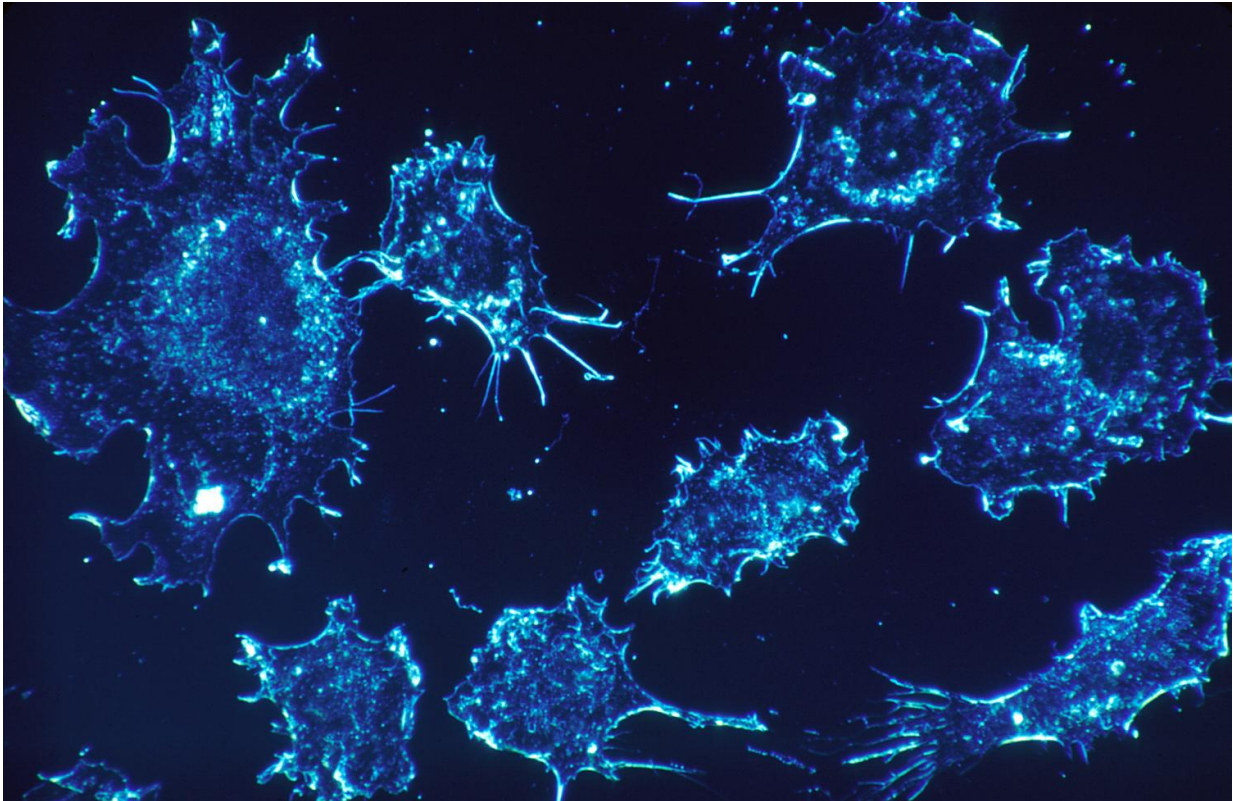


Brain tumors share common tricks to survive

October 25 2017



Credit: CC0 Public Domain

Different types of brain tumours may use strikingly similar approaches to generate and use energy to survive in the brain, according to a new study published in *PLOS ONE* today.

Research from the Cancer Research UK Cambridge Institute suggests

that 4 types of [brain](#) tumours, and cancers that have spread to the brain, all generate and use energy with the same, specialised processes.

Using samples from almost 400 patients, the researchers listened in to the chemical chatter taking place inside the cell by measuring the levels of key chemicals in cells from each type of [brain tumour](#). By comparing the conversations, the researchers made the surprising discovery that similar reactions were taking place in different tumour types.

The results suggest that brain tumours adapt their chemical reactions in very similar ways to survive in the brain, despite starting in very different types of cells and regions.

Professor John Griffiths, co-lead researcher based at the Cancer Research UK Cambridge Institute, said: "The revelation that different types of brain tumours appear to be using similar tricks to survive was startling. The next step is to try and understand how these seemingly very different [tumour](#) types are able to adapt their energy production to grow. In the future, it might mean that we could develop drugs that specifically damage these survival mechanisms."

Dr Madhu Basetti, co-lead researcher also based at the Cancer Research UK Cambridge Institute, said: "Our study is the first to use this approach to compare how different cancers use and produce energy, and look for similarities. The next steps are to investigate whether the same technique could be used to reveal more about how cancers control energy use."

Dr Justine Alford, from Cancer Research UK, said: "Brain tumours are stubbornly hard to treat and we urgently need to find new approaches to tackling them. Research like this that reveals how brain tumours survive will help us find the disease's weaknesses so we can exploit them. Cancer Research UK is prioritising finding new ways to treat brain tumours, and help more people survive the disease."

More information: Basetti Madhu et al., Exploration of human brain tumour metabolism using pairwise metabolite-metabolite correlation analysis (MMCA) of HR-MAS 1H NMR Spectra, *PLOS ONE* (2017) [journals.plos.org/plosone/arti ... journal.pone.0185980](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185980)

Provided by Cancer Research UK

Citation: Brain tumors share common tricks to survive (2017, October 25) retrieved 11 May 2024 from <https://medicalxpress.com/news/2017-10-brain-tumors-common-survive.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.