

P021 The identification of proteins involved in colorectal cancer metastasis – a study using the lectin HPA.

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Colorectal cancer is one of the most common malignancies in the developed world. Although there have been significant advances in the treatment of colorectal cancer, the metastatic spread of the primary tumour to distant sites remains a major clinical problem. As changes in protein glycosylation have been associated with metastasis, lectins such as HPA have been studied with interest. HPA binds strongly to tumour cells with a high metastatic potential.

We developed a technique to identify the HPA binding partner(s) that could be important in the metastatic process. We used HT29 and SW480 cell lines as these have previously been described as very invasive and non invasive respectively when implanted into SCID mice. Confocal microscopy was used to evaluate HPA binding to the cells. Next, we worked at the protein level to identify the HPA binding partners. We extracted membrane proteins, performed 2D-PAGE and Western blotting using HPA.

In this study we highlighted differences in the glycoprotein repertoire of HT-29 and SW-480 cells, in particular glycoproteins of MW 130 KDa and pI 5-6.5 and 100 KDa pI 7-7.5. We plan to investigate these proteins to determine whether they play a role in the metastatic process.