

Regional Workshop for the International Networking of
African Swine Fever Research in Asia
26-27 February 2020, Tokyo, Japan

Summary and Conclusion

The spread of African Swine Fever (ASF) in Europe and Asia has been having a high impact on pig production and the global pork market. This is especially felt in Asia where embracing 60 % of world's pig population. However, until now the mechanism of viral pathogenicity and immune response of ASF has not been elucidated well, and a safe and effective vaccine against ASF which can be used in the field has not been developed.

Thus, several global research alliances have included ASF control and vaccine development as a focus and an international ASF research alliance has been established (the Global African swine fever Research Alliance, GARA).

The ASF virus (ASFV) was first detected in the Asian region in August 2018 and so far there is no formal ASF research network established in Asia. Therefore, the purpose of this workshop is to identify research needs and technical gaps for the control of ASF, share information on ASF research and facilitate future collaboration between ASF researchers in Asia, including vaccine development.

The OIE Workshop for the International Networking of African Swine Fever Research in Asia was organized by the OIE Regional Representation for Asia and the Pacific (OIE RRAP), in collaboration with the National Institute of Animal Health (NIAH), NARO, Japan, with participants from the US, Uganda, Ghana, RO Korea, Thailand, Vietnam, Chinese Taipei, and Japan. Experts from P.R. China were unable to join this workshop but kindly provided data from recent findings on the etiology of ASFV.

In this 2-day meeting, participants discussed:

1. Technical gaps between demands and needs to control/eradicate ASF
2. How/what should be done to improve vaccine research
3. How to promote global and regional networking on ASF research

Through discussions, participants shared the following scientific findings and views.

- ASFV is very large, with a complex virion structure. The function of many viral proteins is unknown and need further investigation.
- There are several ASFV genotypes. This diversity may be due to natural host/vector cycles. Several serotypes also exist within the different genotypes.
- Although the prevailing ASFV in Europe and Asia is genotype 2, we should be prepared for future incursions of other genotypes from Africa to other parts of the world.
- While correlates between humoral and cell-mediated host immunity in protection against ASF are not completely elucidated, antibodies seem to play an important role.
- Clinically, acute/peracute forms of ASF are reported in the majority of outbreaks in Asia and Africa. However, reports of animals recovered from ASF emerged in some countries (e.g. Uganda). There may be some degree of variation in the epidemiological picture depending on different factors such as the strain's virulence, route of introduction and the viral dose.
- Wildlife-animal interface such as free roaming pigs adjacent to wild reserves are important route of transmission. In addition, movements of animals and animal products crossing borders contribute international spread of ASF.
- Spontaneous mutations may occur through virus replication. We should take this into account when conducting molecular diagnosis.
- Considering the pig population and husbandry practice in Asia, a safe and efficacious ASF vaccine is needed. Even once an efficacious ASF vaccine is developed, we should carefully consider how we would use it depending on the epidemiological situation of the disease, intended purpose of vaccine use, trade implications, vaccine characteristics (e.g. DIVA availability) and other factors.

The participants supported the following approaches to be considered within their capacity.

- To promote a regional network of ASF researchers and research institutes in Asia.
- To enhance ASF related information exchange and material sharing amongst relevant research institutes.
- To seek cooperation with the Standing Group of Experts for ASF in Asia, established in April 2019 under the FAO/OIE GF-TADs framework, so that the research network can provide useful inputs to the decision makers of ASF control measures in the region.
- To consider participation in the existing international ASF research alliances such as GARA, and in research coordination initiatives such as the STAR-IDAZ IRC. The relevant documents will be provided to the participants later from the OIE RRAP.
- To consider another meeting for ASF research in a few years to follow up and update the discussion points in this Workshop and further promote the research network regionally and globally. NIAH Japan is expected to take lead for this in cooperation with the OIE RRAP.