

## **Expression of coronin-3 (coronin-1C) in diffuse gliomas is related to malignancy**

J Pathol. 2008 Mar; 214(4):415-24.

Thal D, Xavier CP, Rosentreter A, Linder S, Friedrichs B, Waha A, Pietsch T, Stumpf M, Noegel A, Clemens C

Department of Neuropathology, University of Bonn Medical Centre, Sigmund-Freud-Strasse 25, 53105 Bonn, Germany.

Coronin-3 (coronin-1C), a homotrimeric F-actin binding protein, has been shown to be important for cell migration and brain morphogenesis. Here, we present for the first time a detailed analysis of the expression pattern of coronin-3 in human brain tumours and demonstrate that coronin-3 expression correlates with malignant phenotype in diffuse gliomas. In general, the expression of coronin-3 varies in different brain tumour entities. However, in diffuse gliomas, the number of coronin-3 expressing tumour cells correlates with the degree of malignancy. High-grade gliomas, such as anaplastic astrocytomas, anaplastic oligodendrogliomas, anaplastic oligoastrocytomas and glioblastomas, show high numbers of tumour cells positive for coronin-3, while diffuse low-grade gliomas, such as diffuse astrocytomas, oligodendrogliomas and oligoastrocytomas, exhibit low numbers of coronin-3-positive tumour cells. In order to explore and verify a contribution of coronin-3 to the malignant phenotype of diffuse gliomas, we employed an efficient shRNA-mediated coronin-3 knockdown in U373 and A172 human glioblastoma cells. Coronin-3 knockdown glioblastoma cells exhibited reduced levels of cell proliferation, cell motility and invasion into extracellular matrix compared to control cells. Together, our findings demonstrate evidence for a contribution of coronin-3 expression in the malignant progression of diffuse gliomas.

