RESEARCH ABSTRACT

PORK SAFETY

**Title**: Validation of a serological assay using an 18kd oocyst-specific protein from *Toxoplasma gondii* for differentiation of oocyst versus tissue cyst induced human infection – **NPB #04-136**

**Investigator:** Dolores Hill, Ph.D.

**Institution:** USDA, ARS, ANRI, Beltsville, MD

**Date Received:** October 18, 2005

**II: Abstract:**

Reduction of risk of human and food animal infection with the zoonotic parasite, *Toxoplasma gondii*, is hampered by the lack of data documenting the predominant routes of infection (oocyst vs tissue cyst exposure). Existing serological assays can determine previous exposure to the parasite, but not the infection route. We have identified an oocyst specific 18.3kDa protein that can differentiate between oocyst vs tissue cyst induced *T. gondii* infection in pigs and humans. In the present study, we selected the cDNA clone of the protein from a library constructed from *T. gondii* sporulated oocysts. Following successful subcloning into the pMal 2 plasmid expression vector, the recombinant protein was expressed and purified. Human serum of known infection route was obtained from a variety of sources, including the CDC, the University of Chicago, and Case Western Reserve University, and were used to validate an ELISA serological assay using the expressed recombinant protein.

*These research results were submitted in fulfillment of checkoff funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer reviewed*

For more information contact:

National Pork Board, P.O. Box 9114, Des Moines, Iowa USA

800-456-7675, **Fax:** 515-223-2646, **E-Mail:** porkboard@porkboard.org, **Web:** http://www.porkboard.org/