

**Veterinary & Animal Science  
CRIS Research Reports In-Progress  
for Agr Exp Station, Univ of Massachusetts  
Reporting Period 10/01/2001 to 09/30/2002**

**AD-421 Publications for Reports in-Progress and Submitted to CRIS for  
MAS as of 01/17/2003**

**Project Number: MAS00714**

***GENETIC IMPROVEMENT OF DAIRY CATTLE USING MOLECULAR  
MARKERS***

**Performing Department: Veterinary & Animal Science -- 2160**

Jerry, D.J., Dickinson, E.S., and Roberts, A.L. 2002. Regulation of apoptosis during mammary involution by the p53 tumor suppressor gene. *J. Dairy Sci.* 85:1103-1110.

Minter, L.M., Kuperwasser, C.K., Dickinson, E.S., and Jerry, D.J. 2002. Cell-cycling status of mammary epithelial cells predicts p53 responsiveness to gamma-radiation. *Development* 129:2997-3008.

Jerry, D.J. and Ozbun, M.A. 2002. TP53 tumor suppressor gene: structure and function. In: *Encyclopedia of Cancer, 2nd Edition*. Editor: Joseph Bertino. Academic Press, San Diego, California, Volume 4, pages 415-431.

---

**Project Number: MAS00805**

***THERAPEUTIC ANTI-MICROBIAL OXIDATIVE RESPONSES IN BOVINE  
MILK***

**Performing Department: Veterinary & Animal Science -- 2160**

Publications: 2002 No publications

---

**Project Number: MAS00806**

***THE ROLE OF THE NHLH2 TRANSCRIPTION FACTOR IN FEMALE  
FERTILITY***

**Performing Department: Veterinary & Animal Science -- 2160**

Coyle, C.A., Jing, E., Hosmer, T., Powers, J.D., Wade, G., and Good, D.J., (2002) Reduced voluntary activity preceded adult-onset obesity in Nhlh2 knockout mice. *Physiology and Behavior* 77: 387-402

---

**Project Number: MAS00816**

***Isolation and physiological role of the Ca<sup>2+</sup> release stimulating protine from boar sperm***

**Performing Department: Veterinary & Animal Science -- 2160**

Gordo AC, Kurokawa M, Wu H, Fissore RA. 2002. Modifications of the Ca<sup>2+</sup> release mechanisms of mouse oocytes by fertilization and by sperm factor. *Molecular Human Reproduction* 8:619-629.

---

**Project Number: MAS00821**

***Methods for Genetic Modification of Bovine Fibroblasts for use in Nuclear Transplatation***

**Performing Department: Veterinary & Animal Science -- 2160**

Jerry, D.J., Dickinson, E.S., and Roberts, A.L. 2002. Regulation of apoptosis during mammary involution by the p53 tumor suppressor gene. *J. Dairy Sci.* 85:1103-1110.

Minter, L.M., Kuperwasser, C.K., Dickinson, E.S., and Jerry, D.J. 2002. Cell-cycling status of mammary epithelial cells predicts p53 responsiveness to gamma-radiation. *Development* 129:2997-3008.

Jerry, D.J. and Ozbun, M.A. 2002. TP53 tumor suppressor gene: structure and function. In: *Encyclopedia of Cancer*, 2nd Edition. Editor: Joseph Bertino. Academic Press, San Diego, California, Volume 4, pages 415-431.

---

**Project Number: MAS00851**

***WC1 & Bovine Gamma Delta T Cell Activation***

**Performing Department: Veterinary & Animal Science -- 2160**

Baldwin, C.L., T. Sathiyaseelan, B. Naiman, A.M. White, R. Brown, S. Blumerman, A. Rogers and S.J. Black. (2002) Activation of bovine peripheral

blood gd T cells for cell division and IFN-g production. *Veterinary Immunology & Immunopathology* 87:251-259.

Rogers, A.N., S. Welte, S.J. Black and C.L. Baldwin. (2002) Genetic identification of homologues of CD72 and CD166/ALCAM, ligands for SRCR family accessory molecules CD5 and CD6. *Veterinary Immunology and Immunopathology* 85:233-239.

Sathiyaseelan, T., A. Rogers and C.L. Baldwin. (2002) Response of bovine gamma delta T cells to activation through CD3. *Veterinary Immunology and Immunopathology* 90:155-168.

---

**Project Number:** MAS0199902371

***Isolation and identification of Boar Sperm Ca<sup>2+</sup> Oscillogen***

**Performing Department: Veterinary & Animal Science -- 2160**

Fissore RA, Kurokawa M, Knott J, Zhang M, Smyth J. 2002. Mechanisms underlying oocyte activation and postovulatory ageing. *Reproduction* 124: 745-754.

---

**Project Number:** MAS019993319

***Extending the lifespan of bovine fibroblasts for nuclear transplantation***

**Performing Department: Veterinary & Animal Science -- 2160**

Wang, Z., Robl, J.M., and Jerry, D.J. 2003. Pathways that limit in vitro lifespan in bovine fibroblasts from donors of different ages. *Biol. Reprod.* (In preparation)

---

**Project Number:** MAS0200002293

***Memory Response of Bovine WC1 + gamma delta T Cells***

**Performing Department: Veterinary & Animal Science -- 2160**

Naimam, B., S. Blumerman, D. Alt, C. Bolin, R. Brown, R. Zeurner and C.L. Baldwin. (2002) Evaluation of type 1 immune response following challenge with *Leptospira*: involvement of WC1+ gamma delta and CD4 T cells. *Infect. Immunity* 70:6147-6157.

Baldwin, C.L., T. Sathiyaseelan, B. Naiman, A.M. White, R. Brown, S. Blumerman, A. Rogers and S.J. Black. (2002) Activation of bovine peripheral blood gamma delta T cells for cell division and IFN-gamma production. *Veterinary Immunology & Immunopathology* 87:251-259.

---

**Project Number:** MAS0200003398

***HUMAN ANTIBODY REPERTOIRE DEVELOPMENT IN CLONED CATTLE***

**Performing Department: Veterinary & Animal Science -- 2160**

Kuroiwa Y, Kasinathan P, Choi YJ, Naeem R, Tomizuka K, Sullivan EJ, Knott JG, Duteau A, Goldsby RA, Osborne BA, Ishida I, Robl JM. 2002. Cloned transchromosomal calves producing human immunoglobulin. *Nat Biotechnol.* 20(9):889-94.

---

**Project Number:** MAS09802359

***NUCLEAR AND CYTOPLASMIC MATURATION OF PREPUBERTAL BOVINE OOCYTES***

**Performing Department: Veterinary & Animal Science -- 2160**

Gordo AC, Kurokawa M, Wu H, Fissore RA. Modifications of the Ca<sup>2+</sup> release mechanisms of mouse oocytes by fertilization and by sperm factor. *Mol Hum Reprod.* 2002 7:619-29.

Gordo AC, Rodrigues P, Kurokawa M, Jellerette T, Exley GE, Warner C, Fissore R. Intracellular calcium oscillations signal apoptosis rather than activation in in vitro aged mouse eggs. *Biol Reprod.* 2002 66 :1828-37.