

3<sup>rd</sup> International

# Veterinary Congress

August 18-20, 2016 London, UK

## Investigation on host susceptibility of Tibetan pig to infection of porcine reproductive and respiratory syndrome virus through viral challenge study

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Previous reports showed that infection of porcine reproductive and respiratory syndrome virus (PRRSV) stimulated a variable host response and pig susceptibility to PRRSV was largely dependent on its genetic composition. In the present study, host susceptibility of Tibetan pig to PRRSV was compared with other two pig breeds, ZangMei black and Large White by challenge of them with highly pathogenic PRRSV (HP-PRRSV). In the first challenge test, each eight piglets of the three breeds were inoculated with HP-PRRSV and clinical symptoms, viremia and animal mortality were examined up to 28 days post inoculation (DPI). In the secondary pathological study, each twelve piglets of the three breeds were challenged and three pigs of each breed were sacrificed on 4, 7 and 14 DPI for examination of gross damage and lung microscopic lesions. The results showed that no typical clinical signs such as cough, diarrhea and high fever were observed in challenged Tibetan pigs, which however all occurred in Large White accompanied with 40% mortality (3/8). In addition, a significant low and short viremia was detected specifically in Tibetan pigs. Based on histopathological analysis of lung sections, a mild to moderate interstitial pneumonia in Tibetan pigs and a much severe pneumonia in Large White were identified on 7-14 DPI. In summary, the study demonstrated that three genetically different pig breeds exhibited a differential host susceptibility to HP-PRRSV and Tibetan pig was much less susceptible to the virus in the three tested pig breeds.

### Biography

Kang Runmin has completed her PhD from Sichuan University and working in Sichuan Animal Science Academy. She is currently a Research Assistant. She has mainly studied on host susceptibility of various swine breeds to infection of porcine reproductive and respiratory syndrome virus through viral challenge study and transcriptomic analysis of lungs of various swine breeds infected with porcine reproductive and respiratory syndrome virus through viral challenge study. She has published more than 3 papers in reputed journals.

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