Transboundary and Emerging Diseases

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Special Issue on
Research Progress on African Swine Fever Virus

CALL FOR PAPERS

African swine fever (ASF), caused by the African swine fever virus (ASFV), is a WOAH-notifiable, acute hemorrhagic and highly contagious disease in domestic pigs and wild boars which poses a major threat to the pig industry and global food security. Currently, this disease is a widespread epidemic in Africa, Europe, Asia and Americas, causing enormous economic losses. ASFV is a complex, large (170-193 Kbp), enveloped, and double-stranded DNA virus, which encodes more than 150 viral proteins. ASFV was first identified in the 1920s, but research on the virus has increased dramatically in these years. Up to date, many scientific questions on ASFV still need to be explored.

Although ASF has emerged over 100 years in the world, there remains some challenges because of complex structure, proteins of unknown function, and emergence of mutations, and recombinant viruses. Some challenges are shown as follows: First, the epidemiology: complex transmission route, including direct contact, indirect contact, food or feed borne transmission, and insect vectors; characteristics of different circulating ASFVs in different regions including whole-genome sequence, virulence, pathogenicity, and transmission capacity. Second, the fundamental research: the mechanism of pathogenesis, immune evasion, and immune protection; the structure and function of viral proteins. Third, the applied research: the diagnostic techniques. The rapid, reliable, specific, sensitive, and convenient etiological or serological diagnostic methods; 2) the safe and effective vaccine. Currently, the attenuated vaccines are the most promising candidate among different vaccine development strategies.

The aim of this Special Issue is to publish the scientific studies on different aspects of ASFV including the epidemiology, diagnostics, control as well as the molecular mechanisms of the pathogenesis, immune evasion, and immune protection, for adopting scientific and reasonable measures to control the spread of the disease worldwide. For this purpose, the manuscripts (but are not limited) associated with ASFV diagnostics, surveillance, vaccines, and control, are especially welcomes. Meanwhile, this Special Issue welcomes original research and reviews articles.

Potential topics include but are not limited to the following:

- Whole-genome sequence analysis
- Virulence, replication capacity, and transmissibility in swine
- Molecular mechanisms of virus infection and pathogenesis
- Function of ASFV genes
- Structure of ASFV proteins
- Novel/improved antigen detection assays
- Novel/improved nucleic acid detection methods
- Multiple types of vaccines including inactivated-virus, live attenuated, vector-based, protein-based, and mRNA-based vaccines
- Mechanism of immune protection against ASFV
- Antiviral drugs with advanced antiviral actions, antiviral targets, and antiviral mechanisms
- High-level disinfectants and effective

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.wiley.com/submit?specialIssue=520162.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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