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The identification of tumor antigens recognized by patients with Dukes' B reactive colorectal cancer

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Colorectal cancer (CRC) is one of the most commonly diagnosed cancers in both men and women posing a serious demographic and economic burden worldwide. Studies have identified two sub-groups of post-treatment CRC patients, those with good outcome (reactive disease) and those with poor outcome (non-reactive disease). Evidence indicates that the presence of an effective immune response differentiates these two groups of patients. To investigate these underlying differences we immunoscreened a testes cDNA library with sera from three patients with Dukes' B reactive disease (CC005, CC010 and CC014). We identified nine antigens including IGHG3, IGHG2, ZNF465 and CYB5R3 gene which encode NADH-cytochrome b5 reductase 3 proteins. Immunoscreening with sera from patients and normal donors identified a short-list of antigens for further analyses. Eight of the antigens (all except IGHG2) have been previously studied in association with various types of cancer and their significance was either confirmed or speculated. To date, only two of them (SH3RF2 and DAPK1) have been linked to colon cancer. In addition, Ribosomal protein L37a (RPL37A) has previously been shown to be up-regulated in astrocytoma and to have a general association with lifetime and overall glioblastoma survival. We are now examining the expression of these genes by immunocytochemistry in colon cancer samples.

Biography

Barbara-ann Guinn is Deputy Director of the Research Graduate School and a Reader at the University of Bedfordshire. She completed her BSc in Genetics from the University of Wales, Aberystwyth and a PhD in Medicine from the University of Wales, College of Medicine; Cardiff. She undertook two Postdoctoral Fellowships at the University of Toronto and senior fellowships at King's College London and the University of Southampton. Her recent research has focused on the characterisation of a urine biomarker for ovarian cancer as well as the identification of novel targets for immunotherapy in acute lymphocytic leukaemia and colon cancer. Her group has worked to develop DNA vaccines for clinical trials and demonstrated the utility of tetramer arrays as clinical end-point assays.

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