What is hormone receptor-positive breast cancer?

Each breast cancer diagnosis is highly individual. Knowing the cancer's **hormone receptor status**—whether certain hormones help the cancer cells grow—is key in deciding treatment. Hormone receptor-positive breast cancers grow in response to the hormones estrogen and progesterone. Endocrine therapy interferes with this process. About 80% of all breast cancers are hormone receptor-positive.

WHAT ARE HORMONE RECEPTORS?

Hormone receptors are proteins found in or on cells, including breast cancer cells. When estrogen and/or progesterone attach to these receptors in breast cancer cells, the cancer cells grow and multiply.

HOW IS HORMONE RECEPTOR STATUS CONFIRMED?

After biopsy, a tissue sample is tested using an immunohistochemical staining assay, or IHC test. This test shows whether the cancer cells have estrogen receptors, progesterone receptors, or both.

WHAT TREATMENTS ARE AVAILABLE FOR HORMONE RECEPTOR-POSITIVE BREAST CANCER?

Treatments for hormone receptor-positive breast cancer include endocrine therapies and targeted therapies. Surgery, chemotherapy, and radiation therapy are other potential treatment options.

ENDOCRINE THERAPIES FOR HORMONE RECEPTOR-POSITIVE BREAST CANCER

Endocrine therapies interfere with cancer cell growth by blocking estrogen receptors or by lowering the amount of estrogen in the body. In early-stage breast cancer, treatment can last from 5-10 years or more. Genomic testing can help inform how long patients with early-stage breast cancer should continue endocrine therapy. In metastatic disease, treatment can be ongoing.

Drug class	Cancer stage	Menopausal status
Selective estrogen receptor modulators (SERMs)		
Tamoxifen	All stages	Any
Toremifene	Metastatic	Postmenopausal
Selective estrogen receptor degraders (SERDs)		
Elacestrant	Advanced or metastatic	Postmenopausal
Fulvestrant	Advanced or metastatic	Postmenopausal
Aromatase inhibitors		
Anastrozole	All stages	Postmenopausal
Exemestane	All stages	Postmenopausal
Letrozole	All stages	Postmenopausal

TARGETED THERAPIES FOR HORMONE RECEPTOR-POSITIVE BREAST CANCER

Targeted therapies focus on biomarkers other than estrogen and progesterone receptors. There are five types of FDA-approved targeted therapies for hormone receptor-positive breast cancer: AKT inhibitors, antibody-drug conjugates, CDK4/6 inhibitors, mTOR inhibitors, and PI3K inhibitors. Most are only approved to treat advanced or metastatic breast cancer.

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