Targeting brain tumour progression and invasion

Potential treatment of glioblastoma by inhibition of the scaffolding protein syntenin
Background

Invasion and cell migration are some of the most malignant and lethal aspects of cancer because they allow tumours to spread to the surrounding tissue. In some cancers, the intracellular scaffolding protein *syntenin* plays a key role in these aspects by mediating and facilitating protein-protein interactions.

Syntenin is overexpressed in several cancers, and studies have identified a direct correlation between overexpression of syntenin and patient survival rate (for example in breast cancer and glioma).

The invention

By binding to and inhibiting *syntenin*, our invention – a peptide analogue – provides a potential new medicine targeting some of the most lethal aspects of cancer.

Key selling points

- Effect on glioblastoma *in vivo*
- Highly potent
- Metabolically stable

![Graph showing % survival vs time (days) for patient-derived glioblastoma cells pre-incubated with control peptide 40 and active peptide 46.](image)

Patient-derived glioblastoma cells were pre-incubated with 50 µM peptide 40 (control peptide) or peptide 46 (active peptide) for 24 h to allow for uptake. Cells were then implanted into the right frontal lobes of 8 mice. The mice were monitored daily for neurological impairment and weight loss, at which point they were sacrificed.

Development status

Early pre-clinical development with proof-of-concept established in glioblastoma cells *in vivo*.

*In vitro* results indicate that the invention may also be useful in other types of cancer, such as non-small cell lung cancer, colon cancer, melanoma, renal cancer and breast cancer.

Intellectual property rights

PCT application PCT/EP2017/080978 was filed on 30 November 2017.