

Uncovering the Mysteries of Invasive Lobular Carcinoma

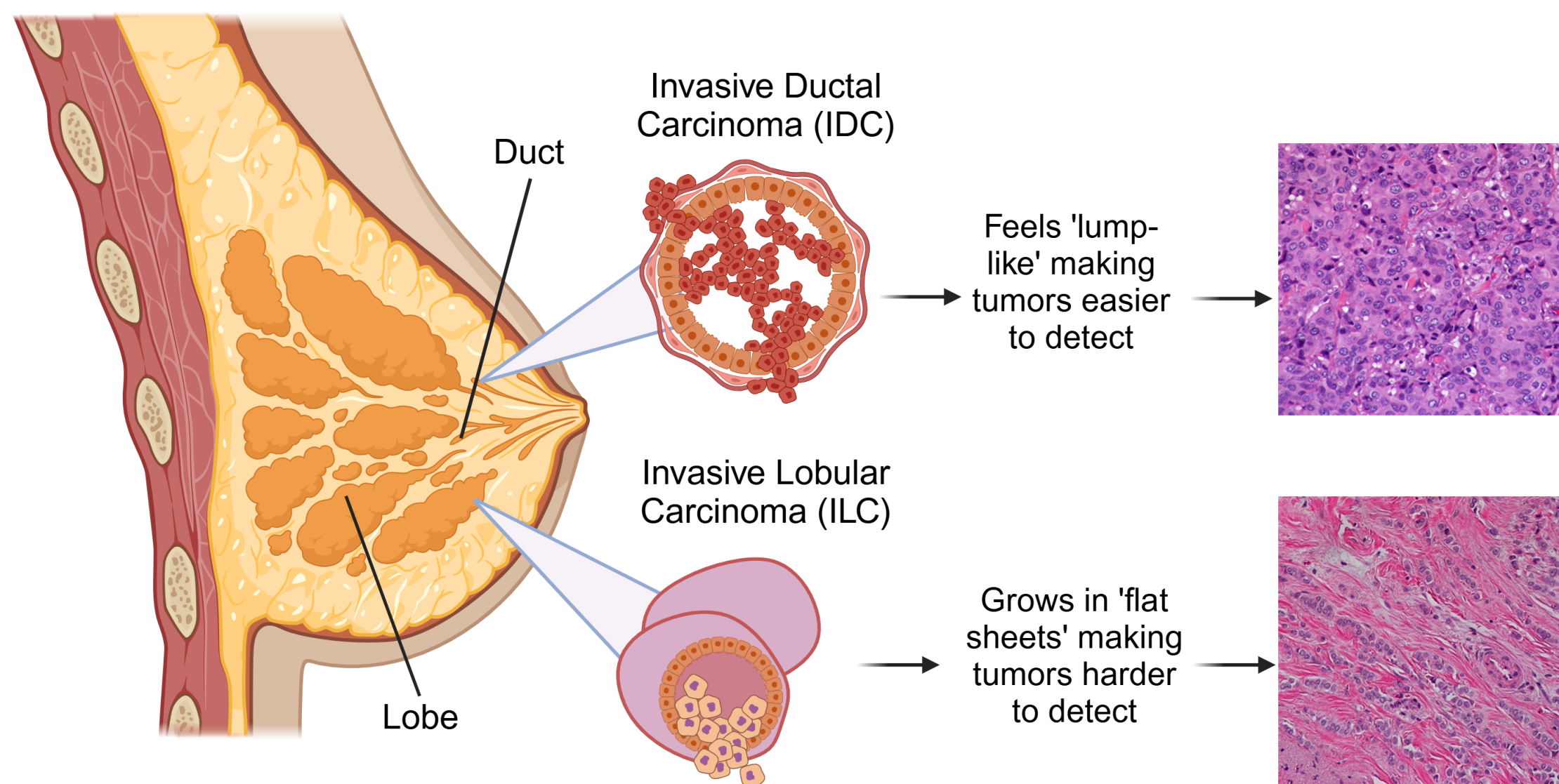
An Understudied Type of Breast Cancer

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What is Invasive Lobular Carcinoma?



- Over 90% of invasive lobular carcinoma (ILC) tumors are hormone estrogen receptor (ER) positive, a metric useful to help determine patient-tailored treatment options

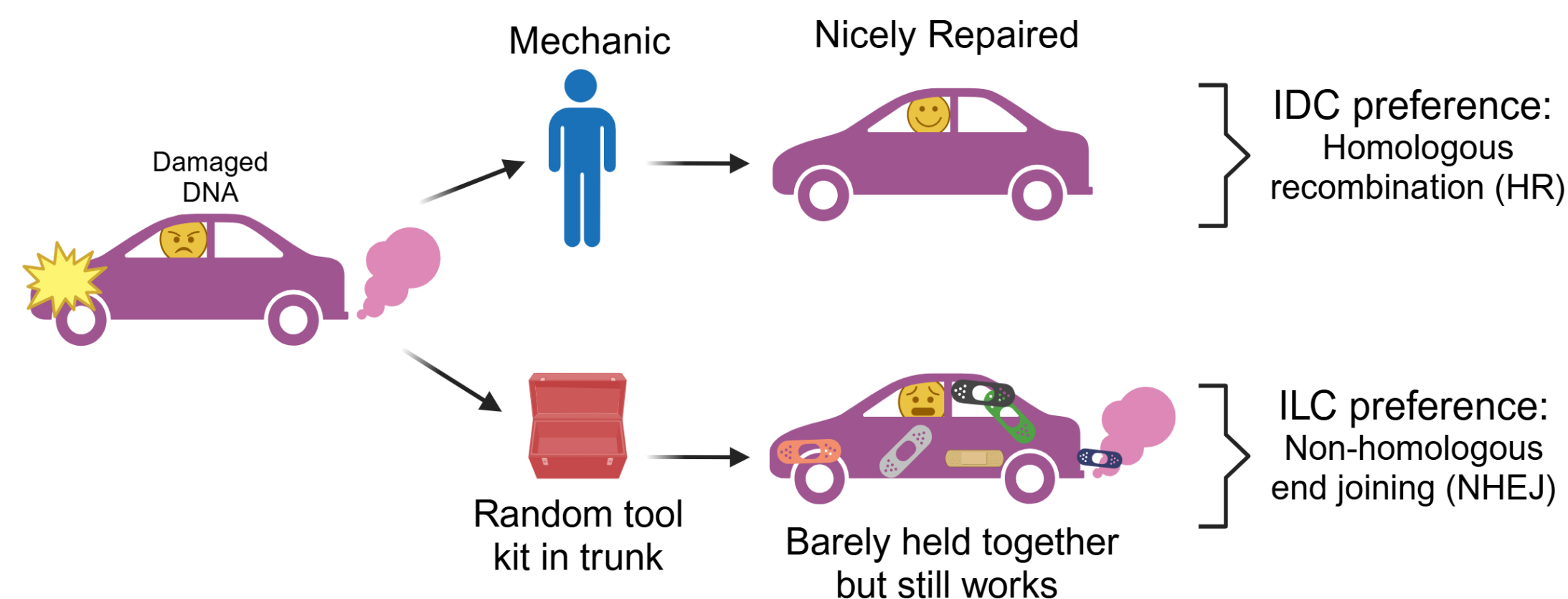
Why Do We Care About ILC?

- ILC is the second most common type of breast cancer, accounting for 10-15% of new breast cancer cases. Invasive ductal carcinoma (IDC) is most common
- ILC tumors are difficult to detect via common methods such as mammography
- ILC has poorer long-term outcomes when compared to IDC
- Current treatment options are not as effective against ILC as they are for IDC**

Our main focus is to uncover and understand what makes ILC so unique to help establish better patient outcomes

Utilizing Unique ILC Characteristics to Develop Better Treatment Options

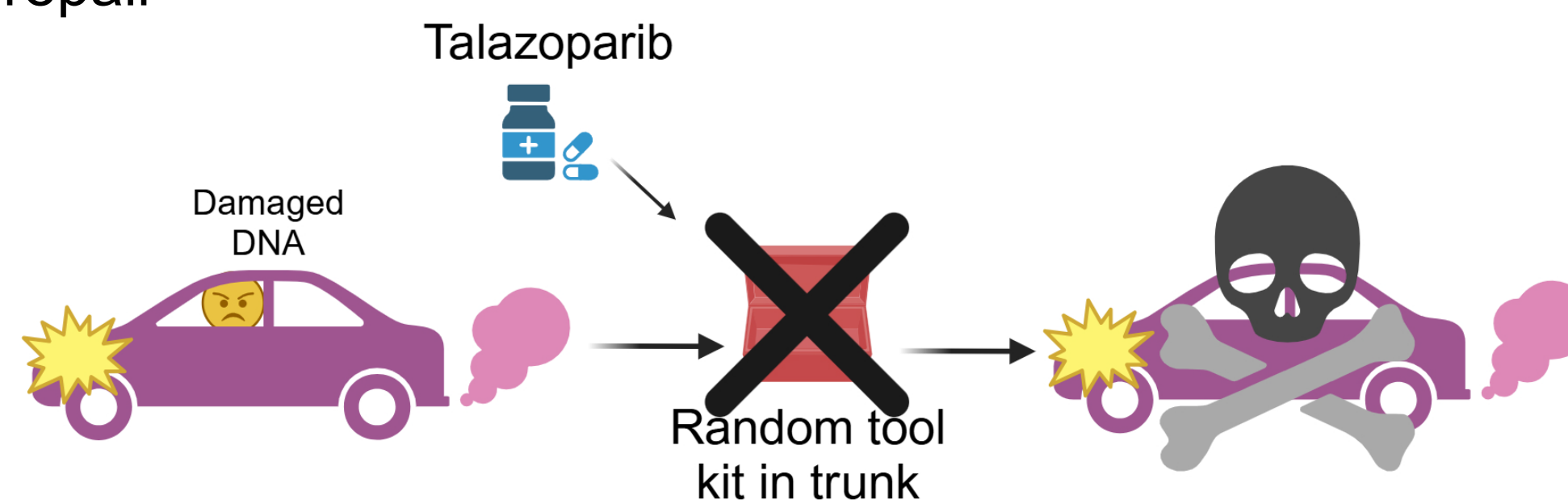
ILC repairs damaged DNA in a different way than IDC does



What does this mean? ILC does not efficiently repair DNA damage (NHEJ). By identifying therapeutics that target this specific mechanism, we will be able to exploit this difference for better treatment options for patients with ILC

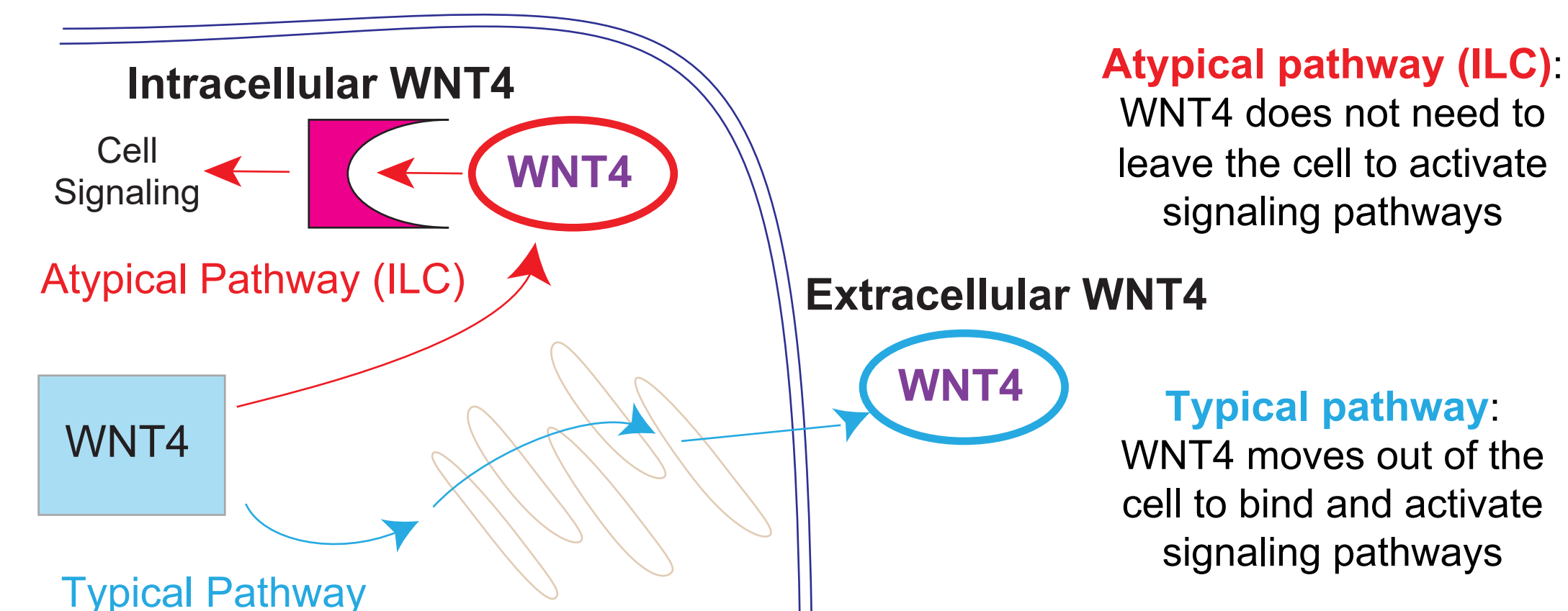
How is this applied?

- Talazoparib is an FDA approved drug that targets DNA damage repair



- When DNA damage repair mechanisms are halted by drugs such as talazoparib, the cell is unable to 'fix' itself and dies
- Talazoparib has the potential to be effective against ILC tumors when combined with other common drug treatment options

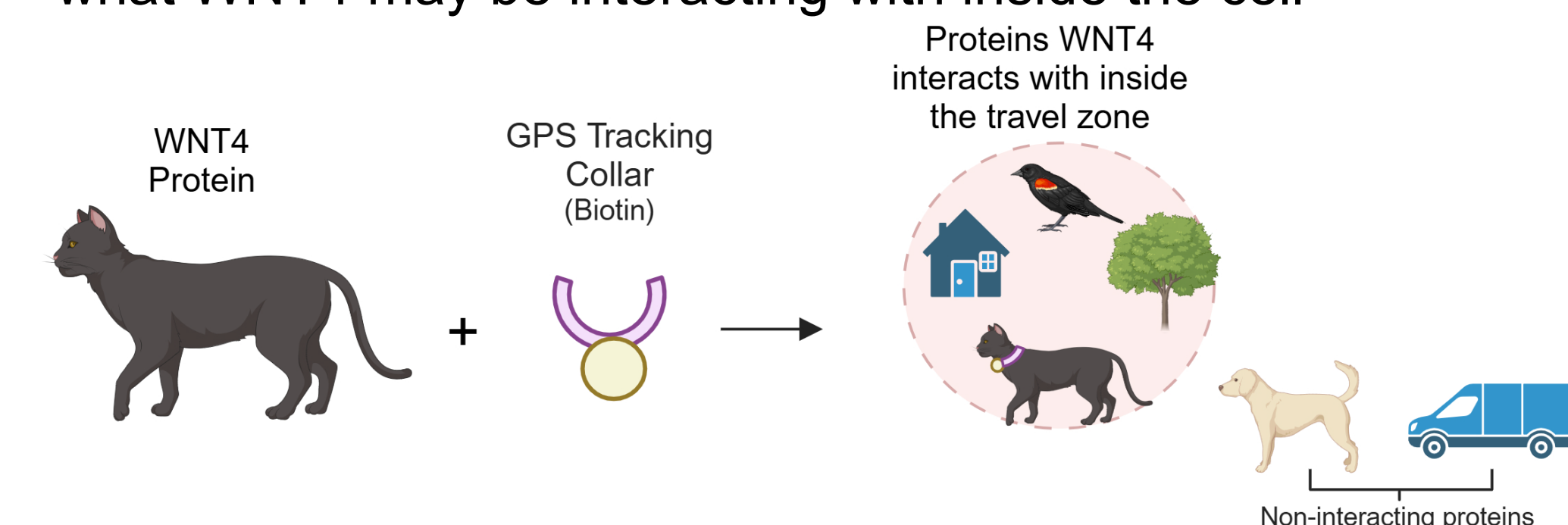
ILC uses a specific protein, WNT4, in a unique way



What does this mean? WNT4 is crucial for development of female tissues such as the ovaries and breast. By identifying where and how WNT4 is within the cell, we can better understand how ILC grows and survives

How is this applied?

- BioID, aka GPS for cells, can help determine where and with what WNT4 may be interacting with inside the cell

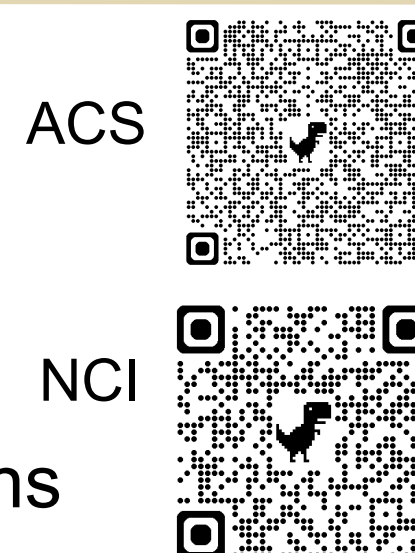


- WNT4 was found interacting with the 'powerhouse of the cell' the mitochondria, indicating WNT4 may be involved in what type of and how ILC cells get their 'food' to survive (sugars vs fats)
- Understanding this connection can be used to develop targeted treatments for ILC

What YOU Can Do

At Home

- Review the American Cancer Society (ACS) recommendations for early detection
- Visit the National Cancer Institute (NCI) for information on breast cancer screening
- Check in with your doctor if you have any concerns



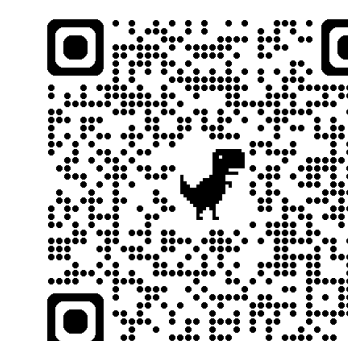
Outreach

- Lobular Breast Cancer Alliance (LBCA), a national network of patients, researchers, and clinicians invested in increasing knowledge about ILC
- Colorado's own Front Range ILC Group, a collection of ILC patients and researchers located in your backyard

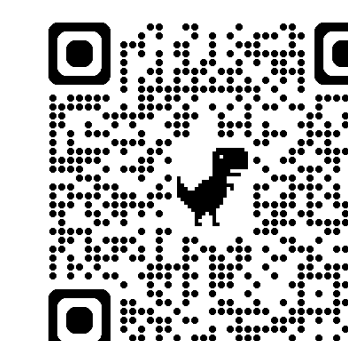


Read More About Current ILC Research and The Lab

Most Recent WNT4 Paper



Most Recent DNA Damage Pre-Print Paper



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