

Cancer Immunotherapy

- **Immunotherapy is a type of treatment that uses your own immune system to attack your cancer.**

Just as the immune system attacks germs, such as bacteria and viruses, it can also attack cancer cells. This rids the body of defective or abnormal cells, whether infected by a virus or changed because of cancer.

- **Immunotherapy overcomes the tumours ability to evade the immune response**

Cancer cells have originated from the tissues of the body that have damaged DNA and therefore grow out of control. Because they come from the body, however, these cells can trick your immune system into thinking they aren't a threat by turning off the immune response or stopping the immune functions that might otherwise destroy them. Immunotherapy uses different ways to reverse those tricks, allowing the immune system to respond as it should and attack the cancer.

- **Immunotherapy is fundamentally different from the standard forms of cancer treatment** because it focuses on activating the immune system to fight cancer wherever it may be, and uses the body's own immune cells and mechanisms to destroy the cancer.

- **Immunotherapy also has the potential to remain effective for long intervals far beyond the end of treatment**—a feature called “memory.” This feature is the same one that allows a tetanus vaccine, for example, to remain effective for many years. In cancer patients, this effect can lead to long-term, cancer-free remission and increased overall survival.



BRIGHT CHARITY TRUSTEE TONY DHILLON SUCCESSFULLY AWARDED £5 MILLION IN GRANTS TO FIGHT BOWEL CANCER



Dr Tony Dhillon, a charity trustee of BRIGHT and a medical oncologist at St Luke's Cancer Hospital in Guildford recently received some very good news. He has been awarded £5 million worth of grants by two American pharmaceutical companies to conduct clinical trials to investigate whether immunotherapy can improve the outcomes for bowel cancer patients.

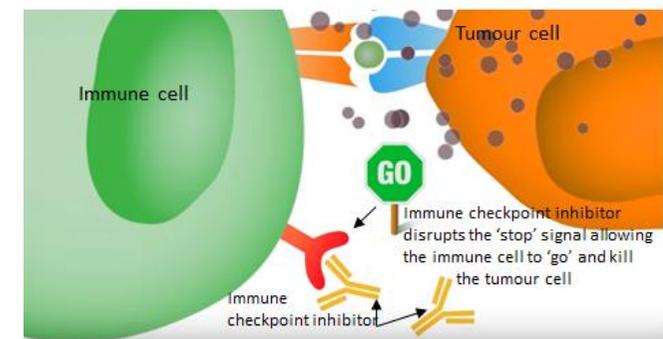
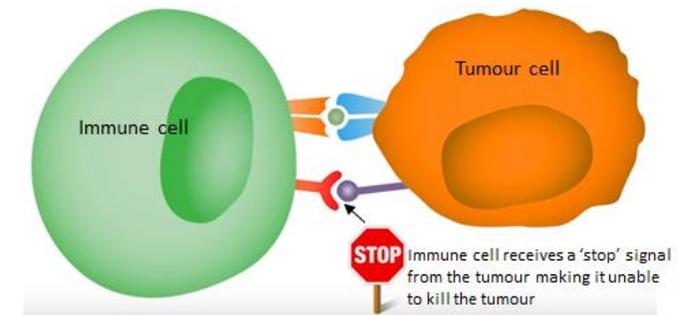
“The findings of both of these studies have the potential to change how we treat colorectal cancer around the world”, said Dr Dhillon.

Immunotherapy clinical trials for bowel cancer

The clinical trials led by Dr Tony Dhillon will involve the use of new immunotherapy drugs called immune checkpoint inhibitors.

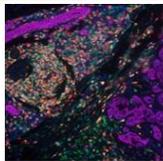
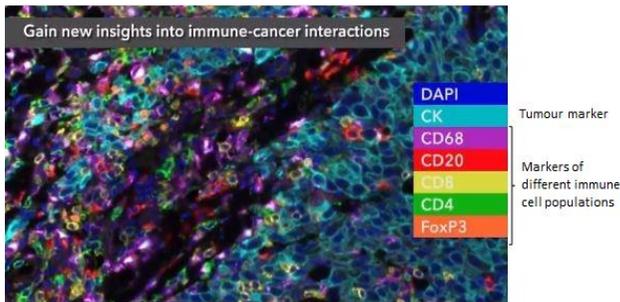
Immune checkpoint pathways are specific connections between molecules on the surfaces of immune cells that help regulate the immune response. Some tumour cells have proteins on their surface that bind to activated immune cells and inhibit their ability to kill the tumour. This connection effectively puts the brakes on the attack (known as tumour induced immunosuppression).

Immune checkpoint inhibitors are drugs that block the checkpoint from being engaged, which essentially turns the immune response back on.



Vectra Polaris Automated Quantitative Pathology

- The fully automated Vectra Polaris Quantitative Pathology Imaging System provides researchers with the ability to better visualize, analyze, quantify, and characterise immune cells *in situ* in tumour tissue sections not possible by other methods.
- Such technology is vital in providing a comprehensive understanding of the complex cell-cell interactions within a tumour in response to cancer immunotherapy.



Stain
Simultaneously detect multiple biomarkers within a single tissue section.



Image
detect and measure multiple biomarkers, within a single tissue section



Analyse
advanced image analysis software allows you to visualize, analyze, quantify and characterise cells

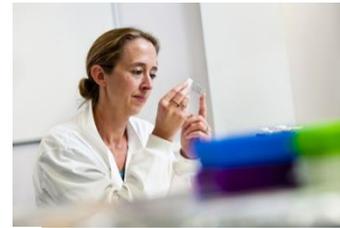


Provides new and informative information about the immune response within the tumour during cancer immunotherapy trials which will aid in the future treatment of cancer patients

Meet the Team



Professor Hardev Pandha- Head of Targeted Cancer Therapy and Urological Oncologist at the Royal Surrey County Hospital



Dr Nicola Annels - Senior Research Fellow at the University of Surrey



Dr Tony Dhillon
Consultant medical oncologist at the Royal Surrey County Hospital

PLEASE HELP FUND FOR THIS VITAL TECHNOLOGY

Donations can be made via our website or by calling or emailing us:
<http://www.brightcancercare.com>



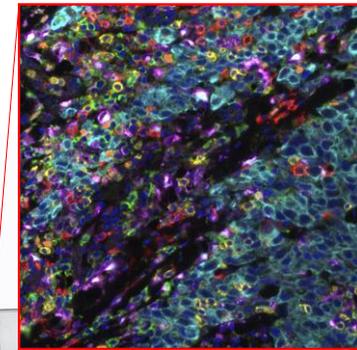
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Better research into gastro-intestinal cancer health & treatment

Improving cancer immunotherapy through digital pathology



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