

**PRESS RELEASE – ADAPTIMMUNE LTD**

**Adaptimmune announces Opening of Pilot Clinical Trial in Synovial Sarcoma**  
*Personalized therapy is targeted to patients who have failed initial treatment.*

(Oxford, UK ) 25 July, 2011. Adaptimmune announced today that it has opened a Pilot, open-label clinical trial in synovial sarcoma at the National Cancer Institute (NCI), Bethesda, Maryland, testing its enhanced T cell receptor T cell therapy. A second site is planned to open later this year at Washington University, St. Louis, Missouri.

Adaptimmune is focused on the use of T cell therapy to treat cancer, with the body's own machinery - the T lymphocyte cell - being used to target and destroy cancerous cells. This trial is designed to investigate the safety, anti-tumor effect and bioactivity of infusion of patients' own T cells that have been genetically modified to express a high affinity T cell receptor (TCR) specific for a type of tumor antigen (protein) known as a cancer testis antigen (CT antigen).

During the trial, an enhanced T cell receptor will be deployed to target a CT antigen called NYESO-1. T cell manufacturing will be performed at the Clinical Cell and Vaccine Production Facility at the Perelman School of Medicine at the University of Pennsylvania, directed by Dr. Bruce Levine.

Dr. Carl H. June at the Abramson Cancer Center of the University of Pennsylvania and Dr. Crystal Mackall of the Pediatric Oncology Branch of the NCI developed the study design, which was reviewed by the National Institutes of Health Recombinant DNA Advisory Committee last year. Dr. June is the regulatory sponsor (FDA representative) for the study, and Dr. Mackall is the lead clinical investigator at the NCI. Adaptimmune is the financial sponsor and owns the core T cell receptor engineering technology.

Synovial sarcoma is a rare and high risk soft tissue sarcoma, characterized in most cases with an onset of masses located near joints in the lower extremities, although at times the initial tumors occur in the upper extremities, trunk or neck. The onset of synovial sarcoma typically occurs by the third decade of life, which makes this a particularly grievous cancer. After first line therapy, which involves surgery and chemotherapy, recurrent unresectable and/or metastatic sarcomas are nearly universally fatal. This clinical trial focuses on this unmet medical need, which includes an estimated 50-70% of patients with synovial sarcoma. Synovial sarcoma is an immunogenic cancer and is therefore an attractive target for immunotherapeutic approaches.

"Prior immunotherapy studies have shown promise against this devastating cancer," says Dr. June. "With this trial, we aim to enhance response rates over prior studies and reduce treatment toxicities by utilizing commercially feasible advances in the T cell manufacturing process which also allows us to avoid using IL-2 to support survival of the cells in the patient."

Up to 10 patients will be enrolled in the trial, which may take up to three years to accrue due to the rare nature of the cancer. In addition to evaluating safety, the primary objective of the study is to determine the response rate to the therapy. Secondary endpoints are to investigate the persistence of the genetically modified cells and to perform analyses of the anti-tumor immune responses in patients.

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“I am quite pleased to be working with such an excellent and dedicated investigator for synovial sarcoma” says James Noble, Adaptimmune’s CEO. “This is the third trial we are running with this TCR and if we show enhanced responses in this trial, we envisage broadening our scope to a wider spectrum of sarcomas.”

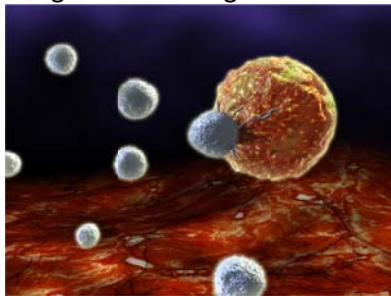
Additional study details and contact information for patients interested in finding out more about participation can be found at [clinicaltrials.gov](http://clinicaltrials.gov), under trial identifier number NCT01343043.

**Ends**

### **Contact**

Margaret Henry  
PR Consultant  
Adaptimmune Ltd, UK  
T: +44 (0)1865 261491  
E: [m.henry@oxin.co.uk](mailto:m.henry@oxin.co.uk)

Image : T cell killing a tumor cell



### **Notes for editors**

Dr. Carl June has no financial interest or other relationship with Adaptimmune, apart from their scientific collaboration in developing the engineered killer T cell, conducting laboratory experiments and planning human clinical trials.

### **About Adaptimmune**

Adaptimmune Limited is focused on the use of T cell therapy to treat HIV and cancer. It aims to utilize the body’s own machinery – the T lymphocyte cell – to target and destroy cancerous or infected cells. Established in July 2008, Adaptimmune was set up to develop Immunocore Ltd’s (formerly Avidex/MediGeneLtd’s) unique T cell receptor engineering technology for adoptive T cell therapy. Specifically, Adaptimmune makes use of the body’s ability to recognize infected or cancerous cells by enhancing the power of the T cell receptor (TCR) on killer T cells. Cancerous or virally infected cells will typically present small parts or peptides of larger viral proteins or abnormal cancer proteins on their surface, offering a "molecular fingerprint", called an epitope, for killer T-cells from the immune system to identify. In a healthy individual, this triggers an immune response, eliminating the affected cell. However, viruses such as HIV mutate rapidly, swiftly disguising their fingerprints to allow them to hide

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from killer T-cells while cancer proteins are usually derived from self-proteins against which natural TCRs do not respond. Adaptimmune's technology uniquely enhances the natural TCR affinity to either viral or cancer protein epitopes on an individual patient's cells overcoming these obstacles for therapeutic benefit.

Adaptimmune has undertaken significant preclinical development with a number of pipeline TCRs to demonstrate their potency and specificity in vitro. The TCR in the current sarcoma study is specific to the cancer testis antigen targets NY-ESO-1<sub>157-165</sub> (HLA A2; SLLMWITQC). This TCR and another TCR specific for MAGE A3<sub>168-176</sub> (HLA A1; EVDPIGHLY) were engineered using Adaptimmune's proprietary TCR engineering platform and are already under evaluation in other clinical trials in multiple myeloma and metastatic melanoma, with other cancers in planning. Adaptimmune has a pipeline of similar TCRs in preclinical development in both cancer and HIV.

<http://www.adaptimmune.com>

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