

## **Lay Summary**

**BRAIN UK Ref: 23/008**

### **Investigation of FGF receptor functions in human glioblastoma**

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Glioblastoma is the most aggressive type of brain cancer in adults. There is no cure, and most patients die within 15-18 months after diagnosis, even with treatment. Developing effective therapies against glioblastoma is very difficult, because these cancers are made up of a very diverse mixture of different cancer cells. We have found that a group of signalling molecules called 'fibroblast growth factor receptors', or FGFRs, contributes to the aggressiveness of diverse glioblastoma cell types. Our research suggests that certain FGFR molecules are responsible for the spreading of glioblastoma cells into the healthy brain. We have also found that a specific FGFR molecule is present in a type of glioblastoma cells that is more aggressive than other cells from this cancer. We aim to research in which areas of patient glioblastoma these specific FGFR molecules are present (for example in the centre of the tumour or in the area where the tumour spreads into the brain). This will allow us to determine which FGFR molecules are the most important to target therapeutically. We will also use a new type of microscope and test if this can help to identify more aggressive cancer cells in patient samples. This is exciting because this technology has the potential to readily identify more aggressive glioblastoma cells, with increased sensitivity and quicker than ever before. We will test this in human patient material to evaluate its diagnostic/prognostic value. This new technology could help other scientists and clinicians in the future by making it easier to identify and study more aggressive cancer cells.