

# Immune system to fight brain tumors

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Research at Lund University in Sweden gives hope that one of the most serious types of brain tumour, glioblastoma multiforme, could be fought by the patients' own immune system. The tumours are difficult to remove with surgery because the tumour cells grow into the surrounding healthy brain tissue. A patient with the disease therefore does not usually survive much longer than a year after the discovery of the tumour.

The team has tested different ways of stimulating the immune system, suppressed by the tumour, with a 'vaccine'. The vaccine is based on tumour cells that have been genetically modified to start producing substances that activate the immune system. The modified [tumour cells](#) (irradiated so that they cannot divide and spread the disease) have been combined with other substances that form part of the body's immune system.

The treatment has produced good results in [animal experiments](#): 75 per cent of the rats that received the treatment were completely cured of their brain tumours.

"Human biology is more complicated, so we perhaps cannot expect such good results in patients. However, bearing in mind the [poor prognosis](#) patients receive today, all progress is important", said doctoral student Sara Fritzell, part of the research group led by consultant Peter Siesjö.

She has previously tested combining the activation of the immune system with chemotherapy. When the chemotherapy was applied directly to the tumour site, the positive effects reinforced each other, and a huge

83 per cent of the mice survived.

"Our idea is in the future to give patients chemotherapy locally in conjunction with the operation to remove as much of the tumour as possible", said Sara Fritzell.

Peter Siesjö is currently applying for permission to carry out a clinical study on stimulation of the immune system – with or without local chemotherapy – as a treatment for patients with glioblastoma multiforme.

Provided by Lund University

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