

Immunocore's ImmTAV shown to redirect the immune system to kill HIV-infected cells from patients treated with antiretroviral therapy

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(Oxford, UK, 8th June 2016) Immunocore, a world-leading biotechnology company developing novel T cell receptor (TCR) based biological drugs to treat cancer, infectious diseases and autoimmune disease, today announced that positive new data have been published that demonstrate the potential of a novel antiviral drug created by Immunocore to harness the immune system to kill HIV-infected cells.

Persistence of HIV in a latent state in long-lived CD4+ T cells is a major barrier to eradication, and these data demonstrate the potential of an ImmTAV as a therapy to facilitate clearance of reactivated, latently-infected reservoir cells.

The paper, *Elimination of latently HIV-infected cells from antiretroviral therapy-suppressed subjects by engineered immune mobilising T cell receptors*, was published in the peer-reviewed journal *Molecular Therapy* on June 6th 2016, (doi: 10.1038/mt.2016.114).

The new soluble engineered reagent, called an ImmTAV (Immune mobilising monoclonal TCRs Against Virus), is a bi-specific biologic composed of a picomolar affinity T cell receptor directed against an immunodominant HIV epitope, and its escape variants, fused to an anti-CD3 scFv domain.

The ImmTAV was found in *ex vivo* studies to assist T cells in killing HIV-infected cells from patients who had successfully been treated with antiretroviral therapy. The ImmTAV worked more efficiently than the patients' natural immune response to HIV because it has been designed to detect very low levels of viral proteins and re-direct them to HIV-infected cells.

In collaboration with Professor Lucy Dorrell, Senior Clinical Research Fellow, University of Oxford, data published in the paper establish that an ImmTAV can kill HIV-infected CD4+ cells despite very low presentation of cell surface viral epitopes, a common feature of latently infected cells enabling them to escape the patients' immune system. Of note, the ImmTAV also eliminates infected T cells, following reactivation of latent HIV, from patients on antiretroviral therapy.

Bent Jakobsen, Chief Scientific Officer of Immunocore, commented: *"Eliminating HIV from long-lived CD4+ cells, where they remain inaccessible to immune effector cells, is one of the biggest challenges in the search for a cure for HIV. These data help to underscore the broad scope and expandable potential of Immunocore's expertise in soluble high affinity T cell receptor technology."*

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