CP7_E2alf: A safe and efficient marker vaccine strain for oral immunisation of wild boar against Classical swine fever virus (CSFV)

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Wild boar are an important reservoir of Classical swine fever virus (CSFV) in several European countries, where most of the primary outbreaks in domestic pigs are directly related to the endemic disease situation in the wild boar population (2). Immunisation with an oral bait attenuated live vaccine strain “C” proved to be safe and effective, but does not allow differentiation between infected and vaccinated animals (1). Serum antibodies induced by Pestivirus infections are directed against the envelope proteins E2 and E^{rm S}, and the non-structural protein NS3 (1). Due to the high conservation of NS3 among pestiviruses and the seroprevalence of non-CSFV pestiviruses in swine, therefore, monoclonal antibodies directed against E2 or E^{rm S} have been used to discriminate between Pestivirus species. Recently reported on construction of a chimeric full length pestivirus genome based on the cytopathogenic (cp) BVDV strain CP7. The E2 protein encoding sequence was replaced by the corresponding region of the CSFV strain Alfort187 to construct the CP7_E2alf (3). Intramuscular inoculation into weaner pigs proved to be completely innocuous. Neither viremia nor virus transmission to sentinels were detected. After challenge infection with CSFV, all immunised pigs were fully protected from clinical disease. Thus the chimeric BVDV/CSFV CP7_E2alf represents a safe and efficient marker vaccine for oral immunisation of wild boar (2).

References