Retrovirology



Poster presentation

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In Vivo Administration of Replication-Deficient Mutant HSV-I Targets Professional APCs and Induces Efficient CD4+ T Helper Responses

Simona Fiorentini¹, Peggy Marconi², Elena Marini¹, Emirena Garrafa¹, Manuela Avolio¹, Sonia Caracciolo¹, Alexandra Bozac², Roberto Manservigi² and Arnaldo Caruso*^{‡1,2}

Address: ¹Department of Experimental and Applied Medicine, University of Brescia Medical School, Brescia, Italy and ²Department of Experimental and Diagnostic Medicine, University of Ferrara, Italy

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Both neutralizing antibodies and cytotoxic T cells are necessary to control a viral infection. However, vigorous T helper responses are essential for their elicitation and maintenance. These findings have critical implications in the design of vaccination strategies aimed at triggering and sustaining antigen specific CD4+ in addition to CD8+ effector immune responses. Here we show that a recombinant replication-deficient HSV-1 vector encoding the HIV-1 matrix protein p17 (T0-p17) is capable to infect professional APCs in vitro and in vivo without interfering with the endogenous MHC class II processing of the transgene encoded antigen. Moreover, we show that injection of T0-p17 in the mouse dermis generates a strong p17specific CD4+ T helper response preceding both cytotoxic and humoral responses. Importantly, T0-p17 infected peritoneal macrophages were capable to trigger a longlasting expansion of p17-specific CD4+ T cells in vitro. Because of their capability to infect professional APCs without interfering with their biological functions, replication-deficient HSV vectors are appealing candidates for the development of vaccines able to trigger strong Thelper responses.