

**PRESS RELEASE – ADAPT IMMUNE LTD**

**Adaptimmune announces Opening of Phase I/II Clinical Trial in Multiple Myeloma**

*Trial could generate future alternative treatment for multiple myeloma*

(Oxford, UK ) 26 May, 2011. Adaptimmune announced today that it has opened a Phase I/II, dual site, two-cohort, open-label clinical trial in multiple myeloma at the University of Maryland and the University of Pennsylvania testing its enhanced T cell receptor T cell therapy.

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, bioactivity and anti-tumor effect 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, TCRs that have been developed using Adaptimmune's unique TCR enhancement technology will be deployed to target two CT antigens called Mage-A3/6 and 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.

Dr. Carl H. June at the Abramson Cancer Center of the University of Pennsylvania and Dr. Aaron Rapoport of the University of Maryland Greenebaum Cancer Center developed the study design, which was presented to the National Institutes of Health Recombinant DNA Advisory Committee last year. Dr. June is the regulatory sponsor (FDA representative) for the study, and Dr. Edward Stadtmauer is the lead clinical investigator at the Abramson Cancer Center. Dr. Rapoport is the lead clinical investigator at the University of Maryland. Adaptimmune Ltd is the financial sponsor and owns the core T cell receptor technology.

Multiple myeloma is a hematologic cancer localized to the bone marrow. With standard therapy, long-term response rates are low, and the median survival for patients with this disease is 3-5 years. The clinical trial focuses on this unmet medical need and will include patients who have received prior treatment for their myeloma and who are eligible for an autologous stem cell transplant (ASCT). ASCT is the transplant of a patient's own stem cells, which is a standard of care for treatment of multiple myeloma in the U.S. Infusion of the CT antigen-specific T cells will occur just following ASCT. Drs. Rapoport, Stadtmauer and June have collaborated and extensively published on three prior clinical trials evaluating T cell infusion post ASCT, and have demonstrated that the procedure is safe and promotes reconstitution of the immune system. The aim of the current trial is to improve the anti-tumor efficacy of the T cell infusion by genetically redirecting the T cells to specifically recognize the patients' tumor.

"This trial combines a series of technological advances in vector design, T-cell manufacturing, and TCR engineering," says Dr. June. "The data emerging from this study in the next twelve months could significantly advance the field of gene-based T-cell therapeutics."

FINAL - press release for myeloma trial opening

“I am very enthusiastic about this study,” says Dr. Rapoport. “The combination of autologous stem cell transplantation and immune reconstitution with tumor-specific T cells has the potential to have a powerful therapeutic effect.”

A total of 12 patients will be enrolled in the trial over a period of two years, with six patients participating in each of the NYESO-1 and MAGE-A3/6 cohorts in accordance with a genetic randomization scheme based on a patient’s immune system (HLA-A) and tumor antigen status.

We are enormously pleased to be working with the world leaders in T-cell immunotherapy for multiple myeloma,” says James Noble, CEO of Adaptimmune. “Myeloma is an important clinical indication with which to evaluate our CT antigen specific TCRs because T cell immunotherapy fits so well with routine stem cell transplantation, and the effects of the T cells can be rapidly assessed.”

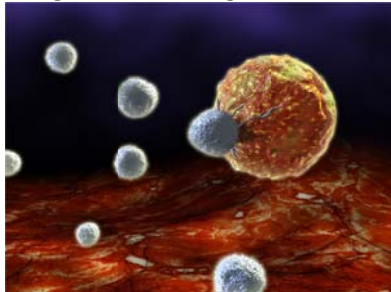
Additional study details and contact information for patients interested in finding out more about participation can be found at [clinicaltrials.gov](http://clinicaltrials.gov), under trial identifier number NCT01352286.

**Ends**

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Image : T cell killing a tumor cell



#### **Notes for editors**

Dr. Carl June has no financial interest or other relationship with Adaptimmune LTD, 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

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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 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 TCRs in the current myeloma study are specific to the cancer testis antigen targets NY-ESO-1<sub>157-165</sub> (HLA A2; SLLMWITQC) and MAGE A3<sub>168-176</sub> (HLA A1; EVDPIGHLY) and were engineered using Adaptimmune's proprietary TCR engineering platform. It is poised to gather clinical safety and efficacy data on these and other TCRs with regulatory approvals for human trials in HIV and multiple cancers now in place.

<http://www.adaptimmune.com>

#### **About the University of Maryland Marlene and Stewart Greenebaum Cancer Center**

The University of Maryland Marlene and Stewart Greenebaum Cancer Center is a National Cancer Institute-designated cancer center. It is recognized for its multidisciplinary approach to cancer care and active clinical and basic research program, with a key focus on transferring knowledge from the laboratory to the clinic. The cancer center has comprehensive programs for treating all types of cancer and is a major referral center for patients throughout Maryland and the region. The center is affiliated with the University of Maryland Medical Center and the University of Maryland School of Medicine in Baltimore.