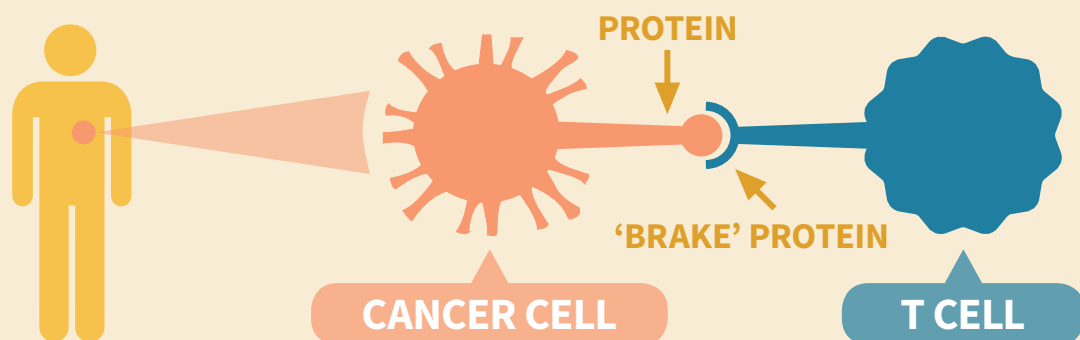


2018 NOBEL PRIZE IN PHYSIOLOGY/MEDICINE

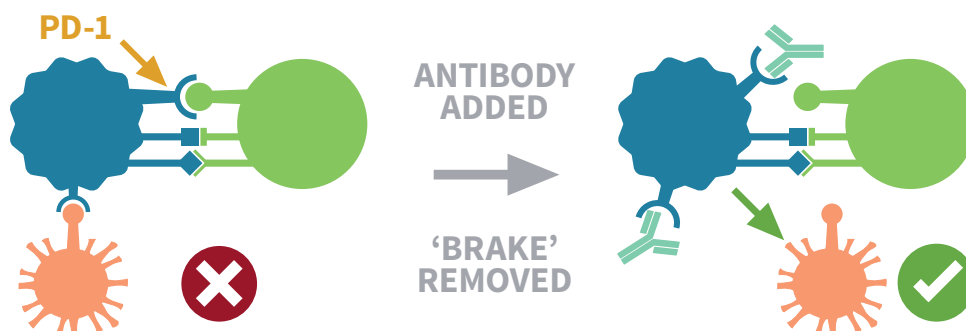
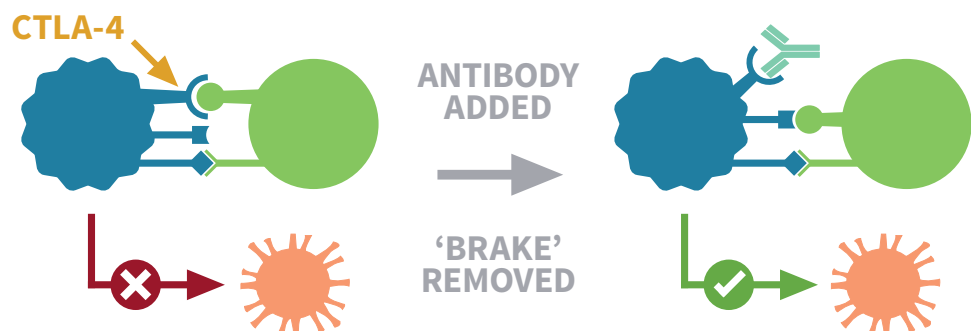


The Nobel Prize in Physiology or Medicine 2018 was awarded to **James P. Allison** and **Tasuku Honjo** for their discovery of cancer therapy by stimulating the immune system to attack tumour cells.



Cancer is a group of diseases, caused by uncontrolled cell growth, which can evade our immune systems. Proteins on T cells, a type of white blood cell, act as 'brakes' for the immune response. Unleashing these brakes allows the immune system to attack cancer cells.

KEY T cell antigen presenting cell cancer cell 'brake' protein antibody

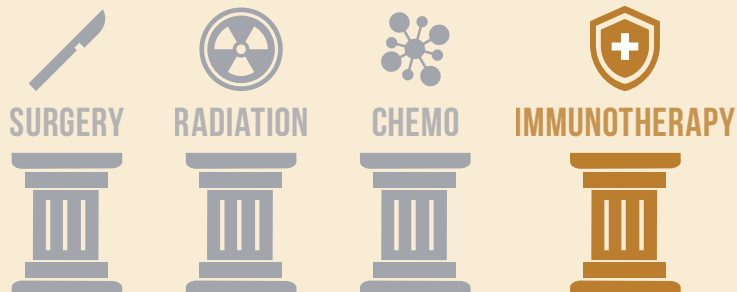


Allison studied the T cell brake protein CTLA-4. He developed an antibody that could bind to CTLA-4 and block its function, allowing the immune system to attack cancer cells. The antibodies successfully cured mice with cancer, and later human trials were also successful.

Honjo discovered another brake protein, PD-1. It operates by a different mechanism, but also arrests the immune response. Treatment with antibodies releases the brake. This has been effective against different cancers, including metastatic cancer, previously considered untreatable.

WHY DOES THIS RESEARCH MATTER?

This research established an entirely new approach to treating cancer. Positive results have been observed in cancer patients and there are a large number of clinical trials underway against many cancer types.



Nobel Prize in Physiology or Medicine Press release: <https://www.nobelprize.org/uploads/2018/10/press-medicine2018.pdf>