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## Lymphocyte subsets activation by *Toxoplasma gondii* antigens

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*Toxoplasma gondii* is an intracellular parasite, causing a severe disease in immunocompromised humans and having an economic impact in domestic animals. One of the transmission routes to humans is the consumption of raw or undercooked meat from livestock, such as pork. Therefore, an experimental infection study was performed to identify the immunological parameters in pigs, induced by the innate or adapted immune system of the host and to associate the immune response with the presence of the parasite in the tissues. In the present study two groups of seronegative 5-week-old pigs were inoculated at d0 with 6000 tissue cysts of *T. gondii* strain IPB-LR or IPB-Gangji. The PBMC's were collected two-weekly and cultured for 72 hours upon *in vitro* stimulation with heterologous antigens from RH-strain, fractionated by continuous-elution electrophoresis into separate pools. The cells were triple-stained for the flow cytometry and based on the expression of the membrane markers, divided into T-lymphocyte subsets (CD3<sup>+</sup>CD4<sup>+</sup>CD8 $\alpha$ <sup>-</sup>, CD3<sup>+</sup>CD4<sup>+</sup>CD8 $\alpha$ <sup>dim</sup> and CD3<sup>+</sup>CD4<sup>+</sup>CD8 $\alpha$ <sup>bright</sup>), followed by the intracellular IFN- $\gamma$  staining. Additionally, the supernatant from the cultured cells was tested in IFN- $\gamma$  ELISA. Four or six months post infection the animals were euthanized and the parasite was detected in tissues by bio-assay and qPCR. In our study we detected a strong increase in the cytokine production, induced by the isolated fractions of the native antigens and confirmed by flow cytometry and cytokine ELISA. Interestingly, this increase was time and strain dependent, being related with the amount of the parasitic DNA detected in the tissue samples.

### Biography

Malgorzata Jennes has obtained her Master's degree in Veterinary Science from the Faculty of the Veterinary Medicine at Ghent University, Belgium. Currently she is pursuing Doctoral studies in the Laboratory of Immunology at the same faculty, where she is also working as a Teaching Assistant.

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