

Protein link may be key to new treatment for aggressive brain tumor

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Glioblastoma multiforme (GBM), the type of malignant brain tumor that killed the late U.S. Sen. Edward Kennedy, is difficult to treat because it spreads [cancerous cells](#) to other parts of the brain very quickly. About 10,000 cases are diagnosed in the United States each year.

There is no cure, and treatments have limited success. They consist of surgically removing the tumor from the brain, followed by [radiation therapy](#) and chemotherapy. About half of the patients don't survive for more than a year after their diagnosis

That's why the role of the protein TRPC6 discovered at UCF is so promising.

"Collectively, our studies indicate that TRPC6 is a key mediator of tumor growth of GBM. It may be a promising therapeutic target in the treatment of human GBM," said Sic L. Chan, the UCF assistant professor of Neuroscience who led the team of scientists.

TRPC6 is a receptor channel protein found in most, if not all, cells in the body. It promotes cell growth during development of the [central nervous system](#).

Chan and his team ran several experiments with cancerous [brain tissue](#) obtained from Florida Hospital in Orlando and Duke University Medical Center. They found that this protein is strongly expressed and functional in brain [tumor cells](#). Further research found that they could stop the growth and spread of tumors by knocking down the expression of this protein.

It is the first time such findings have been made with this particular kind of brain tumor.

"This is very exciting, because our work will help patients in the future," said UCF research fellow Srinivasulu Chigurupati, who worked on the team. "Malignant gliomas remain one of the most devastating cancers despite recent advancements."

More information: UCF's research findings are published in the Jan.

1, 2010, edition of the journal Cancer Research.

Provided by University of Central Florida

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