

US, Japan duo win Nobel Medicine Prize for cancer therapy

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James Allison of the US and Tasuku Honjo of Japan have won the 2018 Nobel Medicine Prize

Two immunologists, James Allison of the US and Tasuku Honjo of Japan, won the 2018 Nobel Medicine Prize for research into how the body's natural defences can fight cancer, the jury said on Monday.

Unlike more traditional forms of cancer treatment that directly target cancer cells—often with severe side-effects—Allison and Honjo figured out how to help the patient's own immune system tackle the cancer more quickly.

The pioneering discoveries led to treatments targeting proteins made by some immune system cells that act as a "brake" on the body's natural defences killing cancer cells.

The Nobel Assembly in Stockholm said the therapy "has now revolutionised cancer treatment and has fundamentally changed the way we view how cancer can be managed".

In 1995, Allison was one of two scientists to identify the CTLA-4 molecule as an inhibitory receptor on T-cells, a type of white blood cell that play a central role in the body's natural immunity to disease.

The 70-year-old, whose mother died of cancer when he was 10, "realised the potential of releasing the brake and thereby unleashing our immune cells to attack tumours," the Nobel jury said.

Around the same time, Honjo discovered a protein on immune cells, the ligand PD-1, and eventually realised that it also worked as a brake but in a different way.

'Honoured and humbled'

On the website of his University of Texas MD Anderson Cancer Center, Allison said he was "honoured and humbled to receive this prestigious recognition".

"I never dreamed my research would take the direction it has," he said.

"It's a great, emotional privilege to meet cancer patients who've been successfully treated with immune checkpoint blockade. They are living proof of the power of basic science, of following our urge to learn and to understand how things work."

Honjo, 76, meanwhile vowed to push ahead with his work.

"I want to continue my research... so that this immune therapy will save more cancer patients than ever," he told reporters at the University of Kyoto where he is based.

Scientists have attempted to engage the immune system in the fight against cancer for more than 100 years, but until the seminal discoveries by the two laureates, progress into clinical development was modest.

Antibodies against PD-1 have been approved by the US Food and Drug Administration as an investigational new drug and developed for the treatment of cancer.

Former US President Jimmy Carter, 94, a 2002 Nobel Peace Prize laureate, survived melanoma, a severe stage of skin cancer which spread to his brain, after undergoing a form of immunotherapy, among others.

Research by Allison's team has meanwhile led to the development of a monoclonal antibody drug, which was approved by the US Food and Drug Administration (FDA) in 2011 for the treatment of melanoma. It is known commercially as Yervoy.

"I'd like to just give a shout out to all the patients out there to let them know we are making progress now," Allison told a news conference in New York.

Allison and Honjo have previously shared the 2014 Tang Prize, touted as

Asia's version of the Nobels, for their research.

New therapies 'desperately needed'

Other cancer treatments have previously been awarded Nobel prizes, including methods for hormone treatment for prostate cancer in 1966, chemotherapy in 1988 and bone marrow transplantation for leukaemia in 1990.

The Nobel Assembly said advanced cancer—the second biggest killer worldwide—remains immensely difficult to treat and novel therapeutic strategies are desperately needed.

The duo will share the Nobel prize sum of nine million Swedish kronor (about \$1.01 million or 870,000 euros).

Monday's announcement was partially eclipsed by a Stockholm court's decision to sentence Frenchman Jean-Claude Arnault, a 72-year-old at the heart of a Nobel scandal, to two years in prison for rape that emerged during the #MeToo campaign.

The aftermath has led to a bitter internal dispute that has prevented the Academy from functioning properly, and as a result it postponed this year's Literature Prize until 2019—the first time the prize has been delayed since 1949.

The winners of this year's physics prize will be announced on Tuesday, followed by the chemistry prize on Wednesday. The peace prize will be announced on Friday, and the economics prize will wrap up the Nobel season on Monday, October 8.

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