

Development and improvement of methods and biologicals for the diagnosis, prevention and control of viral diseases of swine - Ciacchi-Zanella J.R.¹, Schaefer R.¹, Caron L.¹, Gava D.¹, Pandolfi J.R.¹, Loyola W.¹, Marques M.G.¹

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Animal health of Brazilian herds is dependent of imported technologies and lack diagnostic and control tools. The objective of this work is to develop and improve methods and biologicals to prevent the entry of exotic viruses, development of rapid diagnostic kits and vaccines to control zoonotic or endemic diseases. Pathogens elected for this study are porcine reproductive and respiratory syndrome virus (PRRSV) and swine influenza virus (SIV). Other agents contemplated herein are porcine circovirus type 2 (PCV2) and porcine parvovirus 1 (PVS1), still endemic diseases causing major losses in Brazil. Emerging viruses, such as porcine torqueteno virus and PVS4 will also be investigated by proposing a multiplex polymerase chain reaction (PCR) to detect these virus co-infection with PCV2 and PVS1. To detect possible effects of viruses in sperm and their role on transmission, this multiplex PCR will be used in boar samples from artificial insemination centers. Biologicals for diagnostic kits and vaccines will be obtained through cloning and expression of recombinant proteins for SIV and PCV2. Viral proteins will be used as recombinant antigens for immunization of hens to produce IgY antibodies. Positive controls for the real-time PCR assays will be cloned for SIV, pandemic H1N1, PRRSV and PCV2, will be available to transfer. A SIV vaccine for SIV will also be tested, which SIV isolates will be characterized, inactivated, prepared with an adjuvant. In addition to the technology transfer, the availability of these tools will improve research and increase health surveillance, resulting in a greater competitiveness of Brazilian swine.

Key-words: diagnostic, swine, vaccine

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