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1. Accession	Agency Identification No.	5. Work Unit/Project No.	6. Status
0209643	2. CSREES 3. LA.B	**LAB93840**	**Final Report**

POSTED

7. Title

Internal Parsites of Horses: Biology and Control

12. Investigator Name(s) (Last Name and Initials)

Klei, T. R.

20. Termination Date 10/31/2012

40. Period Covered (mo/da/year): 11/01/2006 TO 10/31/2012

Outputs:

OUTPUTS:Summary of significant outputs during the course of the project include; demonstration of incomplete drug resistant to cyathostomins in areas of reduced use, development of a molecular method RBL to identify cyathostomin species which was used to demonstrate species specific developmental patterns in vitro and in vivo, and utilization of rodent nematode models to identify immunologic mechanisms potentially significant to equine nematode interactions. This information was shared with the scientific community through presentations at national and international conferences.

Outcomes/Impacts:

Outcome/Impact; During the current project year in our model system, filarial cysteine protease inhibitors have been ascribed immunomodulatory properties and have been implicated in protective immunity. In the human filarial parasite, Brugia malayi, 2 cysteine protease inhibitor genes have been shown to modulate the human host immune response. Bm-CPI-1 and Bm-CPI-2 vaccinated groups had more worms in heart and lungs than controls, and fewer worms were found in the lymphatics of Bm-CPI-1 and Bm-CPI-2 vaccinated groups in comparison to controls. These changes in distribution of worms were higher and statistically significant. Our results suggest that immunity induced by CPI-1,2 may have an effect on migration of worms away from the lymphatics as more worms are observed in heart & lungs of Bm-CPI-1,2 immunized gerbils. This phenomenon may be related to the immunomodulatory function of filarial cysteine protease inhibitors.

Publications:

No Publications Reported

Participants:

T. Klei (PI), Arumugam, S., Lustigman, S., Fox JG, Woody, J., and Ward, D. LSU AgCenter.

Target Audiences:

Target audiences include veterinarians, veterinary parasitologists and epidemiologists, horse owners, and anthelmintic drug companies.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		1-25-2013