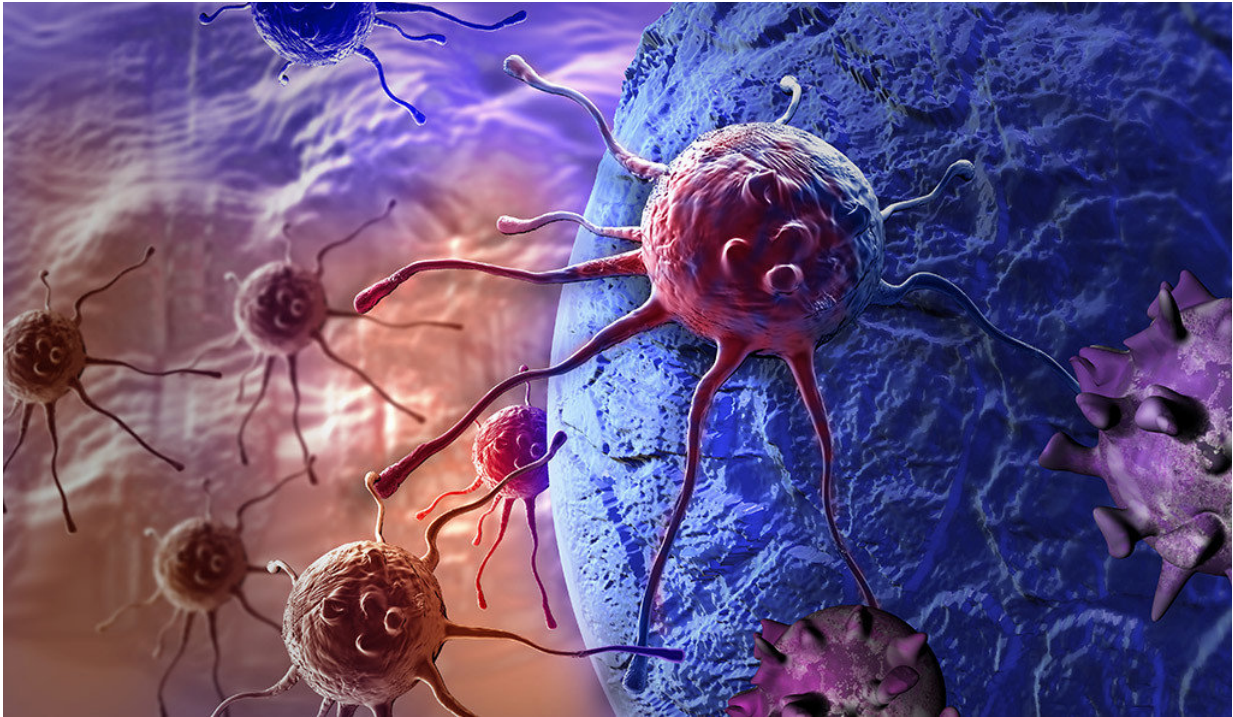


How obesity drives colon cancer in mice

July 4 2018, by Ziba Kashef



Credit: (c) stock.adobe.com

Obesity, which is on the rise worldwide, has been linked to colon cancer but the mechanism has been a mystery. In a new study, Yale researchers and their co-authors have uncovered how obesity drives tumor growth in mice, revealing potential strategies to combat the disease.

Led by assistant professor Rachel Perry, the research team studied [mice](#) with either implanted tumors or a genetic model of [colon cancer](#). The

researchers first examined the effects of a high-fat diet on the mice. Then they gave the mice one of two medications: either a drug that burns fat in the liver by acting as a controlled-release mitochondrial protonophore (CRMP), or metformin, the most commonly prescribed drug for diabetes worldwide.

The research team found that high levels of insulin was the link between obesity and colon cancer, Perry said. Insulin increases the uptake of glucose in tumors, driving [tumor growth](#). The researchers also discovered that both drugs reduced [insulin levels](#) and slowed tumor growth in the mice.

"This study is the first to prove that high insulin levels resulting from obesity drive colon cancer by increasing glucose uptake in these models," said Perry. While further research is needed to confirm if the findings apply to humans, the implication is that insulin-reducing therapies—either metformin, CRMP, or even exercise—could help slow or prevent colon cancer.

More information: Yongliang Wang et al. Uncoupling Hepatic Oxidative Phosphorylation Reduces Tumor Growth in Two Murine Models of Colon Cancer, *Cell Reports* (2018). [DOI: 10.1016/j.celrep.2018.06.008](#)

Provided by Yale University

Citation: How obesity drives colon cancer in mice (2018, July 4) retrieved 24 April 2024 from <https://medicalxpress.com/news/2018-07-obesity-colon-cancer-mice.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is

provided for information purposes only.