Dokumenttyp: journal article

Autor(en) des Beitrags: Staib, C; Suezer, Y; Kisling, S; Kalinke, U; Sutter, G

Titel des Beitrags: Short-term, but not post-exposure, protection against lethal orthopoxvirus challenge after immunization with modified vaccinia virus Ankara.

Abstract: Safety-tested vaccinia virus (VACV) MVA serves as a candidate third-generation vaccine against smallpox. Here, MVA immunization of mice shortly before or after lethal respiratory challenge with VACV Western Reserve was investigated. Whilst post-exposure treatment failed to protect animals, immunizations on day 2 prior to challenge were fully protective. On the day of challenge, MVA inoculation may prevent death, but not onset of severe respiratory disease. After intranasal MVA application, massive influx of leukocytes (such as neutrophils, macrophages, natural killer cells and T cells) was found in the lungs of the animals, indicating the contribution of innate responses to protection. Correspondingly, in RAG-1/-/- mice, MVA inoculation delayed onset of disease significantly, but did not prevent fatal infection. Thus, short-term protection required a tight interplay of both innate and adaptive antiviral immunity. These data suggest that, in addition to conventional vaccination, MVA may serve for potent emergency prophylaxis against orthopoxvirus infection.

Zeitschriftentitel / Abkürzung: J Gen Virol

Jahr: 2006

Band: 87

Heft / Issue: