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In vitro immune modulation of *Salmonella enterica* serotype pullorum

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Salmonella enterica infection affects a wide range of animals and human. The avian specific serotype *S. Pullorum* infection produces systemic disease followed by a carrier state in convalescent birds. In comparison with *S. Enteritidis*, *S. Pullorum* has been found to induce increased levels of IL-4 and lower levels of IFN- γ in the spleen of infected birds which may switch the immunity from a pro-inflammatory to an anti-inflammatory response. Different immune responses between persistent *Salmonella* (*S. Pullorum*) and non-persistent (*S. Enteritidis* and *S. Gallinarum*) serotypes were compared *ex vivo* using *Salmonella*-infected macrophages and CD4⁺T lymphocytes. In comparison with *S. Enteritidis* and *S. Gallinarum* which induced an IFN- γ -producing Th17 response, macrophages infected with *S. Pullorum* had a reduced expression of IL-18 and IL-12 α and stimulated proliferation of Th2 lymphocytes with reduced IFN- γ and increased IL-4. However, our data shows no evidence of clonal energy or immune suppression induced by *S. Pullorum*. In conclusion, *S. Pullorum* modulates host immunity from a dominant IFN- γ -producing Th17 response towards a Th2 response which may promote the persistent infection in chickens.

Biography

Ying Tang obtained an MSc in preventive veterinary medicine from Sichuan Agriculture University, P.R.China in 2012. His research program in MSc was the study on construction and immunogenicity of PEDV/ TGEV DNA vaccine, which was completed in Key Laboratory of Animal Disease and Human Health of Sichuan Province, China. During my master's degree I have also completed another work in isolation and identification of Japanese B encephalitis virus, which was part of a research program on pathogen and hazard risk of zoonoses in earthquake affected area in Sichuan.

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