

## **Monitoring protection against porcine cysticercosis with a monoclonal antibody to conformational epitopes of TSOL18 vaccine**

**E. Assana<sup>1</sup>, L. Brys<sup>4</sup>, C. G. Gauci<sup>2</sup>, C. T. Kyngdon<sup>2</sup>, A. P. Zoli<sup>3</sup>, P. Dorny<sup>1</sup>, S. Geerts<sup>1</sup>, M. W. Lightowlers<sup>2</sup>**

<sup>1</sup> *Animal Health Department, Institute of Tropical Medicine, Antwerp, Belgium*

<sup>2</sup> *Veterinary Clinical Centre, the University of Melbourne, Melbourne, VIC, Australia*

<sup>3</sup> *Faculty of Agronomy and Agricultural Sciences, University of Dschang, Dschang, Cameroon*

<sup>4</sup> *Free University (VUB), Brussels, Belgium*

Antibody response to the host protective TSOL18 vaccine against *Taenia solium* cysticercosis in pigs has been recently investigated and it was concluded that the dominant antibody specificities, and likely the host-protective specificities, of the vaccine are conformational epitopes. With the aim of monitoring protection against cysticercosis in the vaccination of pigs under field conditions in northern Cameroon, a monoclonal antibody-based inhibitive enzyme-linked immunosorbent assay (miELISA) was developed. Serum samples of TSOL18-vaccinated and non-vaccinated pigs were used. In all the vaccinated and protected pigs screened at necropsy, anti-TSOL18 antibody inhibited the binding of a monoclonal antibody (Mab25D12C) specific to the conformational epitopes of TSOL18 antigen suggesting an immune response that correlates with protection. This result was in agreement with the result obtained in indirect ELISA which showed that all the vaccinated and protected pigs had developed antibodies to the TSOL18 vaccine. In the non-infected control group, 12 % of pigs were positive in the miELISA, indicating a possible protection in naturally infected pigs that recovered after the oxfendazole treatment administered at the time of the second immunisation.

Keywords : *Taenia solium*; Vaccine; monoclonal antibody, Epitope; cysticercosis; pigs.