Study provides new insights into resistance to immune checkpoint inhibitors

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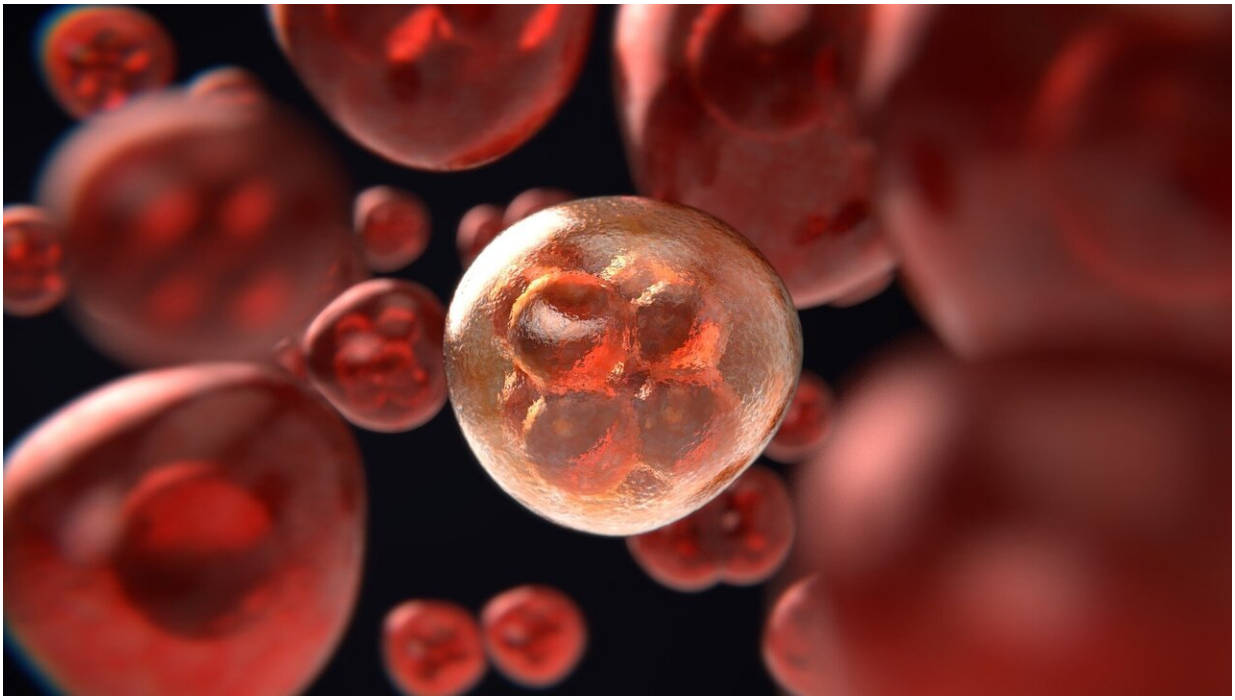

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New research by Yale Cancer Center shows insights into modeling resistance to immune checkpoint inhibitors, a form of cancer immunotherapy. The study was presented today at the American Association of Cancer Research (AACR) virtual annual meeting.

"Acquired resistance to immune checkpoint inhibitors is a growing

clinical challenge. About 50% of lung cancer patients who initially respond to immune checkpoint inhibitors eventually develop acquired resistance to these therapies," said Camila Robles-Oteiza, lead author of the study from Yale Cancer Center. "We studied this clinical challenge by examining the mechanisms of resistance to help improve treatment."

Yale researchers used a novel mouse model of KRAS driven lung cancer to investigate what drives acquired resistance to immune checkpoint inhibitors. They found lung tumors with acquired resistance to these therapies have reduced expression of MHC-II molecules, as well as increased tumor hypoxia or where tumor cells have been deprived of oxygen. By combining immune checkpoint inhibitors such as anti-PD-1 and anti-CTLA-4 with an anti-hypoxia agent, researchers showed they could slow the acquired resistance.

"Informing strategies to overcome acquired resistance can help to address a critical, unmet need in cancer therapy," said Robles-Oteiza.

Other authors of the study from Yale are Katerina Politi, Ph.D., senior author and co-authors Susan M. Kaech, Ph.D. and Katherine Hastings, Ph.D.

Provided by Yale University

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