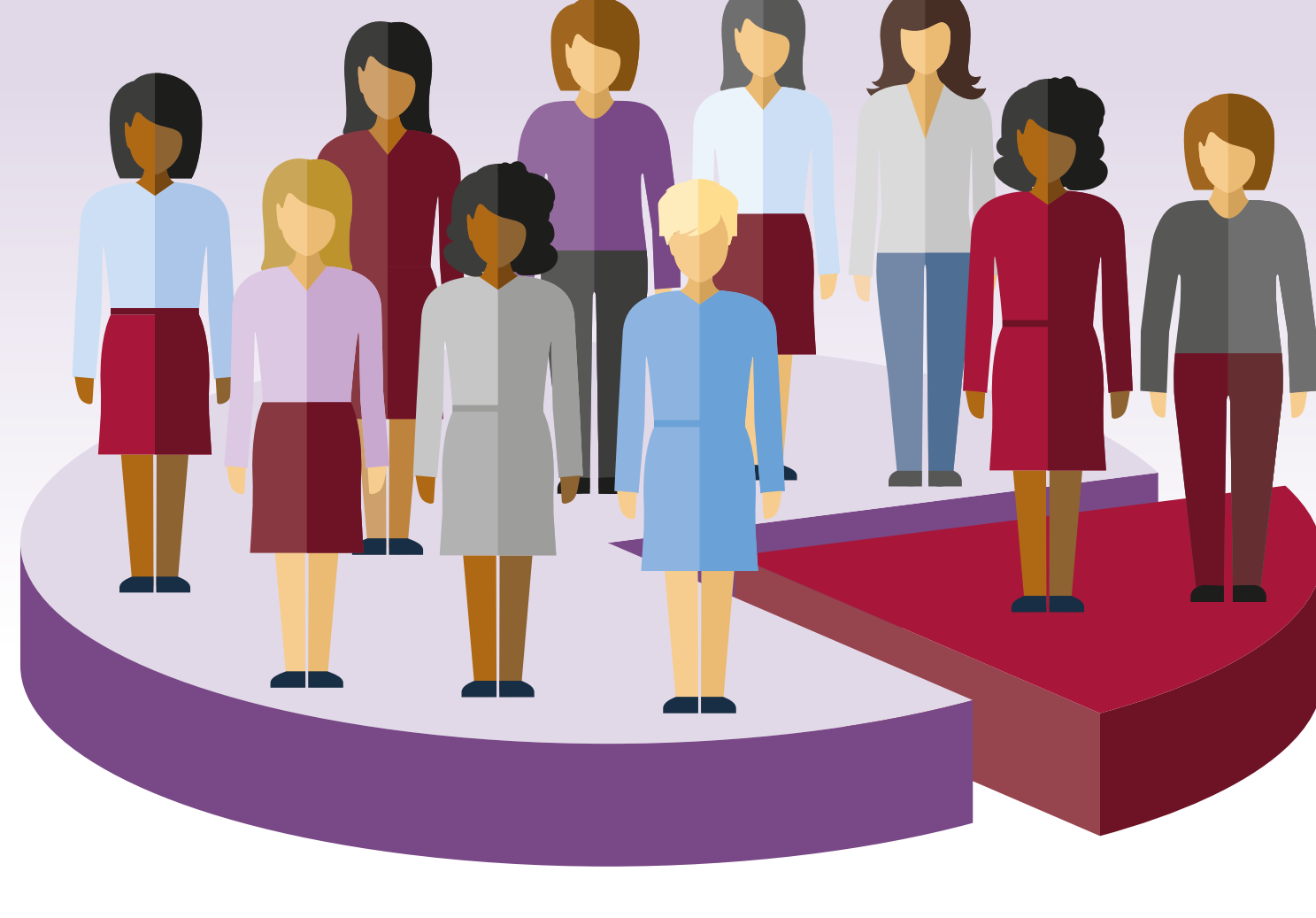


About triple-negative breast cancer

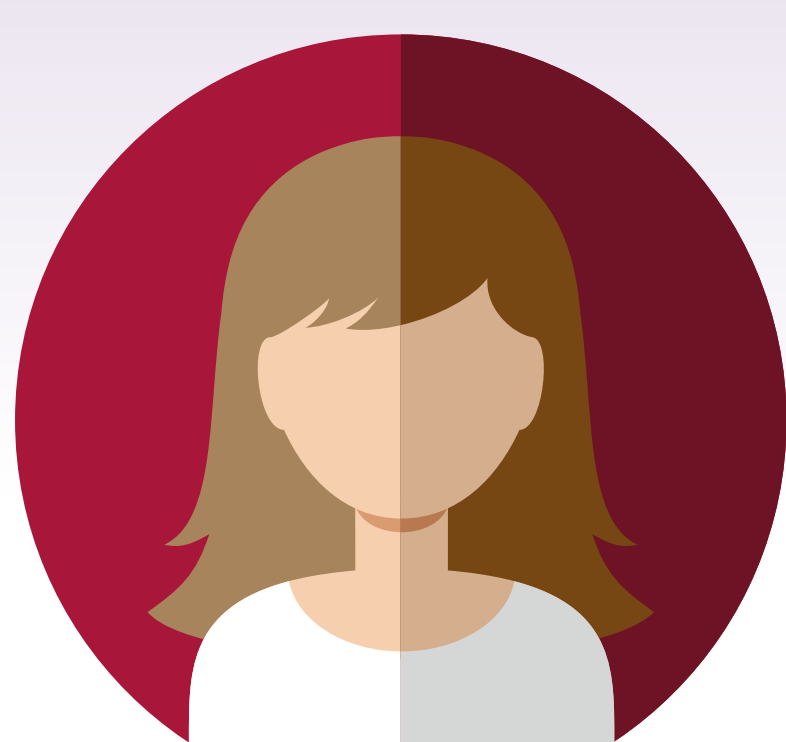
Despite being the rarest form, it accounted for **15-20%**¹ of the over 2 million new breast cancer cases in 2018²



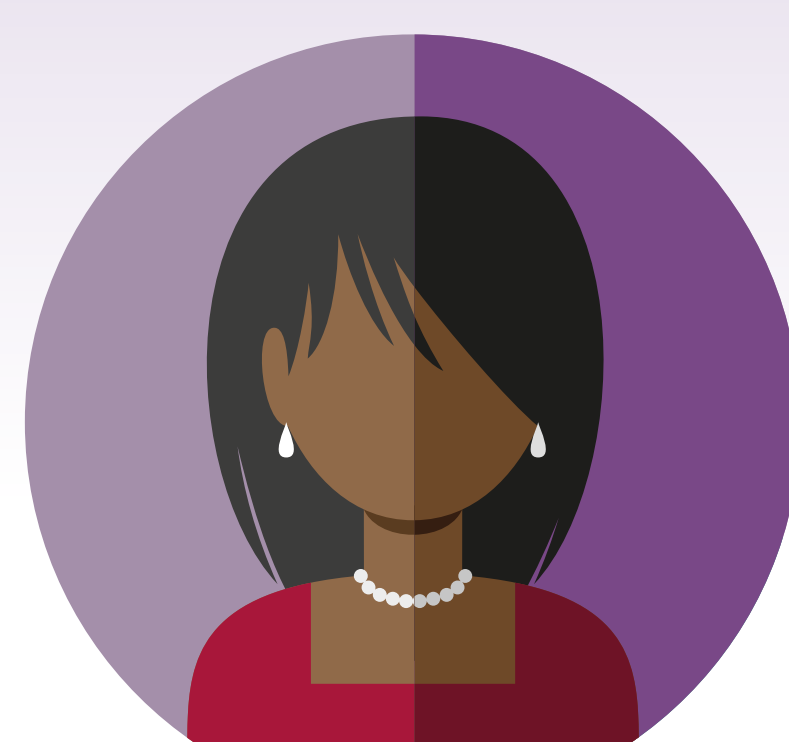
Medical literature shows that the first mention of **triple-negative breast cancer** was in October 2005³

Who is affected?

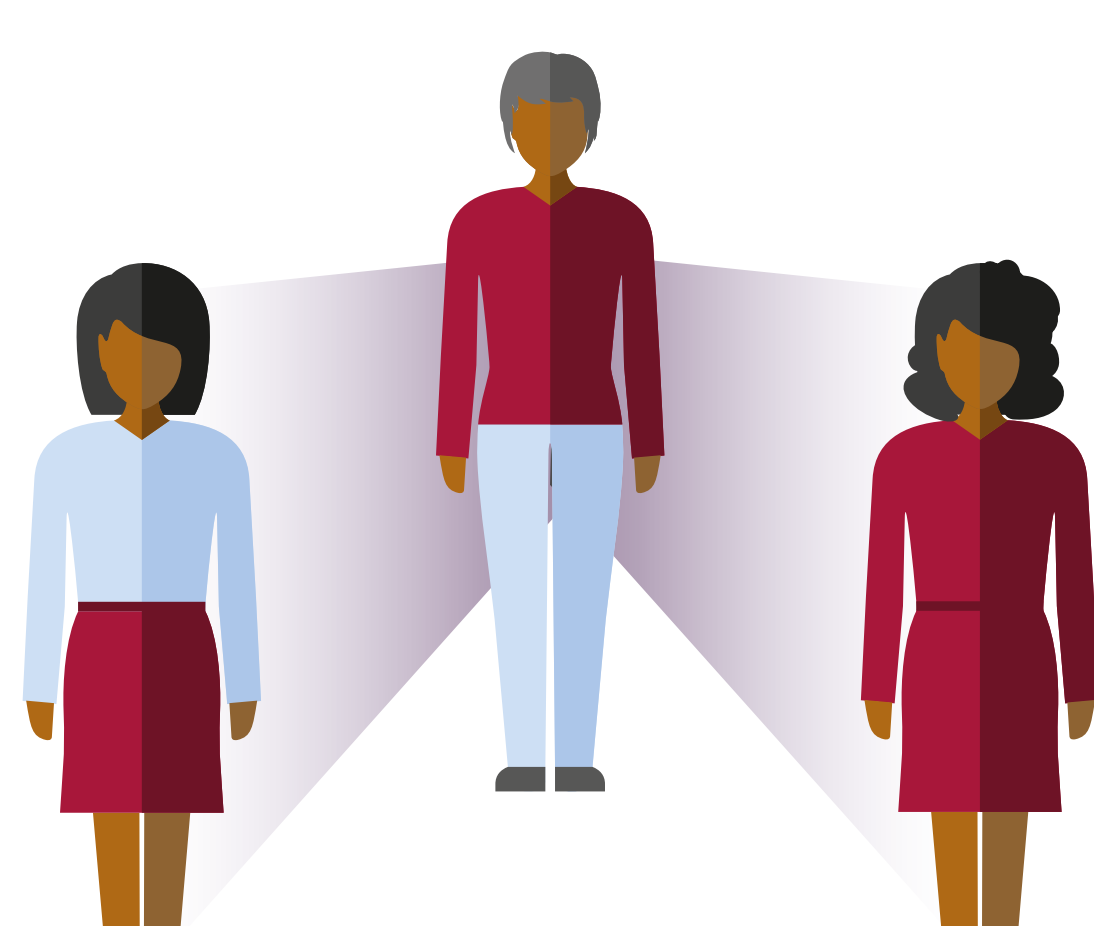
Triple-negative breast cancer is more commonly diagnosed in women who:



Are under the age of 40 or 50⁴



Are African American or Hispanic^{4,5}



Have a family history of breast cancer⁶



Have a mutation in the **BRCA1** gene⁶

A high unmet medical need

Compared with other forms of breast cancer, **triple-negative breast cancer**:

Is more aggressive,⁷ and causes more rapid progression and shorter overall survival



Can be more difficult to diagnose, as younger women have denser breast tissue and **standardised mammograms are not yet recommended**⁸

Reduces the likelihood of surviving the first 5 years after diagnosis⁹

Has an increased likelihood of returning to other areas of the body,¹⁰ with the lungs and brain being the most likely sites of distant recurrence³



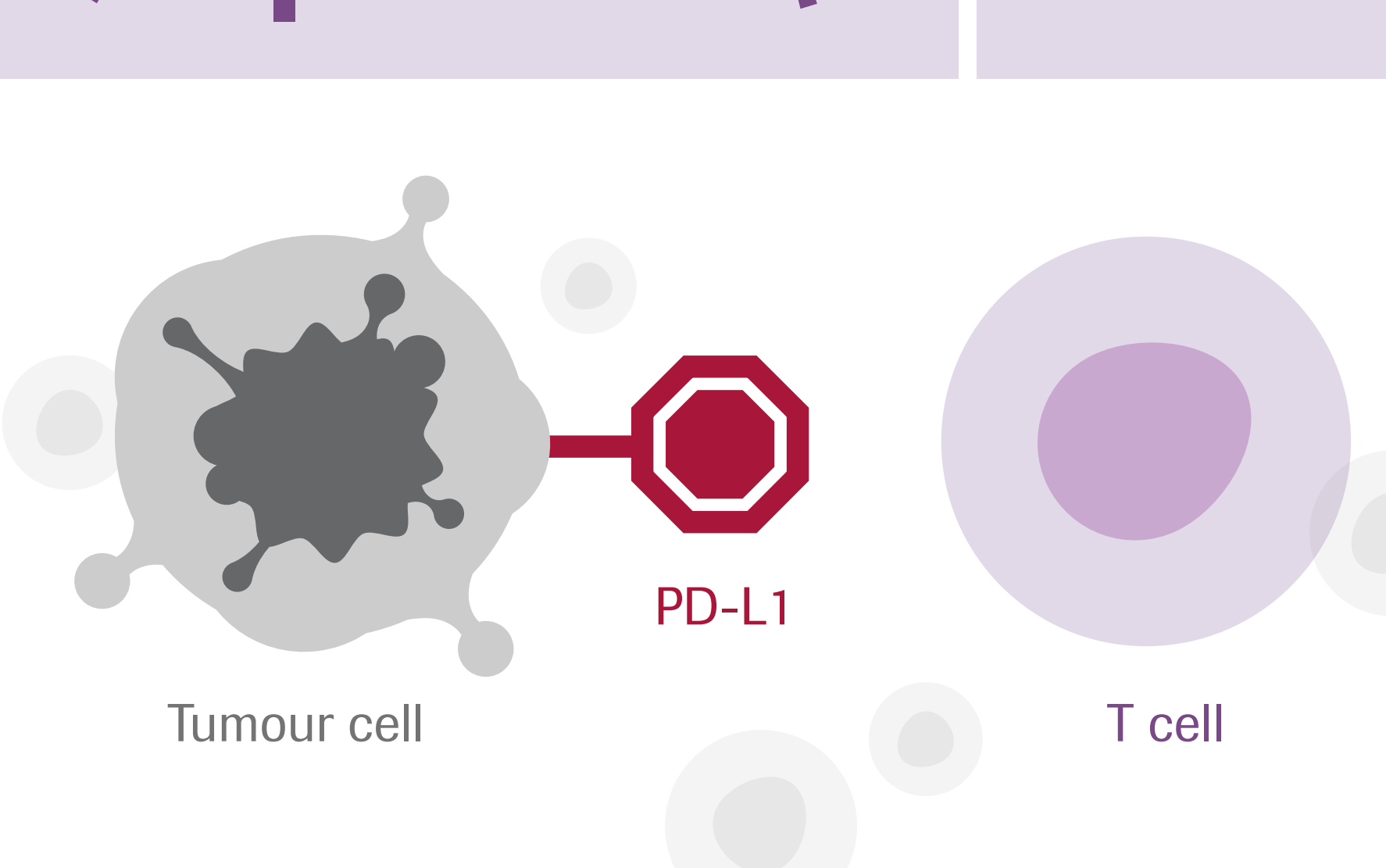
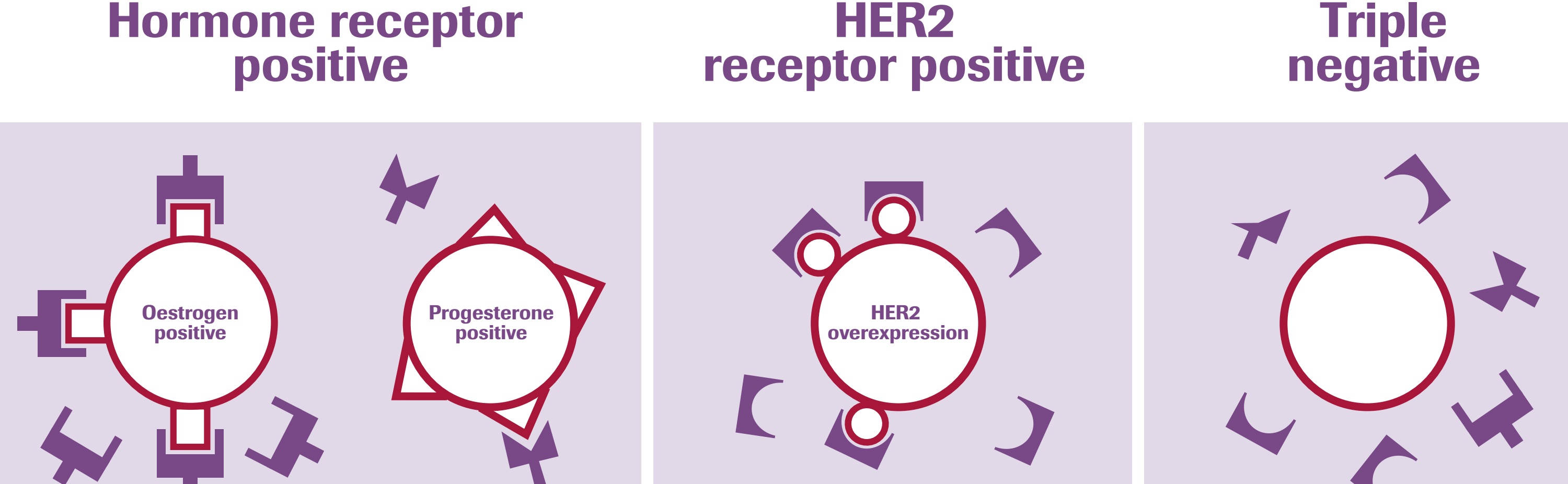
The science of triple-negative breast cancer

Called '**triple-negative**' because the three most common types of receptors known to promote the growth of breast cancer cells are not present in the tumour:^{10,11}

Hormone receptor positive

HER2 receptor positive

Triple negative



Some **triple-negative breast cancer** cells express a protein called **PD-L1**, which enables cancer cells to **evade the immune system**¹¹

The challenge of treating triple-negative breast cancer

- People with metastatic triple-negative breast cancer exhibit poor clinical outcomes
- No consistent standard of care and clinical practice patterns vary worldwide
- Cytotoxic chemotherapy remains the mainstay of treatment⁹
- It does not respond to hormone therapy or HER2-targeted agents⁹
- New treatment options are needed for people living with this disease

Immune checkpoint inhibitors, which target the PD-L1 and PD-1 proteins, may represent a potential new treatment option for people with triple-negative breast cancer¹¹

References
 1. Yao H et al. Triple-negative breast cancer: is there a treatment on the horizon? *Oncotarget*. 2017;8(1):1913-1924.
 2. Breast Cancer Factsheet. World Health Organisation. Available from: <http://gco.iarc.fr/today/data/factsheets/cancers/20-Breast-fact-sheet.pdf> Accessed September 2018.
 3. Foulkes WD et al. Triple-Negative Breast Cancer. *N Engl J Med*. 2010;363:1838-1948.
 4. Who Gets Triple Negative Breast Cancer? BreastCancer.org. Available from: https://www.breastcancer.org/symptoms/diagnosis/trip_neg/who_gets. Accessed September 2018.
 5. Wu Y et al. Triple negative breast tumors in African-American and Hispanic/Latina women are high in CD44+, low in CD24+, and have loss of PTEN. *PLoS One*. 2013;8(10):e76259.
 6. Pal SK et al. Triple negative breast cancer: unmet medical needs. *Breast Cancer Res Treat*. 2011;125(3):627-636.
 7. What is Triple-Negative Breast Cancer? BreastCancer.org. Available from: https://www.breastcancer.org/symptoms/diagnosis/trip_neg/behavior. Accessed September 2018.
 8. Breast Cancer in Young Women. Healthline. Available from: <https://www.healthline.com/health/breast-cancer/breast-cancer-in-young-women>. Accessed September 2018.
 9. Li X et al. Triple-negative breast cancer has worse overall survival and cause-specific survival than non-triple-negative breast cancer. *Breast Cancer Res Treat*. 2016;161(2):279-287.
 10. Dent R et al. Triple-Negative Breast Cancer: Clinical Features and Patterns of Recurrence. *Clin Cancer Res*. 2007;13(15 pt1):4429-4434.
 11. Mittendorf EA et al. PD-L1 Expression in Triple Negative Breast Cancer. *Cancer Immunol Res*. 2014;2(4):361-370.