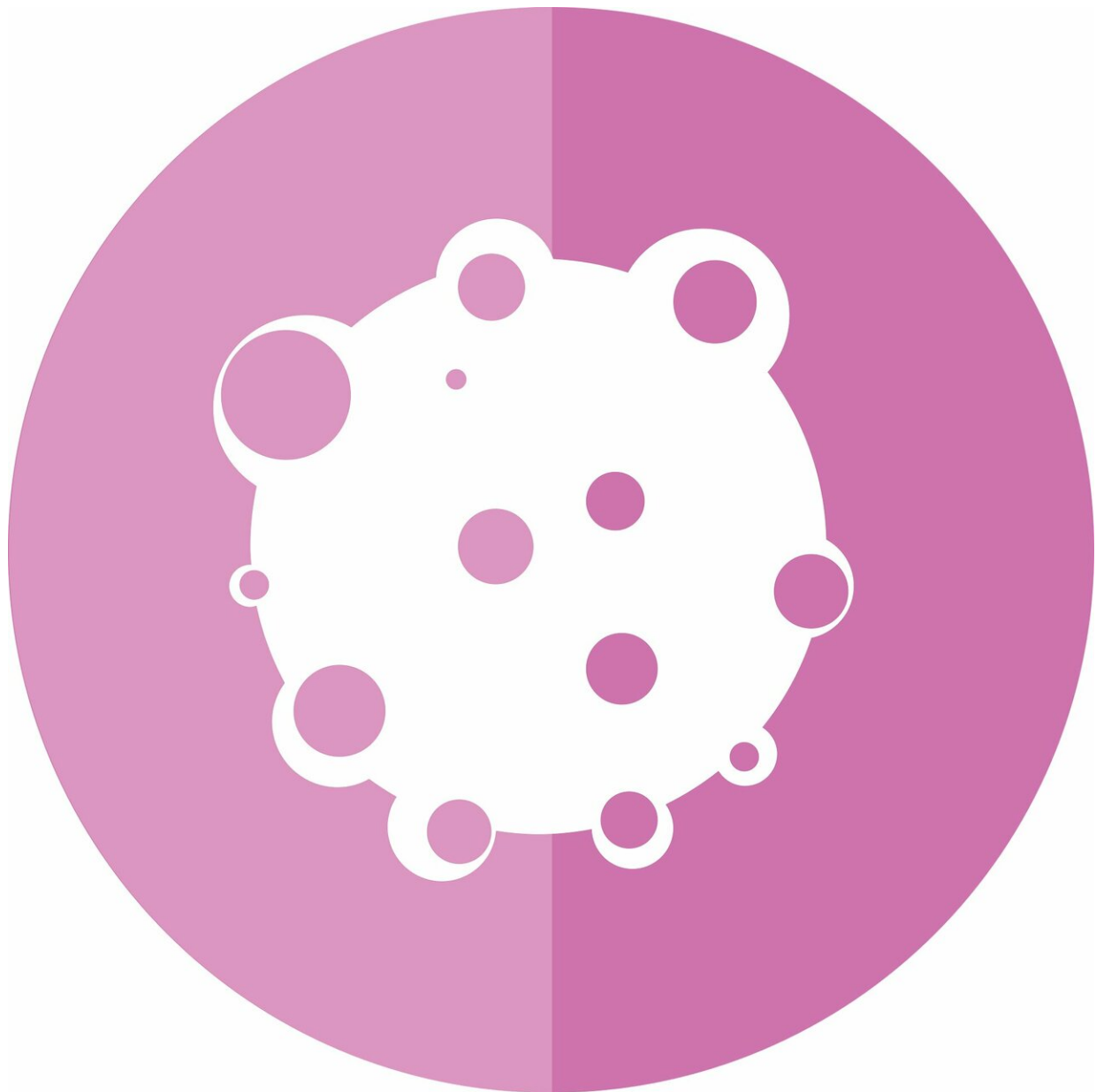


Drug that targets key mutation found to shrink some tumors

October 31 2019, by Bob Yirka



Credit: CC0 Public Domain

A team of researchers affiliated with several institutions in the U.S. and Australia (and sponsored by pharmaceutical company Amgen Research) has found that a drug they optimized to target a protein produced due to mutations in the genome was able to shrink some tumors in mice and humans. In their paper published in the journal *Nature*, the group describes the drug and how well it worked on test subjects.

As the researchers point out, the Kirsten rat sarcoma (KRAS) viral oncogene homolog is the most frequently seen mutation in human tumor formation—for unknown reasons, it becomes stuck in the "on" position, which makes cells create proteins that can lead to the formation of cancerous tumors. Medical scientists have known about the problems it can create for several decades, but have been powerless to stop it. In this new effort, the researchers have optimized a [drug](#) that shows promising results in doing just that.

The researchers were able to optimize a drug to target the protein when they discovered grooves on the KRAS protein—that allowed them to create a drug that binds to it and prevents it from taking part in tumor formation. The drug they developed is called AMG 510. The researchers tested it first on mice and found it very effective in reducing [tumor growth](#), and in some cases, eradicating them altogether. Emboldened by their results, the researchers gave the drug to four lung cancer patients. They report that after six weeks, two of the patients saw reductions in tumor size—one by 34 percent, the other 67 percent. The other two patients saw no change in tumor size.

The researchers report that they also found that giving AMG 510 to mice not only shrunk their tumors, it also had an impact on their [immune](#)

[system](#). They found that in some cases, even after they stopped giving the drug to the mice, their bodies would no longer grow tumors—their immune systems had been bolstered, allowing the mice to fight off tumor growth on their own. In other cases, giving the [mice](#) AMG 510 appeared to make other drugs more effective against [tumor](#) growth.

More information: Jude Canon et al. The clinical KRAS(G12C) inhibitor AMG 510 drives anti-tumour immunity, *Nature* (2019). [DOI: 10.1038/s41586-019-1694-1](https://doi.org/10.1038/s41586-019-1694-1)

© 2019 Science X Network

Citation: Drug that targets key mutation found to shrink some tumors (2019, October 31) retrieved 18 April 2024 from <https://medicalxpress.com/news/2019-10-drug-key-mutation-tumors.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.