



Mimovirus: a novel form of vaccine induced specific cytotoxic T lymphocyte responses *in vivo*

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CD8⁺ cytotoxic T lymphocytes (CTLs) are recognized as important mediators of immunity against tumors and intracellular infections. How to evoke antigen-specific CTL response *in vivo* is still a problem in therapeutic vaccine development. Here, we reported that a completely novel CTL vaccine—*mimovirus*, a kind of virus-sized particulate antigen delivery system, efficiently induced CTL response *in vivo*. It was produced by using a cationic peptide containing 18 lysines, a CTL-epitope peptide of HBsAg28-39 and a plasmid encoding mouse IL-12 through self-assembly and electrostatic interactions. It was demonstrated that *mimovirus* can efficiently deliver the CTL epitope into the MHC class I processing pathway of professional antigen-presenting cells (APCs), thereby crosspriming an HBsAg28-39-specific CTL response *in vivo*. For its effectiveness, safety, flexibility, easiness to be produced and its composition easily defined, *mimovirus* has the potential to be developed as an efficient therapeutic vaccine against tumors and intracellular infections.