

## HER2: What You Need to Know



HER2 is a protein on the surface of many cells. HER2 stands for **H**uman **E**pidermal growth factor **R**eceptor **2** (also called **erb-B2**). Human epidermal growth factor

attaches to HER2 and stimulates cells to divide and grow. Normally, HER2/neu, the gene that makes HER2 protein, produces the right amount of HER2 receptors for normal cell growth.

But if cancer develops, many HER2/neu gene copies may be made, and then too many HER2 receptors may be produced. As a result, these breast cancer cells grow more rapidly and aggressively than breast cancer cells without extra HER2 protein. Breast cancer cells with extra HER2 are called *HER2 positive* (HER2+).

### HER2+ breast cancer . . .

- Affects approximately 25% of women diagnosed with breast cancer.
- Tends to grow faster and is more likely to return than most HER2 negative tumors.
- May be difficult to treat with certain chemotherapy drugs.
- May respond well to medications that specifically target HER2.
- Is not inherited from your mother or father or passed on to your daughters or sons.

### Am I HER2 Positive?

It is important to know if you are HER2 positive so you can receive the treatment that is best for you. Three types of tests are available to identify whether your breast cancer is HER2 positive:

- The **IHC** test shows if there is too much HER2 receptor protein on the cancer cells. Results are graded 0 (“negative,” normal amount of HER2 protein) to 3+ (“positive,” too much HER2).
- Both the **FISH** and **SPoT-Light HER2 CISH** tests show if there are extra copies of the HER2/neu gene in the cancer cells. Results can be “positive” (extra copies) or “negative” (normal number).

These test results are sometimes uncertain. Your doctor will confirm whether additional testing is needed to determine your HER2 status.

### Effective Treatment Is Available

If you are HER2 positive, treatment is available. Two medications are approved by the US FDA for use in women with HER2 positive breast cancer:

Trastuzumab (Herceptin) has significantly improved the outcome of many women with HER2 positive early or advanced breast cancer. Lapatinib (Tykerb) may help patients with breast cancer that has spread who do not benefit from trastuzumab.

These drugs are not chemotherapy or hormonal therapy, but biotherapy. Both target HER2 but work in different ways to stop cancer cell growth. Your healthcare team will work with you to identify appropriate treatment.

### For More Information

Your healthcare team can provide treatment and support. Some HER2 resources online are:

- **American Cancer Society** ([www.cancer.org](http://www.cancer.org))
- **Cancernetwork.com**
- **HER2 Support Group Org** ([www.her2support.org](http://www.her2support.org))
- **National Cancer Institute** ([www.cancer.gov](http://www.cancer.gov))