

Reprogrammed T-cells killing cancer cells go viral!

For Immediate Release.

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- Over 2 Million views in few hours: unique observation of genetically modified T-cells hunting down and killing cancer cells
- The science behind 2018 Nobel prize in Medicine available to big public

Ecublens, February 11, 2019 – **The relationship between** immune system and cancer is elaborated and dynamic. Immunotherapy has been gaining visibility in recent years and even more in the last months thanks to the 2018 Nobel Prize for Medicine that went to James P. Allison and Tasuku Honjo for their discovery of cancer therapy by inhibition of negative immune regulation.

By stimulating the inherent ability of our immune system to attack tumor cells last year's Nobel Laureates have established an entirely new principle for cancer therapy. Immunotherapy involves re-engineering T-cells so that they can recognize and kill cancer cells. This type of therapy has shown promising preliminary results in fighting lymphoma.

The seminal discoveries by the two Laureates constitute a landmark in our fight against cancer!

By using an entirely new label-free technique, the EPFL spin-off company [Nanolive SA](https://nanolive.ch), produced this video of live mouse T-cells killing mouse tumor cells that has gone viral in the last hours on social media with over 2Mio views on reddit (<https://bit.ly/2tgbTH7>), hundreds of thousand on LinkedIn (<https://bit.ly/2TIMFNb>), and Instagram (<https://bit.ly/2GIZM3J>).

r/sciences - Posted by u/SirT6 2 days ago

Genetically modified T-cells hunting down and killing cancer cells

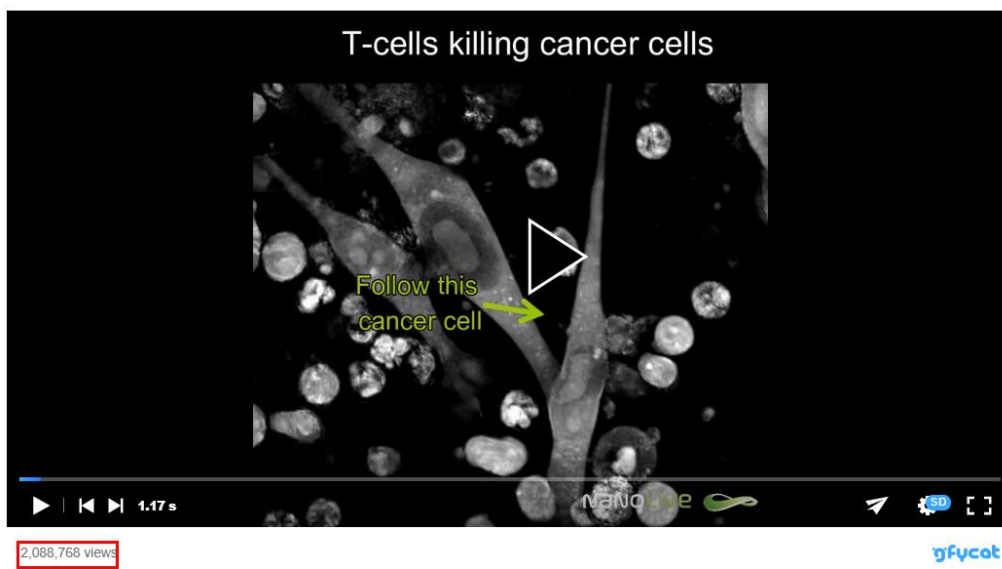


Figure 1: "T-cells killing cancer cells" video on social media platform reddit with more than 2 million views. Watch video here: <https://nanolive.ch/immuno-oncology/>.

About the experiment: Cells were imaged for over 6 hours at a frequency of 1 image every 20 seconds.

Specifically, the cancer cell line is MC38-OVA, a transduced colon cancer cell line that expresses the ovalbumin (OVA) model antigen.

The T-cells, coming from OT-I mice, carry a transgenic T-cell receptor responsive to OVA residues 257-264 (SIINFEKL peptide) in the context of the MHC I H2kb.

In this experiment, the T-cells that were activated and that are now called “effectors”, are incubated with MC38-OVA cancer cells. Upon recognition of their target (the OVA residues on the MHC I H2kB of the cancer cells), T-cells induce the killing of the cancer cells.

Groundbreaking video material available here: <https://nanolive.ch/immuno-oncology/>.

The company held a free webinar on the subject. You can watch it here: <https://nanolive.ch/webinar-immuno-oncology/>.