Complement Enhances Tumour Evasion

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A seemingly illogical link between activation of immune sensors and the ability of tumours to escape the immune system is reported online in Nature Immunology. The unexpected result reveals a new drug target for cancer treatment.

The complement system comprises a cascade of proteins that act as a fire alarm to alert the immune system to the presence of infection. In a bizarre twist, Lambris and colleagues show that tumour activation of one of the complement proteins -- C5 -- in fact leads to suppression of the anti-tumour immune response.

The surprising outcome is explained by the observation that the activated protein recruits 'suppressor' cells to the site. These act to disarm other immune cells and stop them from killing the tumour. Importantly, the authors show that blocking the activity of C5 slows tumour growth in mice and this treatment is as effective as taxol, a commonly used anti-cancer drug.

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