

Lay Summary

BRAIN UK Ref: 15/011

A pilot study analyzing the effect of driver mutations on the (phospho)proteome and microenvironment of meningiomas

Prof. O Hanemann, Plymouth University

Meningiomas are usually considered to be benign central nervous system tumours but a significant fraction of patients with all types of meningiomas will eventually relapse. This pilot study intends to analyse the changes in the cell surface markers and internal cellular pathways of the tumour environment and correlate these findings to specific genetic changes seen in different types of meningiomas. Eventually, these results may lead to the identification of targets in patients with different types of meningiomas, allowing therapeutic treatments to be personalised.

Publications:

Date	Publication title
2018	Proteomic analysis discovers the differential expression of novel proteins and phosphoproteins in meningioma including NEK9, HK2 and SET and deregulation of RNA metabolism
2020	GATA-4, a potential novel therapeutic target for high-grade meningioma, regulates miR-497, a potential novel circulating biomarker for high-grade meningioma
2020	The Potential of MLN3651 in Combination with Selumetinib as a Treatment for Merlin-Deficient Meningioma
2020	A Rapid Robust Method for Subgrouping Non-NF2 Meningiomas According to Genotype and Detection of Lower Levels of M2 Macrophages in AKT1 E17K Mutated Tumours
2020	Constitutive activation of the EGFR-STAT1 axis increases proliferation of meningioma tumor cells
2021	Biomarkers for differentiating grade II meningiomas from grade I: a systematic review.
2021	Integration and Comparison of Transcriptomic and Proteomic Data for Meningioma.
2021	Fibulin-2: A Novel Biomarker for Differentiating Grade II from Grade I Meningiomas.