

Researchers identify key mutation that suppresses the immune system in melanoma

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Melanoma. Credit: Wikimedia Commons/National Cancer Institute

University of California, Irvine researchers have identified a specific mutation that allows melanoma tumor cells to remain undetected by the immune system. The finding may lead to the development of better immunotherapies and more effective methods to identify patients that would respond to these new therapies.

The study, "ATR Mutations Promote the Growth of Melanoma Tumors by Modulating the Immune Microenvironment," is published March 7 in the journal *Cell Reports*.

"Cancers develop not only because they acquire mutations that promote their growth but also because they are able to prevent the immune system from recognizing and removing them," said Anand K. Ganesan, MD, senior author and associate professor of dermatology at the UCI. He explained that researchers identified a mutation in the ATR gene, a protein that normally recognizes and repairs UV-induced DNA damage, in [melanoma](#) tumors. Cancers with this ATR mutation suppress the body's natural immune response.

"Understanding how developing tumors interact with the [immune system](#) to promote their continued growth is a key to developing effective immunotherapies," he said.

Skin cancer is the most common of all cancers, according to the American Cancer Society. In 2017, it's expected that more than 87,000 new melanomas will be diagnosed (about 52,170 in men and 34,940 in women) and that about 9,730 people are expected to die of the disease.

Provided by University of California, Irvine

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