Daisy Vanrompay et al., J Vaccines Vaccin 2014, 5:5
http://dx.doi.org/10.4172/2157-7560.S1.021

OMICS Group Conferences
Accelerating Scientific Discovery

4th International Conference on
Vaccines & Vaccination
September 24-26, 2014 Valencia Convention Centre, Spain

Protection of chickens against *Chlamydia psittaci* challenge by mucosal immunization with the major outer membrane protein

Daisy Vanrompay[1], **Cindy De Boeck**[1], **Jonah Nolf**[2] and **Ann Depicker**[2]
[1]Ghent University, Belgium
[2]VIB, Belgium

Recombinant major outer membrane protein (MOMP) of a highly virulent *Chlamydia psittaci* genotype D strain (92/1293) was tested for its ability to induce protective immunity against challenge with the homologous *C. psittaci* genotype. The vaccine was prepared in transiently transfected COS-7 cells. Specific pathogen free chickens (Lohman, Germany) were divided into 2 groups of five animals, reared in negative pressure isolators. Group 1 received 500 µg recombinant MOMP per animal, administered by aerosol at the age of 7 days. Group 2 served as non-immunized control. All chickens were challenged by aerosol infection at the age of 4 weeks. The challenge infection consisted of 106 TCID50 of *C. psittaci* strain 92/1293. Animals were euthanized at the age of 42 days. Severe clinical signs, macroscopic and histopathological lesions were only observed in control group 2. Animals of group 1 showed a significant protective immune response compared to group 2. Details will be presented. The use of recombinant MOMP as a means of preventing severe clinical signs and lesions in a chicken model of *C. psittaci* infection was demonstrated.

Biography

Daisy Vanrompay is Director of the Laboratory for Immunology and Animal Biotechnology at Ghent University and Director of the National Diagnostic Reference Laboratory for *C. psittaci* infections in humans. She is a member PROVAXS, the UGhent Center for Strategic Prophylaxis and Vaccine Development. Her research involves: i) The development of new molecular diagnostic methods for identifying bacterial pathogens in both humans and animals, ii) unravelling the cellular and molecular pathogenesis of (zoonotic) bacterial infections, and iii) gaining insight in the induction of protective mucosal immunity. The laboratory focuses on Chlamydia infections in humans (Chlamydia trachomatis, *Chlamydia psittaci*) and animals (*Chlamydia psittaci*, Chlamydia suis and Chlamydia abortus), Escherichia coli O157:H7 infections in ruminants and Vibrio spp infections in aquatic animals. In vitro and in vivo models (e.g. *C. psittaci* in poultry, C. trachomatis in pigs) are used to study bacterium host interactions in order to develop innovative prophylactic tools such as virulence blockers and genetic vaccines.

Daisy.vanrompay@ugent.be