Recombinant vaccinia MVA as West Nile Virus vaccines for VECTORIE

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VECTORIE (Vector-borne Risks for Europe) is a project funded by the European Commission under the Seventh Framework Programme (FP7) in order to strenghten Europe's preparedness for vector-borne emerging diseases like West Nile and Chikungunya Fever.
West Nile Virus (WNV) is a mosquito-borne flavivirus. Intrinsically it is maintained in an enzootic cycle between avian hosts and mosquitoes, but it can also infect and cause disease in humans and horses. The virus is widely distributed in Africa, Europe, the Middle East, Asia and since 1999 has spread through North and South America. WNV infects the central nervous system and can cause neuroinvasive disease with the potential for severe courses especially in the elderly and immunocompromised humans. Modified vaccinia virus Ankara (MVA) can be exploited as safe viral vector in medical and veterinary vaccine development.

The aim of our work in this project is the generation and characterization of recombinant MVA based vaccines delivering WNV antigens. Candidate vaccines are tested for immunogenicity, including the examination of humoral and cellular responses, suitability for clinical development and for efficacy in WNV mouse infection models.

References:

Kramer LD, Jun Li, Pei-Yong Shi (2007). West Nile virus. The Lancet Neurology, Vol.6/No.2, pp. 171 – 181

Lim SM, Koraka P, Osterhaus ADME, Martina BEE (2011). West Nile Virus: Immunity and Pathogenesis. Viruses, Vol.3/Iss.6, pp. 811 - 828

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