

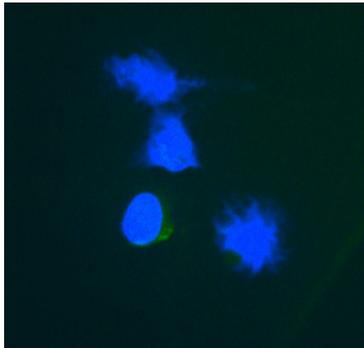
Adjuvantix Ltd: Enhancing the potency of vaccines against pathogens and cancer.

Many tumours express unique molecules on their surface. These unique tumour molecules represent “antigens” which can be exploited to activate the immune system in patients to recognise and destroy the diseased cells. Unfortunately, it is not enough to simply inject the protein or carbohydrate antigen as is done with many vaccines directed against infectious agents. Instead, the immunogenicity of the antigen must be significantly enhanced – one way to achieve this is through the use of adjuvants.

In the late 1990's Professor Andy Heath and his group identified a very highly potent novel adjuvant system, which could enhance immune responses to pathogen antigens by 1000-fold or more. This adjuvant system was rationally designed and consisted of a monoclonal antibody directed against one of the immune system's own triggering proteins. Using grant funding from the Wellcome Trust, Prof. Heath's group were able to show their adjuvant system was effective against several different antigens derived from pathogens and in 2000, with the help of White Rose Technology Seedcorn Fund, the group formed a spin-out company, Adjuvantix Ltd. to further develop the technology. Adjuvantix secured funding from the BBSRC (SBRI grant) as well as from FusionIP plc, and were able to prove utility in vaccination against influenza as well as against *Streptococcus pneumoniae* in collaboration with another UK company, Lipoxen Ltd.



The Adjuvantix and Health Laboratory team.



Immune cells which have taken up a fluorescently labelled version of the lymphoma vaccine.

Meanwhile Prof Heath's University of Sheffield group identified another potential application in the therapy of B cell lymphoma. Work to obtain proof of principle in Lymphoma was initially funded by Yorkshire Cancer Research (YCR) and when this was successful, YCR aided the transfer of this technology into Adjuvantix and also invested in its further development in exchange for an equity position in the company.

In collaboration with the Universities of Sheffield, Bologna and Navarra, with FIMA (Fundacion para la Investigacion Medica Aplicada) in Pamplona and Citox in France, Adjuvantix Ltd are now seeking funding to perform a phase I/II clinical trial of their therapeutic lymphoma vaccine in patients with Follicular

Lymphoma (a form of B cell lymphoma making up around 30% of cases and considered incurable). Adjuvantix is confident that the trial will give an indication of the safety and efficacy of the novel lymphoma vaccine. The novel adjuvant system could then potentially be applied to a massive range of prophylactic vaccines for infectious diseases and therapeutic vaccines for cancer.

For further information: please contact **Prof Andy Heath: a.w.heath@sheffield.ac.uk**