Cancer.Net™

Diagnosing Breast Cancer:

Human Epidermal Growth Factor (HER2) Testing

HER2, or human epidermal growth factor 2, is a special protein on the surface of breast cells that controls the growth of cancer.

The levels of HER2 in your tumor help your doctor plan your treatment options.

When is HER2 testing done?

- You have been newly diagnosed with breast cancer
- You have breast cancer that has come back after treatment
- Your cancer has spread to other parts of the body

How is HER2 testing done?

- **immunohistochemistry (IHC)** measures the levels of HER2 protein on the surface of the cancer cells.
- **in-situ hybridization (ISH)** measures the copies of the *HER2* gene within one cancer cell.

HER2 test results can be

HER2 POSITIVE

High levels of the HER2 protein and/or many copies of the HER2 gene are found in your tumor sample.

Treatment Options

HER2-targeted therapy, such as trastuzumab (Herceptin), lapatinib (Tykerb), pertuzumab (Perjeta), and ado-trastuzumab emtansine (T-DM1; Kadcyla)

HER2 NEGATIVE

No or low levels of the HER2 protein and/or few copies of the HER2 gene are found in your tumor sample.

Treatment Options

HER2-targeted therapy is not recommended. Your doctor will suggest other treatment options.

Sometimes, retesting is needed

The levels of the HER2 protein and/or the number of copies of the HER2 gene fall between the limits for HER2 positive and HER2 negative.

Testing may need to be done again, either on a different tumor sample or with a different test. Even then, results may not be conclusive. You and your doctor will discuss what this means for treatment.

- Find more at www.cancer.net/recommendations or read the full guideline from ASCO and the College of American Pathologists at www.asco.org/guidelines/her2
- **RESOURCES**
  Guide to Breast Cancer (www.cancer.net/breast)
  Understanding a Pathology Report (www.cancer.net/pathology)
  After a Biopsy: Making the Diagnosis (www.cancer.net/afterbiopsy)

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