

Study and evaluation of the pathogenicity of Moroccan strains of sheep pox

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Abstract:

Sheeppox (SP) is categorized as a notifiable disease by the World Organization for Animal Health (OIE). Sheeppox virus (SPV) is a member of the Capripox genus that causes host species disease in small ruminants. SPV is endemic in most African countries, the Middle East and much of Asia, where it has major economic impact on small ruminant production due to the often high morbidity and mortality associated to disease in susceptible sheep. The solution against pox viruses is mainly based on medical prophylaxis, vaccination remains the only way. The objective of our work aims to evaluate the pathogenicity of Moroccan strains of sheep pox. For this, 5 isolates were selected. These strains have been inoculated to different lambs for studying their degree of pathogenicity. The cells cultures were shown very sensitive to infections with strains originated from Eastern parts of kingdom, where many outbreaks are reported regularly despite vaccination. Indeed, after viral inoculation, infected cells developed a characteristic CPE from the second day after infection. The clinical signs produced by the five selected isolates following experimental infection indicate their high virulence, especially for one strain (B). These sings were lethal, characterized by fever: the temperature increased up to 41°C, nasal discharge appearance of primary an secondary papules over the body and secondary lesions in internal organs of infected animals. By contrast two sheep are cured of the disease, after the manifestation of these symptoms. Immunologically, the antibodies appeared from 3 day post-inoculation, with high titers, which means the installation of immunity against sheep pox. This study provides the perspectives for future studies for sequencing and analyzing the genomes of these field pathogenic strains to determinate the genetic basis for understanding SPV virulence and pathogenesis.

Biography

Saida HAJJOU is a PhD student from the Faculty of science and Techniques, University Hassan I of Settat, Morocco. She’s a young researcher on virology and molecular biology,

especially on development of Vaccines against Sheep pox disease in Morocco. She's contributes in virology and molecular characterization of Sheep pox virus (SPV), and the development of challenge strain for the control of vaccines against sheep pox in collaboration with Society Biopharma, Rabat, Morocco.

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