

**Andrea N. Ladd, Ph.D.**  
Curriculum vitae

**EDUCATION:**

1994-1999 Ph.D., Cell Biology and Anatomy, University of Arizona, Tucson, AZ  
1990-1994 B.S., Molecular Biology, University of Wisconsin, Madison, WI

**RESEARCH EXPERIENCE AND PROFESSIONAL POSITIONS:**

2005-present Assistant Staff  
Department of Cell Biology  
Lerner Research Institute, Cleveland Clinic Foundation, Cleveland, OH  
*Investigating the role of alternative splicing regulation in vertebrate heart and skeletal muscle during normal development and disease states.*

1999-2005 Postdoctoral Fellow  
Laboratory of Dr. Thomas Cooper, Department of Pathology,  
Baylor College of Medicine, Houston, TX  
*Investigated the role of CELF-mediated alternative splicing regulation in striated muscle development.*

1994-1999 Graduate Student  
Laboratory of Dr. Parker B. Antin, Department of Cell Biology and Anatomy,  
University of Arizona, Tucson, AZ  
*Studied the growth factor-mediated signaling events involved in the establishment of myocardial cell lineages in vertebrates.*

1991-1994 Undergraduate Researcher  
Laboratory of Dr. Lewis G. Sheffield, Endocrinology and Reproductive  
Physiology Program and Department of Dairy Science, University of Wisconsin,  
Madison, WI  
*Worked on numerous studies investigating the effects of epidermal growth factor, estrogen, progesterone, prolactin, and their interactions in mammary gland epithelial cells.*

1993 Undergraduate Summer Research Fellow  
Laboratory of Dr. Anthony B. Bleecker, Department of Botany, University of  
Wisconsin, Madison, WI  
*Investigated the potential kinase activity of ETR-1, a putative ethylene receptor in higher plants.*

**HONORS AND AWARDS:**

2004-present Muscular Dystrophy Association Development Grant  
2000-2003 National Research Service Award, National Institute of Arthritis and  
Musculoskeletal and Skin Diseases, National Institutes of Health  
1995-1999 Howard Hughes Medical Institute Predoctoral Fellowship in the Biological  
Sciences  
1995 National Science Foundation Predoctoral Fellowship (Declined)  
1994-1995 Flinn Foundation Fellowship

- 1994-1995 Cowden Scholarship
- 1994 Graduation with Honors, University of Wisconsin-Madison
- 1994 Thesis of Distinction, Molecular Biology Program, University of Wisconsin-Madison
- 1993 Arabidopsis Training Grant Fellowship
- 1990-1994 Dean's List, five terms, University of Wisconsin-Madison
- 1991 Phipps Foundation Scholarship
- 1990-1991 Kemper K. Knapp Scholarship
- 1990 Presidential Academic Fitness Award
- 1990 Tandy Technical Scholarship
- 1990 Hudson, WI Class of 1938 Scholarship

**SELECTED EDUCATIONAL OUTREACH AND TEACHING EXPERIENCE:**

- Spring 2004 Lecturer  
BIOL 1101 General Biology Laboratory I  
Introductory undergraduate course, with emphasis on plant biology  
Department of Natural Science, University of Houston, Downtown campus
- 2000-2004 Founder and Organizer  
Texas Medical Center RNA Journal Club, sponsored by Ambion, Inc. since 2003  
Journal club involving labs from Baylor College of Medicine, M.D. Anderson  
Cancer Center, University of Texas-Houston, and Rice University
- 2000-2002 Science Education Leadership Fellow  
Howard Hughes Medical Institute and Baylor College of Medicine  
Outreach program matching Ph.D. level scientists with elementary school  
teachers for reciprocal experiences in the laboratory and the classroom
- 1999-present Volunteer Scientist  
Ask a Scientist Program  
Howard Hughes Medical Institute  
<http://www.hhmi.org/askascientist/>
- 1995-1997 Teaching Assistant  
Developmental Biology 446/556  
Undergraduate/graduate course in vertebrate developmental biology  
Dept.s of Animal Sciences and Cell Biology and Anatomy, University of Arizona

**INVITED TALKS:**

- 2005 Department of Pathology, Case Western Reserve University, Cleveland, OH
- 2005 Tenth Annual Meeting of the RNA Society, oral workshop presentation
- 2004 American Heart Association Scientific Sessions, platform presentation
- 2003 Department of Molecular and Cellular Biology R&D Workshop, Baylor College of  
Medicine, Houston, TX
- 2002 Seventh Annual Meeting of the RNA Society, platform presentation
- 1998 Society for Developmental Biology West Coast Regional Meeting, platform presentation

**PROFESSIONAL SOCIETIES:**

- 1995-present Society for Developmental Biology
- 1993 American Dairy Science Association

## PUBLICATIONS:

### Theses and dissertations:

- Ladd, A.N.** 1999. Growth factor-mediated regulation of cardiac myogenesis during early avian embryogenesis. *Ph.D. Dissertation, Department of Cell Biology and Anatomy, University of Arizona*
- Ladd, A.N.** 1993. Biochemical analysis of the *ETR1* gene product, a protein involved in ethylene signal transduction in plants. *Senior Honors Thesis, Molecular Biology Program, University of Wisconsin-Madison*

### Peer reviewed papers:

- Ladd, A.N., G. Taffet, C. Hartley, D. Kearney, and T.A. Cooper.** 2005. Cardiac-specific repression of CELF activity disrupts alternative splicing and causes cardiomyopathy. *Mol. Cell. Biol.* 25: 6267-6278.
- Ladd, A.N., M.G. Stenberg, M.S. Swanson, and T.A. Cooper.** 2005. A dynamic balance between activation and repression regulates pre-mRNA alternative splicing during heart development. *Dev. Dyn.* 233(3): 783-793.
- Ladd, A.N. and T.A. Cooper.** 2004. Multiple domains control the subcellular localization and activity of ETR-3, a regulator of nuclear and cytoplasmic RNA processing events. *J. Cell Sci.* 117(16): 3519-3529.
- Ladd, A.N., N.H. Nguyen, K. Malhotra, and T.A. Cooper.** 2004. CELF6, a Member of the CELF Family of RNA Binding Proteins, Regulates Muscle-specific Splicing Enhancer-dependent Alternative Splicing. *J. Biol. Chem.* 279(17): 17756-17764.
- Ladd, A.N., N. Charlet-B., and T.A. Cooper.** 2001. The CELF family of RNA binding proteins is implicated in cell-specific and developmentally regulated alternative splicing. *Mol. Cell. Biol.* 21(4): 1285-1296.
- Ladd, A.N., T.A. Yatskievych, and P.B. Antin.** 1998. Regulation of avian cardiac myogenesis by activin and the bone morphogenetic proteins. *Dev. Biol.* 204: 407-419.
- Prusheik, K., **A.N. Ladd**, and L.G. Sheffield. 1997. Effects of EGF and prolactin on EGF receptor cytoskeletal association in mammary epithelial cells. *Proc. Soc. Exp. Biol. Med.* 215: 393-398.
- Yatskievych, T.A., **A.N. Ladd**, and P.B. Antin. 1997. Induction of cardiac myogenesis in avian pregastrula epiblast: The role of the hypoblast and activin. *Development.* 124: 2561-2570.
- Schaller, G.E., **A.N. Ladd**, M.B. Lanahan, J.M. Spanbauer, and A.B. Bleecker. 1995. The ethylene response mediator ETR1 from *Arabidopsis* forms a disulfide-linked dimer. *J. Biol. Chem.* 270(21): 12526-12530.

Reviews and book chapters:

- Ladd, A.N.** 2005. Stem cell differentiation to a cardiac myocyte phenotype. In: *Stem Cells and Myocardial Regeneration, Contemporary Cardiology Series*. M.S. Penn, Ed. Totowa: Humana Press. *Submitted*.
- Ladd, A.N.**, and T.A. Cooper. 2002. Finding Signals that Regulate Alternative Splicing in the Post-Genomic Era. *Genome Biol.* 3(11): reviews0008.1-0008.16.

Selected Abstracts (9 of 33):

- Ladd, A.N.**, G. Taffet, C. Hartley, D.L. Kearney, and T.A. Cooper. 2005. Cardiac-specific repression of CELF activity disrupts alternative splicing and causes cardiomyopathy. *Tenth Annual Meeting of the RNA Society. Oral presentation.*
- Ladd, A.N.**, C. Hartley, G. Taffet, D. Kearney, and T.A. Cooper. 2004. Cardiac-specific expression of a dominant negative splicing regulator in mice causes cardiac hypertrophy, severe cardiac dysfunction, and sudden death. *American Heart Association 2004 Scientific Sessions. Platform presentation.*
- Ladd, A.N.** and T.A. Cooper. 2002. Nuclear to cytoplasmic transition of ETR-3 explains cTNT alternative splicing decisions during heart development. *Seventh Annual Meeting of the RNA Society. Platform presentation.*
- Ladd, A.N.**, N. Charlet-B., and T.A. Cooper. 2000. A family of splicing regulators implicated in myotonic dystrophy may mediate alternative splicing changes during normal muscle development. *Ringberg Meeting on RNA-Metabolism and Neurological Diseases. Poster presentation.*
- Ladd, A.N.**, N. Charlet-B., and T.A. Cooper. 2000. The splicing regulator ETR-3 may mediate changes in alternative splicing during striated muscle development. *Southwest Regional Meeting of the Society for Developmental Biology. (Awarded Best Postdoctoral Poster).*
- Ladd, A.N.**, T.A. Yatskievych, and P.B. Antin. 1998. Activin and BMPs mediate induction of cardiac myogenesis in the early avian embryo. *Society for Developmental Biology West Coast Regional Meeting. Platform presentation.*
- Ladd, A.N.**, T.A. Yatskievych, and P.B. Antin. 1997. FGFs are sufficient for induction of hematopoiesis and cardiac myogenesis in the early avian embryo. *Dev. Biol.* 186: 318. *13<sup>th</sup> International Congress of Developmental Biology. Poster presentation. (Awarded Third Place, Best Poster competition).*
- Ladd, A.N.**, T.A. Yatskievych, C.B. Brown, J.V. Barnett, and P.B. Antin. 1997. TGF $\beta$  is necessary and sufficient for induction of cardiac myogenesis in the early avian embryo. *Keystone Symposia, Molecular Biology of Muscle Development. Poster presentation.*
- Yatskievych, T.A., **A.N. Ladd**, and P.B. Antin. 1997. Competence to respond to neural tube signals is progressively acquired during skeletal myogenesis and may be regulated by signals from hypoblast and neural tube. *Dev. Biol.* 186: 317. *13<sup>th</sup> International Congress of Developmental Biology. Poster presentation.*