



## African Swine Fever Virus (ASFV): Immunity and Vaccine Development

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### Message from the Guest Editor

African swine fever virus (ASFV) is a causative agent of highly contagious and acute viral hemorrhagic disease; African swine fever (ASF) in domestic swine and wild boars is associated with significantly high mortality. ASFV is the only member of the family Asfviridae, genus Asfivirus. It is a large, enveloped, and double-stranded DNA (dsDNA) virus that contains a linear DNA genome of 170 to 190 kb with more than 150 open reading frames (ORFs). Unfortunately, since its first description in Kenya in 1921, no commercial vaccines or approved anti-ASFV drugs are currently available. Therefore, the virus is spreading in Africa, Europe, and Asia, especially in China, with devastating social–economic consequences for the development of the swine industry and domestic food security. The unavailability of an applicable ASF vaccine is partly due to the complex nature of the virus, which encodes several proteins associated with immune evasion. Moreover, the incomplete understanding of immune protection determinants of ASFV hampers rational vaccine design. However, scientists work tirelessly to develop promising ASF vaccines, especially live attenuated and DNA vaccines.





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## Message from the Editor-in-Chief

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