit to the outside of the transport container.

Necessary Information

1. **Pathologist's name, address, and phone number are required.**
2. **Include accompanying pathology report stating the final diagnosis.** If not available, a preliminary diagnosis is acceptable **only if** it refers to invasive or metastatic breast carcinoma.

Specimen Required

This is not an orderable test. Order PATHC / Pathology Consultation. The consultant will determine the need for special stains.

Supplies: Pathology Packaging Kit (T554)

Specimen Type:

Preferred: Formalin-fixed, paraffin-embedded tissue block containing invasive or metastatic breast carcinoma

Acceptable: 2 unstained sections, containing invasive or metastatic breast carcinoma, on charged slides cut at 4 microns <1 month ago. Tissue on the slides should have been fixed in 10% neutral buffered formalin.

Submission Container/Tube: Pathology Packaging Kit (T554)

Collection Instructions: Submit paraffin-embedded invasive or metastatic breast carcinoma tissue.

Additional Information: Paraffin block will be returned with the final report.

Forms

1. [Pathology/Cytology Information](#) (T707) in Special Instructions

Reject Due To

No specimen should be rejected.

Specimen Stability Information

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

Clinical & Interpretive**Clinical Information**

Ki-67 (MIB-1 clone) is a monoclonal antibody that reacts with cells undergoing DNA synthesis by binding to the Ki-67 antigen, a marker known to be expressed only in proliferating cells. By measuring the amount of tumor cells expressing Ki-67, an estimate of DNA synthesis can be determined. Studies suggest that Ki-67 (MIB-1) analysis of paraffin-embedded tissue specimens may provide useful prognostic information in various tumor types.

Reference Values

This is not an orderable test. Order PATHC / Pathology Consultation. The consultant will determine the need for special stains.

Varies by tumor type; values reported from 0% to 100%

Interpretation

Results will be reported as a percentage of tumor cells staining positive for Ki-67(MIB-1). Quantitative Ki-67 (MIB-1) results should be interpreted within the clinical context for which the test was ordered.

Cautions

The paraffin block analyzed must be representative of the patient's tumor.

Test results should be interpreted in the context of clinical findings and other laboratory data.

Clinical Reference

1. Urruticoechea A, Smith IE, Dowsett M: Proliferation marker Ki-67 in early breast cancer. *J Clin Oncol* 2005 Oct 1;23(28):7212-7220
2. de Azambuja E, Cardoso F, de Castro G Jr, et al: Ki-67 as prognostic marker in early breast cancer: a meta-analysis of published studies involving 12,155 patients. *Br J Cancer* 2007 May 21;96(10):1504-1513

Performance**Method Description**

A 4-micron thick section is cut from the paraffin block. The section is stained with an immunoperoxidase method using the monoclonal antibody Ki-67 (MIB-1 clone). This is the paraffin nuclear epitope to the Ki-67 antigen. Any nucleus that has an antigen-antibody complex will cause the bright-field, brown chromogen, diaminobenzidine (DAB), to precipitate onto it. All nuclei, both DAB positive and negative, are counterstained with diluted hematoxylin.(Unpublished Mayo method)

PDF Report

No

Day(s) Performed

Monday through Friday

Report Available

4 to 6 days

Specimen Retention Time

Until 1 week after results are reported

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

88360

LOINC® Information

| Test ID | Test Order Name | Order LOINC® Value |
|---------|------------------------|--------------------|
| KIBM | Ki67 Breast IHC Manual | 85330-9 |

| Result ID | Test Result Name | Result LOINC® Value |
|-----------|------------------------------------|---------------------|
| 71669 | Interpretation | 85330-9 |
| 71670 | Participated in the Interpretation | No LOINC Needed |
| 71671 | Report electronically signed by | 19139-5 |
| 71672 | Material Received | 81178-6 |
| MA035 | Tumor type | 44638-5 |
| MA036 | Tumor classification | 21918-8 |
| 71673 | Disclaimer | 62364-5 |
| 71844 | Case Number | 80398-1 |