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Enhancement of antigen-specific CD4 T cell response through spacer modification in vaccinia virus promoters

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Vaccinia virus (VACV) promoter early-sequences had been modified to enhance antigen expression and to improve antigen-specific T cell responses; how the spacer length between the early sequence and the gene can affect its expre ssion, and if there is a correlation between timing of antigen expression and antigen-specific CD4 T cell response had not been demonstrated. We have generated several recombinant VACV based on an attenuated Modified Vaccinia Ankara (MVA) strain that express GFP and *Leishmania infantum* LACK antigen under transcriptional control of promoters with different spacer lengths. The spacer length augmented the GFP expression *in vitro* within the first hour of infection, and correlated with an enhancement in the LACK-specific memory CD4 T cell response in mice. These results illustrate the important role of promoter spacer length in the design of future poxviruses vaccine vectors.

Biography

Mauro Di Pilato is a PhD student in the Spanish National Centre for Biotechnology (CNB), Madrid, Spain. He is working in Poxvirus and Vaccine laboratory, headed by Prof. Mariano Esteban at the Cellular and Molecular Biology Department. He has published two papers in reputed journals.

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