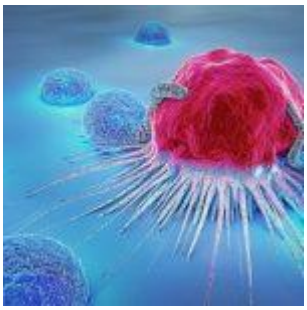
A vaccine for brain cancer?



In a recent study, scientists created live tumour cells using the genome editing technology CRISPR-Cas9, then modified them to secrete a substance that kills tumour cells.

Researchers are using a novel technique to transform cancer cells into effective anti-cancer medicines. In the current work, the team has created a novel cell therapy strategy to eradicate existing tumours and produce long-lasting immunity, conditioning the immune system to guard against the recurrence of cancer. To prime the immune system for a sustained anti-tumor response, the altered cancer cells were created to produce characteristics that would make them simple for the immune system to recognise, tag, and recall.

Wanting to imitate the human immunological milieu, the researchers tested its repurposed CRISPR-enhanced and reverse-engineered therapeutic tumour cells (ThTC) in a variety of mouse strains, including one that had bone marrow, liver, and thymus cells from people.

The team repurposes live tumour cells because they have an uncommon property that makes them superior to inactivated tumour cells. The team purposefully selected this model and employed human cells to facilitate the translation of their results into patient settings, even if further research and development are required.

Their objective is to adopt a novel yet implementable strategy in order to create a therapeutic, cancer-killing vaccine that

will ultimately have a long-lasting effect on medicine.

Journal article: Kok-Siong Chen, K.S., et al., 2023. Bifunctional cancer cell-based vaccine concomitantly drives direct tumour killing and antitumour immunity. *Science Translational Medicine*.

Summary by Stefan Botha