Accelerated Vaccination Strategies to Provide Protection Against Viral Infections

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Technology description

Summary

The technology described in this patent application relates to recombinant viruses for use as vaccines. These viruses contain a single or plurality of sequences encoding antigens from pathogenic viruses heterologous to the recombinant virus. The antigenic sequences from pathogens such as influenza, RSV, measles, HPV, Epstein-Barr, Lassa, Polio, West Nile, Dengue, HIV-1 and 2, HTLV, herpes simplex virus, hepatitis viruses A, B, C, D, and E, Marburg, Ebola, and SARS are inserted into non-essential regions of either replication-competent or replication-defective adenovirus, adeno-associated virus (AAV), SV40 virus, herpes simplex virus, or vaccinia virus vectors that retain elements necessary for infectivity but are devoid of any pathogenic sequence elements. In these recombinant viruses, the antigenic sequences are operably linked to viral control elements. Thus, these recombinant viruses are capable of infecting a host and mounting an immune response specific to a given virus(es) without eliciting pathogenicity. In addition to the above, the technology also describes methods of accelerated pre-exposure or post-exposure vaccination comprising single-dose administration.

Advantages

The attractive features of this invention include the broad applicability of the recombinant viruses against a number of common pathogens and the potential of using them against other emergent infectious viruses; the ability of the vaccines to stimulate both cellular and humoral immune responses in humans and other hosts; and the ease of administration in single dose form via a number of routes.

Institution

NIH - National Institutes of Health

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com