

# 4<sup>th</sup> International Conference on **Vaccines & Vaccination**

September 24-26, 2014 Valencia Convention Centre, Spain

## Characterization of different antigens in *Salmonella abortusovis* for developing a vaccine

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The majority of the more than 2,500 known *Salmonella* serovars cause gastroenteritis in humans, a localized infection characterized by acute intestinal inflammation, diarrhea and fever. Bacterial invasion and survival in host cells in the intestine lead to stimulation of the innate immune system, which results in the massive intestinal inflammatory response that characterizes *Salmonella*-induced gastroenteritis. Some *Salmonella* serovars are host restricted and cause systemic infections that differ dramatically in their clinical presentation from gastroenteritis. *S. abortusovis* is a sheep-adapted pathogen, which does not infect humans. Translocation of bacteria from the intestinal lumen into the lamina propria is detected by the immune system through pattern-recognition receptors including TLRs that are able to recognize microbe associated molecular patterns (MAMPs). Lipopolysaccharide, a conserved MAMPs present in the outer membrane of Gram-negative bacteria, is a potent agonist of the TLR4-MD-2-CD14 receptor complex and bacterial flagellin is a MAMP recognized by TLR5. Limited information is available about the immune response of sheep to *S. abortusovis* and the interactions of this molecular and the TLRs specific. The goal of our study is to characterize virulence mechanisms of *S. abortusovis* and with this information the development of novel strategies for treatment of infection like a vaccine.

### Biography

Daniela Chessa has completed her PhD in the University of Pisa in 2005 in Microbiology and Genetics. Her Doctorate research was on the effects of the expression of a capsule in *Salmonella* Typhi. In 2005-2009, she was working like a Post doctoral position with Prof. Andreas J. Baumler, California. She studied the effects of the fimbriae in *Salmonella* Typhimurium and *Salmonella* Typhi with experiments in vitro and in vivo. Now she is working at the Molecular Biology Lab with Prof. Salvatore Rubino, Italy.

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