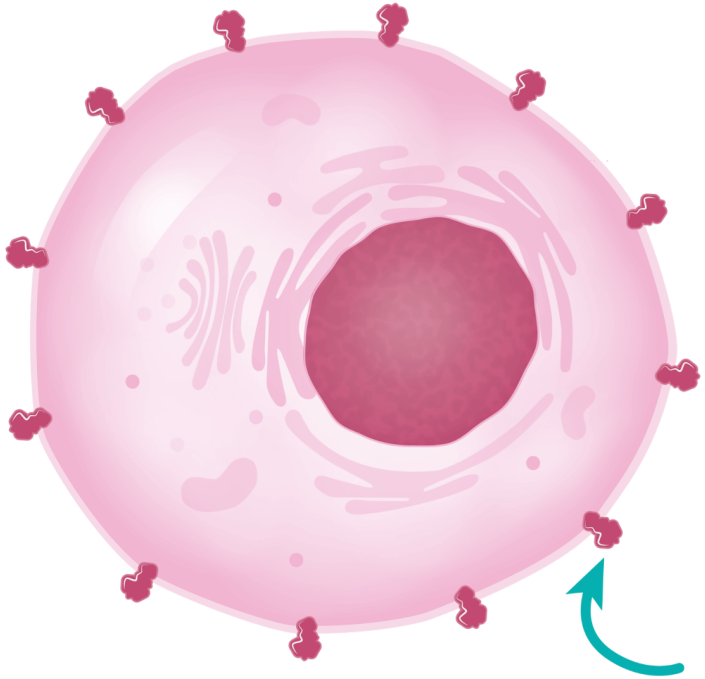
ADVANCES IN ANTI-HER2 ANTIBODY TREATMENT FOR BREAST CANCER

HER2 stands for Human Epidermal Growth Factor Receptor 2. It controls cell growth and its increased presence is found in about 20% of breast cancers. Over-expression of HER2 is associated with aggressive disease and higher mortality.



HER2 status

Patients showing higher than normal levels of HER2 are classified as HER2-positive (HER2+), while patients with normal levels are considered HER2-negative (HER2-). HER2 is an independent predictor of prognosis in women with breast cancer.

?

Evaluate survival rates based on patient's HER2 and hormone receptor (HR) status

HER2+ HR+	HER2+ HR-	HER2- HR+	HER2- HR-
○	○	○	○

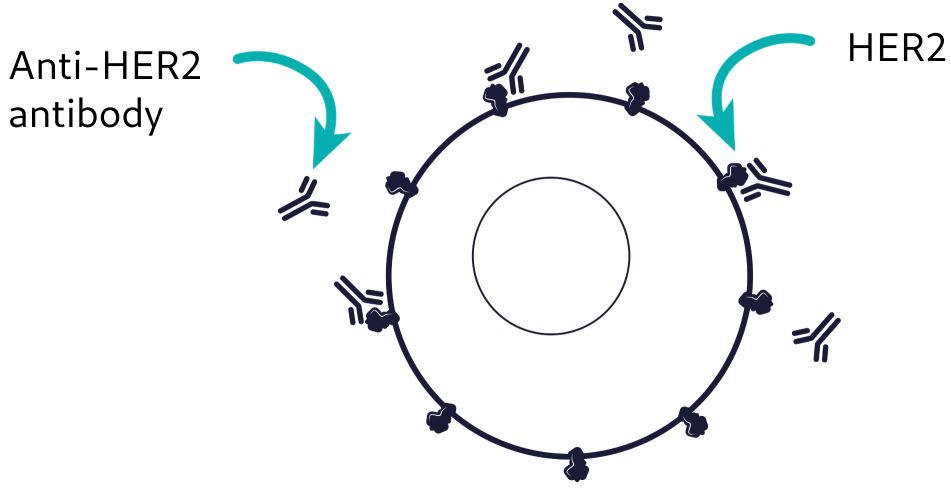
Click to view

Data from National Cancer Institute

Anti-HER2 therapy

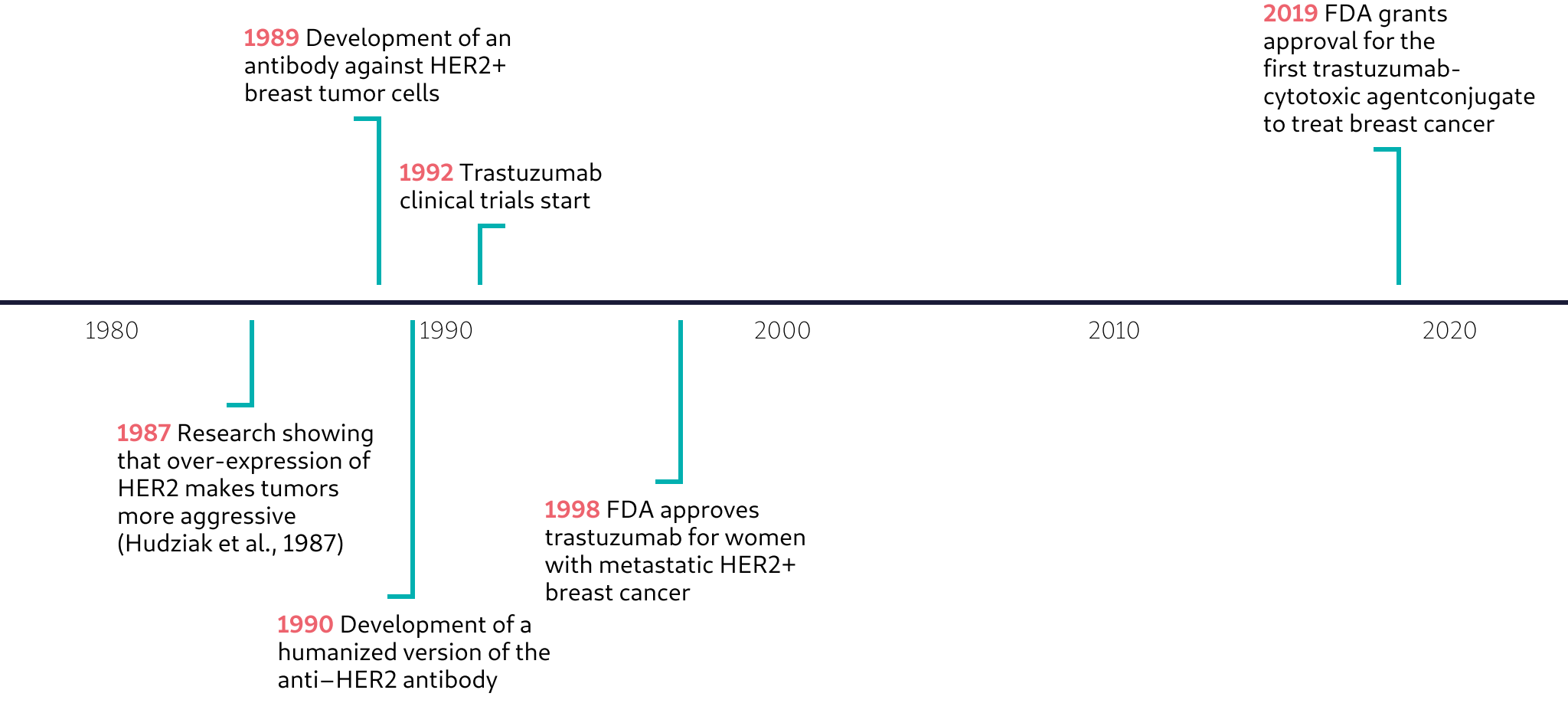
A patient's HER2 status is important for choosing the right treatment. HER2+ breast cancer patients are likely to respond to an anti-HER2 therapy, using a drug called trastuzumab.

Trastuzumab is a monoclonal antibody that attaches to HER2 present on the cell surface, inhibiting cancer growth.



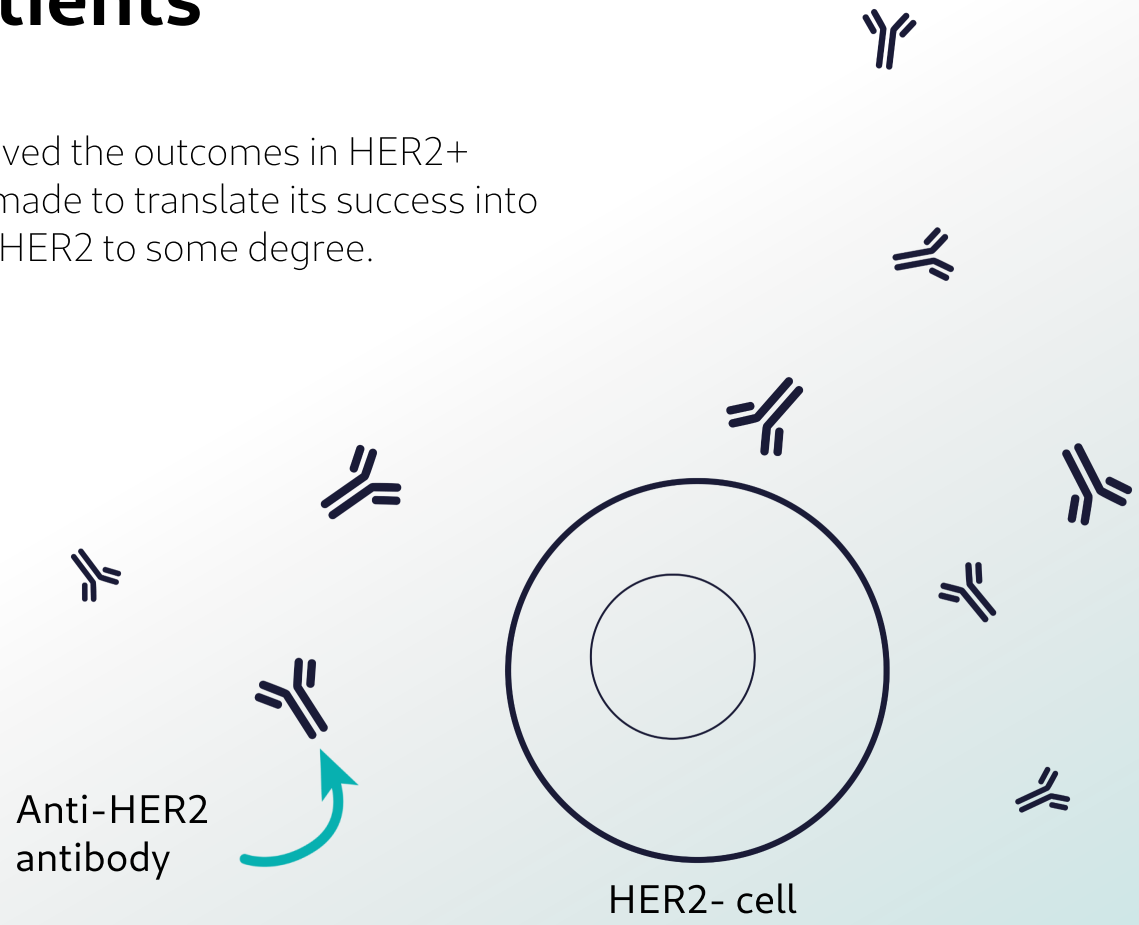
History of trastuzumab

You can explore the history of trastuzumab below



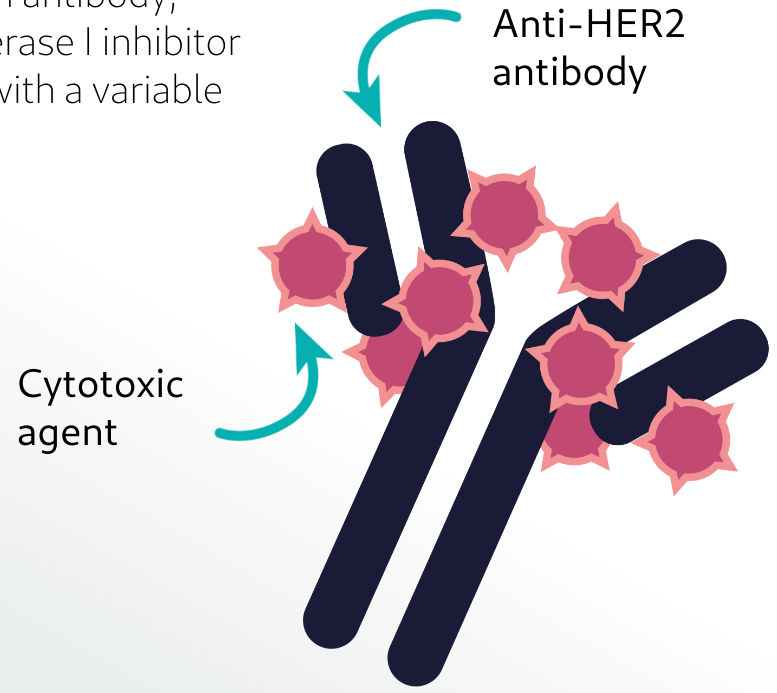
HER2-negative patients

As trastuzumab has considerably improved the outcomes in HER2+ breast cancer patients, effort has been made to translate its success into patients that are HER2- or up-regulate HER2 to some degree.



Anti-HER2 ADC therapy

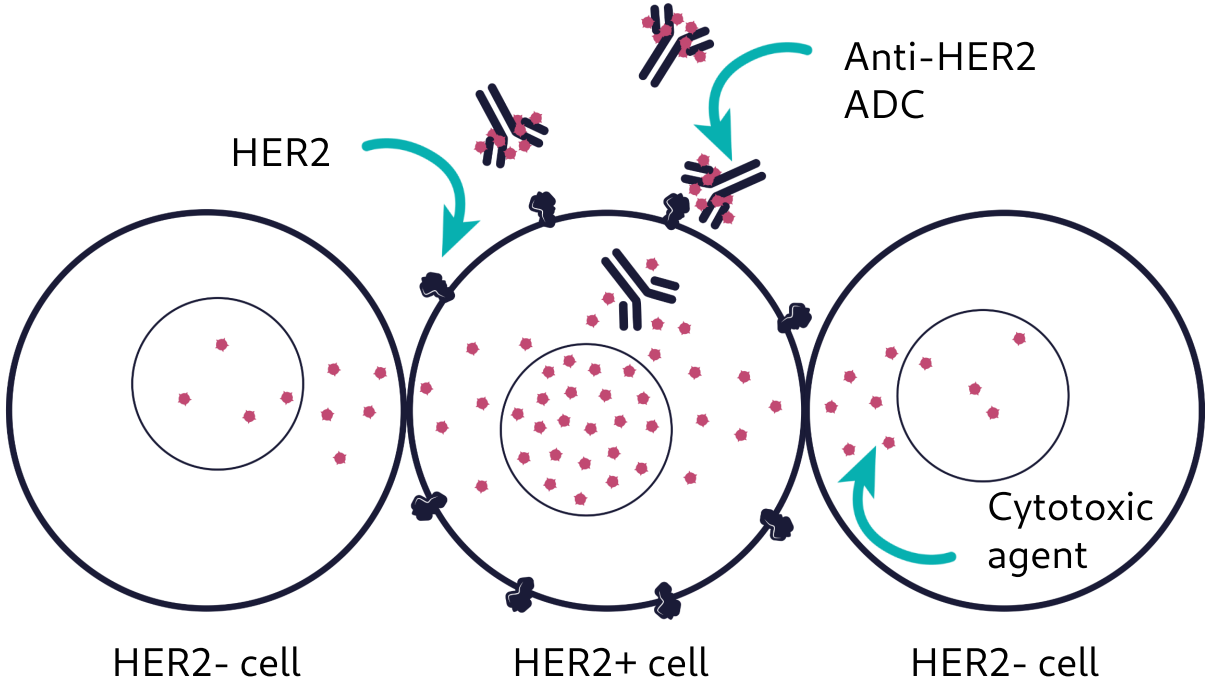
Antibody-Drug Conjugates (ADCs) are a new class of drugs that are created by attaching a cytotoxic or therapeutic agent to an antibody, such as trastuzumab. Trastuzumab linked to a topoisomerase I inhibitor (DXd) is called T-DXd and can be used to target tumors with a variable HER2 expression.



Anti-HER2 ADC
(antibody-drug conjugate)

T-DXd mechanism of action

T-DXd binds to HER2 present on the surface of a tumor cell. The conjugate is internalized and DXd is released from the anti-HER2 antibody. It enters the nucleus, causing DNA damage and cell death. Finally, T–DXd kills surrounding cancer cells, independently of their HER2 status, through the bystander killing effect.



Share your opinion!

Do you think T-DXd has the potential to revolutionize breast cancer treatment in the future?

✓ AGREE

✕ DISAGREE

More information

The ongoing research is laying the foundations for the development of new treatment options for breast cancer patients. Want to learn more about other potential treatments for breast cancer patients with lower levels of HER2 expression? Download **“The Exciting New Field of HER2–Low Breast Cancer Treatment”** by Daniel Eiger et al., 2021.

DOWNLOAD PAPER

Would you like us to send you more information about Antibody-Drug Conjugates?

Please enter your

SUBSCRIBE

This resource has been developed by **Tech for Bio**. If you have any questions, please get in touch with us at **contact@techforbio.com**. Let us know if you have enjoyed our website! Find us on **LinkedIn** and **Twitter**.
