



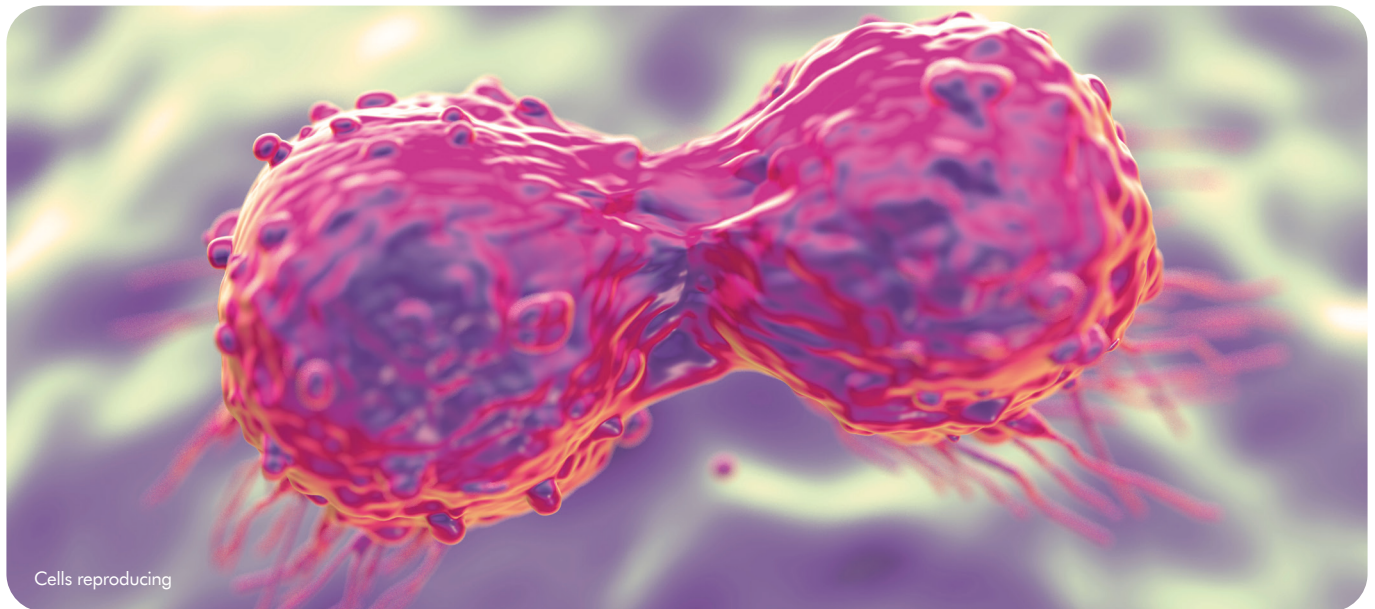
PATHOLOGY TESTS EXPLAINED

Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT **HER2 TESTING**

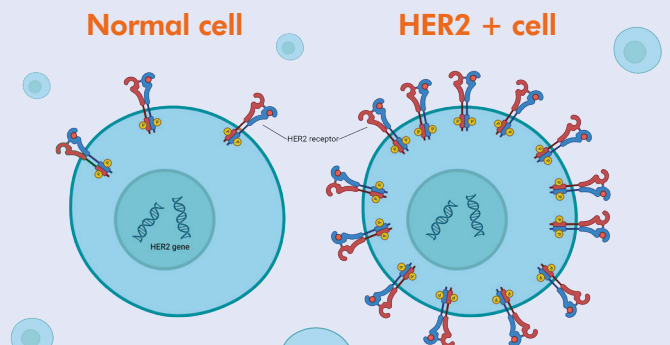
If you have breast cancer or one of certain stomach, pancreatic, ovarian, bladder, or oesophageal cancers, samples of your tumour may be sent to the pathology laboratory so they can be tested to see if there is a HER2 genetic mutation.

Cancers that are caused by this mutation tend to grow and spread more quickly but anti-HER2 treatments have been developed specifically to target them and these are very effective. Testing your tumour can show if you are likely to benefit from one of these treatments. A pathology report will be sent to your doctor, and this will contain information about the HER2 status of the cancer.



What is HER2?

HER2 stands for human epidermal growth factor receptor 2. HER2 is a gene that codes for a particular protein called HER2 protein. HER2 proteins are found on the surface of some cells in many of the body's organs including breast cells and they control the way healthy cells grow. If there is a mutation on the HER2 gene and the gene isn't working properly, too much HER2 is made, cells grow uncontrollably, and this leads to cancer.



Targeted treatments

In the past, HER2 cancers were associated with an increased risk of cancer recurrence and a poorer outcome. Now, the use of Herceptin® (trastuzumab) a targeted treatment against HER2-positive cancers, together with chemotherapy, has dramatically improved outcomes. Herceptin blocks the ability of the cancer cells to receive chemical signals that tell the cells to grow. Kadcyla® (trastuzumab emtansine) is another targeted therapy that is used to treat early breast cancer. New therapies for HER2 cancers continue to be developed.



Your results

There are two main ways to test HER2 status in cancer tissue. These are an immunohistochemistry (IHC) test and fluorescence in situ hybridisation (FISH) test. Both are used to find out if the cancer cells have a high amount of HER2 protein.

It is not clear which of these two tests is more accurate, but the IHC test is usually done first because the FISH test takes longer to get a result and is more expensive.

IHC results and what they mean

| | | |
|---------|--|---|
| 0 or +1 | The cancer is considered HER2 negative | You will not benefit from anti-HER2 treatment |
| +3 | The cancer is considered HER2 positive. | You will be offered anti-HER2 treatment. |
| +2 | The HER2 status is not clear and this is called an equivocal result. | In this case, the FISH test will be used to clarify the result. |

x3⁺

Triple-positive breast tumours

Triple-positive breast tumours are HER2-positive, estrogen receptor positive and progesterone receptor positive. These cancers are treated with drugs that target HER2 and hormone drugs.

x3⁻

Triple-negative breast tumours

Triple-negative breast tumours are not positive for the three receptor proteins – HER2, estrogen or progesterone receptor proteins. Drugs that target HER2 and hormone therapy to target estrogen and progesterone receptors are not useful in treating these cancers and other treatments are required.



Monitoring your treatment

HER2 testing cannot diagnose cancer but it helps your doctor understand more about the tumour's characteristics in order to make decisions about treatment. It is sometimes used to monitor cancer treatment. An initial test establishes a baseline and then tests are repeated to see if this changes. If the level is initially raised then it falls, it is likely that treatment is working. If it stays higher, treatment is not working. If the level falls, then rises, the cancer may be recurring.



Questions to ask your doctor

- Why does this test need to be done?
- Do I need to prepare (such as fast or avoid medications) for the sample collection?
- Will an abnormal result mean I need further tests?
- How could it change the course of my care?
- What will happen next, after the test?

For more detailed information on these and many other tests go to pathologytestsexplained.org.au



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www.pathologytestsexplained.org.au

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Pathology Tests Explained is managed by a consortium of medical and scientific organisations representing pathology practice in Australia. More details at:

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Click on the link to find information about what your tests are investigating or measuring and what your results can tell your doctor.