

Advancements in prostate cancer research provide hope for finding a cure and lead to the discovery of new treatments to minimize the impact of a man's prostate cancer and maximize his quality of life. This regular *Hot SHEET* supplement includes some of the latest research from the Prostate Cancer Foundation (www.pcf.org).

27th Annual PCF Scientific Retreat – Top New Discoveries for Patients

PCF held its 27th Annual Scientific Retreat in October – virtually, of course. With no constraints of time or geography, there were a record 2300+ registered attendees from 36 countries. Scientific Retreat is an opportunity for PCF-funded investigators and other experts in the field of prostate cancer research to learn from each other through presentations, discussions, and informal networking (in Zoom breakout rooms this year).

From 36 total panels and presentations, PCF's Global Director of Research and Scientific Communications, Dr. Andrea Miyahira, has curated the Top New Discoveries for Patients. Stay tuned for more next month!

Can CAR T Cells Fight Prostate Cancer?

T cells are key players in the body's immune response. Their job is to recognize and directly kill "dangerous" cells infected by a virus or bacteria or that have become cancerous. They can now be engineered in a lab to fight prostate cancer with the addition of a chimeric antigen receptor (CAR) that can recognize PSCA, a protein on the surface of prostate cancer cells. This allows us to arm the body's own natural defense mechanisms to kill the cancer cells, much like it would fight any other invader.

Tanya Dorff, MD, at City of Hope in Los Angeles, is on the cutting edge of this research, advancing this approach through early-phase clinical trials. Already, there are promising results: one patient with metastatic prostate cancer and a rising PSA had a dramatic drop in PSA upon treatment with CAR T cells. CAR T cells have been highly successful against certain types of leukemias and lymphomas, and we now see a signal that CAR T cells may also have the potential to put prostate cancer patients into remission. Although we have a lot more to learn about them and managing their side effects, this is hopeful news that, in the future, we will have a "personalized immunotherapy" option for patients whose disease has progressed on other therapies.

Unlocking the King of All Cancer Proteins

MYC is a protein that is involved in up to 70% of all cancers. Some have called it a "master oncogene" due to its critical roles in cell metabolism and growth. MYC is commonly thought to be "undruggable," as its highly disordered structure does not allow for many locations where a treatment might attach and limit its activity. However, Sarki Abdulkadir, MD, PhD, at Northwestern University, and his team are beginning to prove otherwise, as they have found several small molecules with the ability to bind to MYC. Through rapid testing in mice, several compounds were found that could not only bind and disrupt MYC, but also promote the breakdown of the protein, as well as activate the immune system. The importance of this development cannot be understated, in that PCF Team Science Challenge Award researchers have found a candidate drug for one of the most important targets in all of oncology – a challenge that has eluded large biotech and pharmaceutical firms for decades. Further preclinical studies are now underway in order to ready this exciting new treatment for testing in clinical trials.

For more information visit www.pcf.org, email info@pcf.org, or call 1-800-757-2873.