Biographical Sketch

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE
Judith Marchand Ball	Associate Professor, Veterinary Pathobiology, College of Veterinary Medicine, Texas A&M University

EDUCATIOM/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Southeastern Louisiana University, LA	B.S.	1974	Medical Technology Chemistry
Baton Rouge General Hospital, LA	M.S.	1975	Microbiology
Louisiana State University, LA	Ph.D.	1990	Biochemistry

NOTE: The Biographical Sketch may not exceed four pages. Items A and B may not exceed two of the four-page limit.

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

ACADEMIC APPOINTMENTS:

2002-present	Associate Professor with Tenure, Texas A&M University, Department of Veterinary Pathobiology
2003-present	Member, Center for Microencapsulation & Drug Delivery
2003-2006	Graduate Advisor, Department of Pathobiology, Texas A&M University
2002-present	Associate Professor with tenure, Texas A&M University
2001-present	Full member, Interdisciplinary Faculty of Toxicology, Texas A&M University
2000-present	Full member, Faculty of Genetics, Texas A&M University
2000-present	Full member, Interdisciplinary Faculty of Virology, Texas A&M University
1998-present	Assistant Professor, Joint appointment, Texas A&M University, Department of Medical Biochemistry and Genetics, College of Medicine
1997-2001	Assistant Professor, Texas A&M University, Department of Veterinary Pathobiology
1997-present	Member, Graduate Faculty, Texas A&M University
1997-present	Head, Peptide Core Facility, Texas A&M University

HONORS AND AWARDS:

1988	Outstanding Female Ph.D. Student, American Association of University Women (AAUW).
1989	Scott and Louise Pierce Allen Outstanding Biochemistry Graduate Student, Louisiana State University, Department of Biochemistry.
1990	Outstanding Dissertation, Louisiana State University.
1991-93	Postdoctoral fellowship, Training Grant No. AI 07150-13; “Basic Mechanisms in Virology”, University of Alabama at Birmingham.
1996	Recipient of travel grant to the Xth International Congress of Virology, Jerusalem, American Society of Virology and National Institute of Health.
1996	Best Oral Presentation by a Postdoctoral Fellow, Molecular Virology Department Retreat, Baylor College of Medicine, Texas Medical Center.
1997	Recipient of travel stipend to the Career Development Workshop at NIH in conjunction with the Advances in AIDS Pathogenesis and Preclinical Vaccine Development: Ninth Annual Meeting of the National Cooperative Vaccine Development Groups (NCDVG).
1997	Dr. Chris Noonan Award, Molecular Virology Department, Baylor College of Medicine, Texas Medical Center.
1997	Best Poster Presentation by a Postdoctoral Fellow, Molecular Virology Department Retreat, Baylor College of Medicine, Texas Medical Center.
1998	Texas A&M University Nominee for the David and Lucile Packard Fellowship.
1998	Texas A&M University Nominee for the Searle Scholar Program.
1999-2003	Elected Graduate Student Association Faculty Advisor, College of Veterinary Medicine, Texas A&M University.
1999	College of Veterinary Medicine Nominee, Montague Scholars Teaching Award, Texas A&M University.
1999	Elected as College representative on the Council of Principle Investigators, Texas A&M University.
2003	Inducted into The Honor Society Gamma Sigma Delta.
2004	Full membership, Sigma Xi.

Invited speaker, Texas-United Kingdom Collaborative Research Initiative "EMERGING AND REEMERGING INFECTIOUS DISEASES: THE INTERFACE OF ANIMAL AND HUMAN HEALTH", Galveston, Texas.

2006-2007 Who's Who registry.

B. Selected (>180) peer-reviewed publications (in reverse chronological order). Do not include publications submitted or in preparation.

Glass, P.J., White, L.J., **Ball, J.M.**, Leparc-Goffart, I., Hardy, M.E., and Estes, M.K. (2000). The Norwalk virus orf 3 encodes a minor structural protein. *Journal of Virology* **74**:6581-6591**.**

Estes, M.K., **Ball, J.M.**, Guerrero, R.A., Opekun, A.R., Gilger, M.A., Pacheco, S.S., and Graham, D.Y. (2000). Norwalk virus vaccines: Challenges and vaccines. *Journal of Infectious Diseases.* **181**:S367-S373.

Swaggerty, C., Frolov, A., McArthur, M., Schroeder, F., Compans, R., and **Ball, J.M.** (2000). Simian immunodeficiency virus (SIV) surface unit glycoprotein contains an enterotoxic domain. *Virology* **277**:250-261 [Cover].

Halaihel, N., Lievin, V., **Ball, J.M.**, Estes, M.K., Alvarado, F., Vasseur, M. (2000). Direct inhibitory effect of rotavirus NSP4(114-135) peptide on the Na^+-D-Glucose symporter of rabbit intestinal brush border membrane (2000). *Journal of Virology* **74**:9464-9470.

Huang, H. Schoer, J.K., Schroeder, F., Zeng, C.Q.-Y., Estes, M.K., and **Ball, J.M.** (2001). Membrane interactions of a novel viral enterotoxin: Rotavirus nonstructural glycoprotein NSP4. *Biochemistry* **40**:4169-4180.

Guerrero, R.A., **Ball, J.M.,** Krater, S.S., Pacheco, S.E., Clements, J.D., and Estes, M.K. (2001). Recombinant Norwalk virus-like particles administered intranasally to mice induce systemic and mucosal (fecal and vaginal) immune responses. *Journal of Virology* 75: 9713-9722.

Holman, P.J., Hsieh, M.M., Nix, J.L., Bendele, K., Wagner, G.G., and **Ball, J.M.** (2001). Evaluation of a cysteine protease as a drug target: Characterization of an enzyme conserved among *Babesia equi* isolates. *Molecular and Biochemical Parasitology* **119**:295-300.

Tompkins, M.B., Bull, M.E., Dow, J.L., **Ball, J.M.**, Collisson, E.W., Winslow, B.J., and Tompkins, W.A. (2001). Feline immunodeficiency virus (FIV) infection is characterized by $B7^+CTLA4^+$ T cell apoptosis. *Journal of Infectious Diseases* **185:**1077-1093.

Huang, H., Gallegos, A.M., **Ball, J.M.,** and Schroeder, F. (2002). Role of sterol carrier protein-2 N-terminal membrane binding domain in sterol transfer. *Biochemistry* **41**:12149-12162.

Schroeder,F., Zhou, M., Swaggerty, C.L., Atshaves, B.P., Petrescu, A.D., Storey, S., Martin, G.G., Huang, H., Helmkamp, G.M., and **Ball, J.M.** (2003). Sterol carrier protein-2 functions in phosphatidylinositol transfer and signaling, *Biochemistry* **42**:3189-3202.

Lim, W.-S., Edwards, J.F., Boyd, N.K., Payne, S.L., and **Ball, J.M.** (2003). Simultaneous quantitation of equine cytokine mRNAs using a multi-probe ribonuclease protection assay. *Vet.Immunol. and Immunopath.* **91**:45-51.

Boyd, N.K., Cohen, N.D., Lim, W.-S., Martens, R.J., Chaffin, M.K., and **Ball, J.M.** (2003). Temporal changes in cytoline expression of foals during the first month of life. *Vet.Immunol. and Immunopath.* **92**:75-85.

Parr, R. D. and **Ball, J.M.** (2003) New donor vector for generation of histidine-tagged fusion proteins using the Gateway Cloning System. *Plasmid* **49**:79-83.

Swaggerty, C.L., Huang, H., Lim, W.-S., Schroeder, F., and **Ball, J.M.** (2004) Comparison of $SIVmac239_{(352-382)}$ and $SIVsmmPBj41_{(360-390)}$ enterotoxic synthetic peptides. *Virology* 320:243-257.

Huang, H., Schroeder, F., Estes, M.K., McPherson, T., and **Ball, J.M.** (2004). The interactions of rotavirus NSP4 C-terminal peptides with model membranes. *Biochem. J.* **380**:723-733.

Zhou, M., Parr, R.D., Petrescu, A.D., Payne, H.R., Atshaves, B.P., Kier, A.B., **Ball, J.M**., and Schroeder, F. (2004). Sterol carrier protein-2 directly interacts with caveolin-1 *in vitro* and *in vivo*. *Biochemistry* **43**:7288-7306.

Lim, W.-S., Payne, S.L., Edwards, J.F., Kim, I., and **Ball, J.M.** (2005) Differential effects of virulent and avirulent equine infectious anemia virus on macrophage cytokine expression. *Virology* **332**:295-336

Ball, J.M., Swaggerty, C.L., Pei, X., Cox, V.W., Lim, W.-S., Xu, X., and Payne, S.L. (2005) The surface unit glycoprotein of equine infectious anemia virus exhibits signaling and enterotoxic activity. *Virology* **333**:132-144.

Mitchell, D.M. and **Ball, J.M.** (2005) Characterization of a spontaneously polarizing HT-29 cell line, HT-29/cl.f8. *In Vivo Cell Dev. Biol.* 40:297-302.

Ball, J.M., Mitchell, D.M., Gibbons, T. and Parr, R.D. (2005). Rotavirus NSP4: A multifunctional viral enterotoxin. *Viral Immunology* 18:27-40.

Parr, R. D., S. M. Storey, D. M. Mitchell, A. L. McIntosh, M. Zhou, K. D. Mir, and **J. M. Ball**. 2006. The rotavirus enterotoxin, NSP4, directly interacts with the caveolae structural protein, caveolin-1. *J.Virol.* 80: 2842-2854.

Gallegos**,** A.M., Storey, S.M., Kier, A.B., Schroeder, F., and **Ball, J.M.** (2006). Structure and Cholesterol Dynamics of Caveolae/Raft and Non-Raft Plasma Membrane Domains. *Biochemistry*, In Press.

Storey, S.M., Schroeder, F., and **Ball, J.M.** (2006). Full-Length, glycosylated NSP4 traffics to plasma membrane caveolae in rotavirus-infected cells. Submitted.

Parr, R.D., Kier, M., Schroeder, M., and **Ball, J.M.** (2006) The Hydrophobic Face of the Rotavirus NSP4 Extended Amphipathic Alpha Helix Binds to Caveolin-1. Submitted.

Mir, K., Parr, R.D., Schroeder, F., and **Ball, J.M.** (2006). Rotavirus NSP4 Binds Both the Amino- and Carboxyl-Termini of Caveolin-1. Submitted.

Atshaves, B., McIntosh, A., Landrock, D., Payne, H., Mackie, J., **Ball, J.M.**, Schroeder, F., and Kier, A.B. (2006). Effect of Sterol Carrier Protein X (SCP-X) Gene Ablation on Branched-Chain Fatty Acid Metabolism. Submitted.

C. Research Support. List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and responsibilities of principal investigator identified above.

#98-040, Faculty Mini-Grant Award, Texas A&M Office of the Vice President for Research and Associate Provost for Graduate Studies, PI, "Localization of the Enterotoxic Active Domain of Rotavirus NSP4", PI, 1997 - 1998, $1,495.

#9999902-180, ARP, Texas Higher Education Coordinating Board, PI, "A novel viral enterotoxin: Transport pathway(s) and membrane interactions", 1997 - 1999, $172,706.

Texas Agricultural Experiment Station New Faculty Development, PI, 1998, $10,000.

#98-48, Interdisciplinary Research Initiative, PI, "Identification and Characterization of a Retrovirus Enterotoxin", 1998 - 1999, $24,338.

#TEX0565, Hatch Program, Texas Agricultural Experiment Station, PI, "Gastroenteritis induced by viral enterotoxins", 1998 – 2003.

#RI-8670, USDA, Formula Animal Health Fund, PI, "Induction of disease by the equine infectious anemia virus surface unit glycoprotein", 1999 – 2001, $47,513.

#AI361122-05, Center for AIDS Research, Baylor College of Medicine, Developmental Award, PI, "Characterization of a lentivirus enterotoxin", 1999, $15,000.

#0329-99, ATP, Texas Higher Education Coordinating Board, Co-PI, "Molecular diagnostic assays for the detection of *Babesia equi* in horses", 1999 - 2001, $92,000.

Equine Research Fund, Texas Racing Commission, PI, "Sequences and cytokine induction of equine infectious anemia virus strains in Texas", 2000-2001, $26,000.

#AH-8820, USDA, Formula Animal Health and Disease, PI, "Bovine rotavirus NSP4: Cell signaling, ion transport and vaccine potential", 2000-2002, $42,000.

RO1 #GM62326, NIH, NIGMS, PI, "Transport and lipid interactions of a novel enterotoxin", 2001-2006, $775,000 direct.

#R3-005, Faculty Mini-Grant Award, Texas A&M Office of the Vice President for Research and Associate Provost for Graduate Studies, PI, "Specificity of the SIV Enterotoxin", 2001, $1,500.

NIH Center for Environmental and Rural Health Pilot Projects, PI. "Phosphoinositide signaling of Rotavirus NSP4", 2001-2002, $19,975.

Formula Animal Health, USDA, PI, "EIAV modulation of cytokine responses and generation of critical equine reagents", 2002-2004, $42,540.

Formula Animal Health, USDA, Co-I, "Genetic Diversity of Equine Infectious Anemia Virus", 2002-2004, $36,728.

NIH/NIAID Training Grant, Co-I, "Mechanistic Studies at6 the Host-Pathogen Interface", 2002-2007, $797,684.

Life Science Task Force POE—03-05, Texas A&M University, Co-I, "Development of Materials for Controlled Release Strategies in Medicine and Agriculture", 2003-2005, $6,100.

Advanced Technology Program/TDT, Co-I, "Enterotoxin Vaccine for Calves to Prevent Rotavirus Diarrhea", 2003-2005, $48,951.

NIH/NCI, Co-I, "Lentiviral Diseases: EIAV Pathogenesis", 2006-2011.