

Cancer vaccine progress: CRISPR-developed shot stops brain tumors in mice

Innovative technologies such as the gene-editing tool CRISPR-Cas9 enable pioneering scientists to develop novel treatments for diseases such as cancer. A new [study](#) published in *Science Translational Medicine* funded by the National Institutes of Health unveils an innovative cancer vaccine developed with CRISPR-Cas9 that both terminates and prevents tumors from recurring in mice for a deadly type of brain cancer called glioblastoma (GBM).

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Glioblastoma, also called glioblastoma multiforme (GBM), is the most common cancer that originates in the brain. Cancer of the brain and [nervous system](#) accounted for over 250,000 deaths worldwide in 2020, according to Global Cancer Statistics (GLOBOCAN).

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What is innovative about this new cancer vaccine is that it repurposes living tumor cells instead of using inactivated tumor cells. Given that living cancer tumor cells will migrate a great distance to join other tumor cells in the brain, the researchers decided to re-engineer live cancer cells to improve treatment precision and efficacy.

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The researchers used gene engineering to repurpose living cancer cells as therapeutic tumor cells (ThTCs) to release an agent that terminates cancer cells and express factors that will also prime the immune system for a long-term antitumor response to prevent cancer.

[This is an excerpt. Read the full article here](#)