



InReMed

Innovations in Regenerative Medicine

Thursday, October 19th, 10:00 – 11:00

For the Zoom link click [here](#)



Prof. Dr. Cheng-Lung KU

Chang Gung University, Taiwan

Antigen-specific B cell deletion strategy to treat autoantibody diseases

Chimeric antigen receptor (CAR) T cells have marked a clinical breakthrough in treating patients with hematological malignancies, establishing themselves as a novel cornerstone in cancer therapy. Recently, these CAR T cells have transcended their initial application, showing significant promise in treating autoimmune diseases like Systemic Lupus Erythematosus (SLE). This innovative approach involves the depletion of autoreactive B cells through anti-CD19 CAR T cells. However, this therapy is not without its drawbacks, as the complete depletion of B cells could weaken the host's immune system, increasing susceptibility to infectious diseases. This risk is particularly concerning for the elderly and patients in an immunosuppressed state.

Addressing these challenges, we introduce the development of Chimeric Autoantibody Receptor (CAAR) T cells, designed to target and eliminate pathogenic B cells that produce harmful autoantibodies, thereby treating autoimmune conditions. Unlike previous methods, CAAR T cells offer a more targeted approach by recognizing and depleting only the disease-causing B cells, preserving other aspects of the patient's immune function. This specificity not only holds immense therapeutic potential for autoimmune diseases but also minimizes the collateral immune suppression associated with total B cell depletion. Our findings open new avenues for antigen-specific immunotherapy in managing autoantibody-mediated disorders."

