

P039 Dystroglycan function in prostate cancer
Andrew Mitchell, Prof. Steve Winder
University of Sheffield

Prostate cancer (CaP) is particularly aggressive in some men leading to rapid growth and metastasis during which, cells detach from the primary tumour and migrate within the blood and lymphatic system to form secondary tumours. Dystroglycan (DG) is a cell adhesion molecule that provides a link between the extracellular matrix and the actin cytoskeleton. Playing important roles in motility, polarity and possibly signal transduction it is not difficult to assume that defects in this protein could play a role in tumour progression. The distribution and localisation of DG in a range of CaP cell lines is being examined and has shown DG to be extensively modified over time which may have consequences regarding the normal functioning of cells, possibly leading to tumour progression. These observations have led to the development of an *in vitro* cell based assay designed to monitor DG protein changes and possible mechanistic involvement of the molecule during cell colony development. Perturbing DG expression levels has also led to some exciting observations within other cell based assays such as proliferation, anchorage-independent growth, apoptosis and adhesion, all of which have important ramifications regarding tumour progression. This study shows that DG is an important molecule for maintaining normal cellular function and further investigations will help better understand the possible role(s) of DG in prostate cancer and also aid in elucidating the mechanism(s) and consequences of DG in the disease.