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# Identification of targets for the development of novel immune-based anticancer treatments in colorectal and ovarian cancer

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## Abstract

**Introduction:** As is the case for many other malignancies, colorectal and ovarian cancer often present at an advanced stage, making their treatment more challenging. As well as finding new biomarkers to help diagnose the disease earlier, there is also a drive to develop new treatment strategies to combat cancer. Immunotherapeutics represents increasing promise as an important choice in treating many cancer types. Cancer-testis antigens (CTAs) have the potential to act as a basis for developing powerful immune-based treatments to fight cancer and dramatic results have been seen for select patients with advanced cancer. *Methods and results.* We have performed a bioinformatics screen using microarray and expressed-sequence tag databases to identify potential new CTAs. Using specific intron-spanning primer sets, polymerase chain reaction experiments were conducted to detect gene expression initially in a range of normal tissues. Genes that showed very low expression patterns in normal tissues were then tested against a range of cancer types. From an initial list of over 300 genes, 15-20% have been 'validated' by our group as potential new CTAs. Tissue and serum from over 80 patients with colorectal and ovarian cancer have been obtained. *Discussion.* We have identified several potential targets for the development of novel anti-cancer immunotherapies. We will now focus on establishing an immune (i.e. serological) response within cancer patients and attempt to characterise the functional significance of the proteins within individual tumours.

## Biography

J Sammut graduated with honours from medicine at the University of Liverpool in 2005. He completed a master's degree in Physiology and received a scholarship from the Wolfson Foundation. He is now training within the prestigious WCAT scheme in Wales, and takes an active role in research alongside his clinical work. He currently has eight publications in peer-reviewed journals.