

BIOGRAPHICAL SKETCH

NAME	RICE-FICHT, Allison C.	POSITION TITLE	Professor
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
Auburn University, Auburn, AL	B.S.	1975	Microbiology
Vanderbilt University, Nashville, TN	Ph.D.	1980	Microbiology
University of Iowa	Postdoc	1984	Biochemistry

Professional Experience

1980-1984	Postdoctoral Research Associate, Department of Biochemistry, University of Iowa, Iowa City, IA
1984-1990	Assistant Professor, Department of Medical Biochemistry and Genetics, Texas A&M University, College Station, TX
1990-1996	Associate Professor, Department of Medical Biochemistry and Genetics, Texas A&M University, College Station, TX
1996-present	Professor, Department of Medical Biochemistry and Genetics, Texas A&M University, College Station, TX
1999-present	Assistant Dean for Research, College of Medicine Texas A&M Health Science Center, College Station, TX
2002-present	Director, Center for Microencapsulation and Drug Delivery, Texas A&M University/ Texas A&M University System Health Science Center/ Texas Engineering Experiment Station, College Station, TX

Honors and Awards

PEER REVIEW :

Editorial:	International Journal for Parasitology, Special Editor - Molecular Biology
Ad hoc reviewer:	Experimental Parasitology, Gene, Journal of Immunology, Journal of Parasitology, Molecular and Biochemical Parasitology, Molecular and Cellular Probes, Nucleic Acids Research, NIH study section on Tropical Medicine, 1988, 1989
Panel Manager:	Review of USDA competitive research grants: NRICGP Animal Health and Well-Being, 1995-97.
Panel Member:	NIH/SBIR Study Section – review of competitive grants, 1999-present Review of USDA competitive research grants: CRGO Animal Molecular Biology, 1989 Review of USDA competitive research grants: NRICGP Animal Molecular Biology, 1993-95

CONSULTANTSHIPS:

Scientific Advisory Board:	Paravax, Inc. (Heska) Ft. Collins, CO, 1994-1997
Consultant:	Lynntech, Inc., College Station, TX, 1993-present.

Publications in the last 5 years

- Waite, J.H. and Rice-Ficht, A.C. (1992) I. Eggshell Precursor Proteins of *Fasciola hepatica*: Microheterogeneity in Vitelline Protein B. *Molecular and Biochemical Parasitology*, 54, 129-142.
- Rice-Ficht, A.C., Dusek, K.A., Kochevar, G.J. and Waite, J.H. (1992) II. Eggshell Precursor Proteins of *Fasciola hepatica*: Structure and Expression of Vitelline Protein B. *Molecular and Biochemical Parasitology*, 54, 143-152.
- Rice-Ficht, A.C. (1992) Composition and Design of *Fasciola hepatica* Eggshells. In " Results and Problems in Cell Differentiation: Structure, Cellular Synthesis and Assembly of Biopolymers". (S.T. Case, ed.) Springer-Verlag, Heidelberg, Chapter 4, pp. 75-95.
- Brown, W.C., Zhao, S., Rice-Ficht, A.C. and Logan, K.S. (1992) Bovine Helper T Cell Clones Recognize Five Distinct Epitopes on *Babesia bovis* Merozoite Antigens. *Infect. and Immun.* 60, 4364-4372.
- Brown, W. C., Zhao, S., Woods, V. M., Tripp, C. A., Tetzlaff, C. L., Heussler, V. T., Dobbelaere, D. A. E., and Rice-Ficht, A. C. (1993) Identification of two Th Cell Epitopes on the *Babesia bovis* encoded 77kDa Merozoite Protein (Bb-1) by Use of Truncated Fusion Proteins. *Infect. and Immun.* 61, 236-244.

- Brown, W.C., Davis, W.C., Dobbelaere, D.A.E., and Rice-Ficht, A.C. (1993) CD4⁺ T cell clones obtained from cattle chronically infected with *Fasciola hepatica* and specific for adult worm antigen express both unrestricted and Th2 cytokine profiles. *Infection and Immunity*, 62, 818-827.
- Brown, W.C. and Rice-Ficht, A.C. (1994) Use of Th cells to identify potential vaccine antigens of *Babesia bovis*. *Parasitology Today* 10, 145-149.
- Hash, S.M., Brown, W.C. and Rice-Ficht, A.C. (1994) Isolation and characterization of a cDNA encoding bovine interleukin-10: expression in bovine mononuclear cells. *Gene* 139, 257-261.
- Brown, W.C., Woods, V.M., Chitko-McKown, C.G., Hash, S.M., and Rice-Ficht, A.C. (1994) IL-10 is expressed by bovine type 1 helper, type 2 helper and unrestricted parasite-specific T cell clones, and inhibits proliferation of all three subsets in an accessory cell-dependent manner. *Infection and Immunity* 62, 4697-4708.
- Hines, S.A., Palmer, G.H., Brown, W.C., Suarez, C.E., Vidotto, O., McElwain, T.F., and Rice-Ficht, A.C. (1995) Genetic and antigenic characterization of *Babesia bovis* merozoite spherical body protein Bb-1. *Molecular and Biochemical Parasitology* 69, 149-159.
- Brown, W.C., Zhao, S., Logan, K.S., Grab, D.J., and Rice-Ficht, A.C. (1995) Identification of candidate vaccine antigens of bovine hemoparasites *Theileria parva* and *Babesia bovis* by use of helper T cell clones, *Veterinary Parasitology* 57, 189-203.
- Brown, W.C., Logan, K.S., Zhao, S., Bergman, D.K., and Rice-Ficht, A.C. (1995) Identification of *Babesia bovis* merozoite antigens separated by continuous-flow electrophoresis that stimulate proliferation of helper T cell clones derived from *B. bovis*-immune cattle. *Infection and Immunity* 63, 3106-
- Chitko-McKown, C.G. Ruef, B.J. Rice-Ficht, A.C. Brown, W.C. (1995) Interleukin-10 downregulates proliferation and expression of interleukin-2 receptor p55 chain and interferon-gamma, but not interleukin-2 or interleukin-4, by parasite-specific helper T cell clones obtained from cattle chronically infected with *Babesia bovis* or *Fasciola hepatica*. *Journal of Interferon & Cytokine Research*. 15, 915-22.
- Brown, W.C. McElwain, T.F. Ruef, B.J. Suarez, C.E. Shkap, V. Chitko-McKown, C.G. Tuo, W. Rice-Ficht, A.C. Palmer, G.H. (1996) *Babesia bovis* rhoptry-associated protein 1 is immunodominant for T helper cells of immune cattle and contains T-cell epitopes conserved among geographically distant *B. bovis* strains. *Infection & Immunity*. 64, 3341-50.
- Brown, W. C., Chitko-McKown, C. G., Ruef, B. J., Rice-Ficht, A. C., Tuo, W. and Davis, W. C. (1996) IL-10 and IL-12 exert opposite immunoregulatory effects on antigen-stimulated Th cell clones and g/d TcR⁺ T cells of cattle. *Veterinary Immunology and Immunopathology* 54, 69-71.
- Wyatt, C. R., Brackett, E. J., Perryman, L. E., Rice-Ficht, A. C., Brown, W. C. and O'Rourke, K. I. (1997) Activation of mucosal T Lymphocytes in Acute Infection by *Cryptosporidium parvum*. *Infection and Immunity* 65, 185-190.
- Shoda, L. M., Brown, W. C. and Rice-Ficht, A. C. (1998) Sequence and Characterization of Phocine Interleukin 2. *Journal of Wildlife Diseases* 34, 81-90.
- Brown, W. C. Allison C. Rice-Ficht and D. Mark Estes (1998) Bovine Type 1 and Type 2 Responses. *Veterinary Immunology and Immunoparasitology* 63, 45-55.
- Brown, W.C. T.F. McElwain, I. Hotzel, B.J. Ruef, A.C. Rice-Ficht, R.W. Stich, C.E. Suarez, D.M. Estes and G.H. Palmer (1998) Immunodominant T cell Antigens and Epitopes of *Babesia bovis* and *Babesia bigemina*. *Annals of Tropical Medicine and Parasitology* 92, 473-482.
- Shoda, L.K.M., Rice-Ficht, A. C., Zhu, D., McKown, R.D., and Brown, W. C. (1999) Bovine T cell Responses to recombinant thioredoxin of *Fasciola hepatica*. *Veterinary Parasitology* 82, 35-47.
- Ruef, B. J., Dowling, S. C., Conley, P. G., Perryman, L. E., Brown, W. C., Jasmer, D. P. and Rice-Ficht, A. C. (1999) A unique *Babesia bovis* spherical body protein localizes to the infected erythrocyte membrane. *Molecular and Biochemical Parasitology*, in press.
- Stich RW. Rice-Ficht AC. Tuo W. Brown, WC. (1999) *Babesia bovis*: common protein fractions recognized by oligoclonal *B. bovis*-specific CD4⁺ T cell lines from genetically diverse cattle. *Experimental Parasitology*. 91, 40-51.
- Ruef, Barbara J. , Susan C. Dowling, Patrick G. Conley, Lance E. Perryman, Wendy C. Brown, Douglas P. Jasmer and Allison C. Rice-Ficht (2000) A unique *Babesia bovis* spherical body protein is conserved among geographic isolates and localizes to the infected erythrocyte membrane. *Mol. Biochem. Parasitol.* 105, 1-12.
- Ruef, Barbara J, Ward, Todd J., Oxner, Christopher R., Conley, Partick G., Brown, Wendy C. and Rice-Ficht, Allison C. (2000) Phylogenetic Analysis with newly characterized *Babesia bovis* hsp70 and hsp90 provides strong support for paraphyly within the piroplasms. *Molecular and Biochemical Parasitology* 109, 67-72.
- Brown, W. C., Ruef, B. J., Norimini, J., Kegerreis, K., Conley, P., Stich, R. W., Carson, K. and Allison C. Rice-Ficht (2001) A novel 20-kilodalton protein conserved in *Babesia bovis* and *Babesia bigemina* stimulates memory CD4⁺ T lymphocyte responses in *B. bovis*-immune cattle. *Molecular and Biochemical Parasitology* 118, 97-109.

Grants in the last 5 years

NASA/SBIR Phase II Award 2002 - Monitoring Apoptosis and cytotoxicity of Anti-tumor Drugs in Microgravity –, 11/01/02 –10/31/04 D. Hitchens and A. Ficht, PIs Total \$850,000 (A. Ficht \$100,000)

NASA/SBIR Phase I Award 2001 - Monitoring Apoptosis and cytotoxicity of Anti-tumor Drugs in Microgravity –, 11/02/01 –6/30/02 D. Hodko and A. Ficht, PIs Total \$70,000.

USDA/NRICGP - Genetic Diversity Applied to the Diagnosis and Epidemiology of *Mycobacterium avium* paratuberculosis. 9/1/02-8/31/05, A. Ficht, PI, T. Ficht and L.G. Adams, Co-PIs \$249,000.

Department of the Interior – “Oral Vaccine Delivery to Elk” 10/01/02 – 9/30/04 A. Ficht, PI, D. Davis Co-PI, (Total costs \$210,000).

NASA/University Research Engineering and Technology Institute – Institute for Intelligent Bio-Nano Materials and Structures for Aerospace Vehicles. 9/1/02-8/31/07 J. Junkins, PI, (Total award \$15 million/5 years) A.Ficht Co-PI (\$425,000/ 5 years)

USDA, Food and Agricultural Sciences National Needs Graduate Fellowship Grant, 9/1/02-08/31/07, \$276,000. T. Ficht and A. Ficht Principle investigators.

Scott and White Foundation – Role of *daz* in developmental gene expression in spermatozoa. T. Kuehl and A. Ficht, D. Sprague PI’s, 1 year, \$45,000 (funded 3/00-5/01)

NIH-NIAID 2R01-AI30136-06, "Identification of *Babesia* Immunogens with Th Cells", 6/1/96-5/31/01, \$1,007,840. Principle investigator - W. Brown, Co-PI - A. Ficht.

USDA, Food and Agricultural Sciences National Needs Graduate Fellowship Grant, 9/1/96-08/31/01, \$108,000. A. Ficht and L.G. Adams Principle investigators.

USDA, Food and Agricultural Sciences National Needs Graduate Fellowship Grant, 2/1/98-01/31/03, \$108,000. T. Ficht and A. Ficht Principle investigators.

Animal Health Formula Grant – Host agent Interaction and Molecular Typing of *Mycobacterium avium* subspecies paratuberculosis. 1/1/2001- 12/31/03 T. A. Ficht, L.G. Adams and A. Ficht, PIs (\$39,000/ 2 years)

USDA/NRICGP, "In Vitro Models for the Use of Cytokines as Adjuvants in Cattle", 9/1/95-8/31/98, \$214,814 - W. C. Brown, PI; A. Ficht Co-investigator.

DOD /SBIR - A94-084- Phase II. "Microcapsules for Sustained Release Vaccines" - 4/15/96-12/31/98, \$650,000. Principle Investigators A. Ficht (\$325,000 direct) and D. Hitchens (Lynntech, Inc., College Station)

USDA/NRICGP - "Identification of T lymphocyte-Stimulating Antigens of *Mycobacterium bovis*" - 9/1/94-8/31/97, \$114,000. Principle Investigators R. Smith, A. Ficht (\$85,000 DC), and W. Brown.

Significant Research

Studies in the Ficht lab are currently focussed on 1) Gene expression in protozoal parasites (*Babesia spp.*) which has revealed novel proteins and mechanisms 2) Use of biomaterials for encapsulation of vaccines. Recombinant proteins are being used to fashion microcapsules with unique properties. 3) Genotyping and epidemiology of *Mycobacterium avium paratuberculosis* (Johne’s disease) and *Brucella spp.* through AFLP technology.