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SA-4-1BBL as an adjuvant platform for the development of vaccines

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The costimulatory members of the TNFR family molecules are critical for the generation of cellular and humoral immune responses. In particular, the 4-1BB pathway regulates various cells of innate, adaptive, and regulatory immunity for a productive immune outcome. As such, the ligand, 4-1BBL, has a great potential as adjuvant component of prophylactic and therapeutic vaccines against cancer and infections. We generated a novel form of the ligand, SA-4-1BBL, and demonstrated its pleiotropic effects on various cells of the immune system. As adjuvant, SA-4- improved the protective efficacy of the lead rF1V subunit vaccine against *Y. pestis* in a mouse model by generating mixed Th1 cellular and humoral immune responses.

Biography

Haval Shirwan is Dr. Michael and Joan Hamilton Endowed Chair in Autoimmune Disease, Professor of Microbiology and Immunology, Director of Molecular Immunomodulation Program at the Institute for Cellular Therapeutics. He conducted his Graduate studies at the University of California in Santa Barbara, CA, and Postdoctoral studies at California Institute of Technology in Pasadena, CA. He joined the University of Louisville in 1998, after holding academic appointments at various academic institutions in the United States. His research focuses on the modulation of immune system for the treatment of immune-based diseases with particular focus on type 1 diabetes, transplantation, and development of prophylactic and therapeutic vaccines against cancer and infectious diseases. He is an inventor of over a dozen of worldwide patents, Founder and CEO/CSO of FasCure Therapeutics, LLC. He widely published, organized and lectured at numerous national/international conferences, served on study sections for various federal and non-profit funding agencies, and is the Editorial Board Member of a number of scientific journals. He is the member of several national and international societies and recipient of various awards.

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