

2nd International Conference on Vaccines and Vaccination

August 20-22, 2012 Hilton Chicago/Northbrook, USA

LEAPS therapeutic vaccines as antigen specific suppressors of inflammation in four unrelated diseases

Daniel H Zimmerman CEL-SCI Corporation, USA

The L.E.A.P.S. [∞] Ligand Epitope antigen presentation system technology platform has been used to develop immunoprotective and immunomodulating small peptide vaccines for infectious and autoimmune diseases. Several products are currently in various stages of development, at the pre-clinical stage (in animal challenge efficacy studies). Vaccine peptides can elicit protection of animals from lethal viral (herpes simplex virus [HSV-1]; influenza A) infection or can block the progression of autoimmune diseases (e.g. rheumatoid arthritis as in the collagen induced arthritis model [CIA]; experimental autoimmunce myocarditis [EAM]). L.E.A.P.S. technology is a novel T-cell immunization technology that enables the design and synthesis of non-recombinant, proprietary peptide immunogens. Combination of a small peptide that activates the immune system with another small peptide from a disease-related protein containing a T Cell epitope allows the L.E.A.P.S. vaccines to activate human monocytes or mouse precursors to differentiate and become mature dendritic cells (DCs) that can initiate appropriate T cell responses. As such, readily synthesized, defined immunogens can be prepared to different diseases and are likely to elicit protection or therapy as applicable in humans as they do in mice. L.E.A.P.S. vaccines have promise for the treatment of rheumatoid arthritis and other inflammatory diseases and infections, such as influenza and HSV1. The protective responses are characterized as Th1 immune responses with associated antigen specific IgG2a antibodies and reduced inflammatory cytokines (TNF-γγand IL-1, IL-17) modulated by DC and T cells. They have been used directly in vivo or as ex vivo activators of DC which are then administered to the host.

Biography

Daniel H. Zimmerman, Ph.D. CEL-SCI's Senior Vice President of Research, Cellular Immunology since June 1998. He has over 30 years industry experience in researching and developing products for diagnosis, immunological status monitoring and vaccines. He has successfully developed commercial diagnostic products for Herpes Simplex Virus, Hepatitis B and HIV. Dr. Zimmerman was a Senior Staff Fellow at NIH and holds a Ph.D. in Biochemistry from the University of Florida's College of Medicine (1969). Dr. Zimmerman has over 50 publications and US patents in the fields of immunology, virology, L.E.A.P.S.™ and CEL-1000 technology.

dzimmerman@cel-sci.com