Curriculum Vitae

Qun Lu, Ph.D.

Professor of Chemistry and Biochemistry

SmartState Endowed Chair in Neurotherapeutics

Business Address: Department of Chemistry and Biochemistry
McCausland College of Arts and Sciences
The University of South Carolina
Rm 328-329 GSRC
631 Sumter Street
Columbia, SC 29208

Email: qun@mailbox.sc.edu
Office Telephone: 803-777-6625

EDUCATION:

Institution	Degree	Date
Emory University School of Medicine Atlanta, GA	M.S., Anatomy and Cell Biology	1988-1992
Emory University School of Medicine Atlanta, GA	Ph.D., Anatomy and Cell Biology (Advisor: Dr. John G. Wood)	1988-1993
Harvard Medical School Brigham and Women's Hospital Boston, Massachusetts	Postdoctoral Fellow (Laboratory of Dr. Kenneth S. Kosik)	1994-1997
Harvard Medical School Boston, Massachusetts	NIH/NINDS NRSA T32 Fellow (NINDS PPG, PI-Dr. Hunt Potter)	1995-1997

ACADEMIC APPOINTMENTS:

1986-1987 Research Assistant, Department of Biological Sciences, The University of Iowa, Iowa City, IA

1988-1993 Research Assistant, Department of Anatomy and Cell Biology, Emory University School of Medicine, Atlanta, GA

1988-1994 Research Fellow and Associate, Department of Anatomy and Cell Biology, Emory University School of Medicine, Atlanta, GA

1994-1997 USPHS Postdoctoral Fellow, Center for Neurologic Diseases, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

1995-1997 USPHS Postdoctoral Fellow, Neurodegenerative Diseases Center, Harvard Medical School, Boston, MA

1997-1999 Instructor, Department of Medicine (Neurology), Brigham and Women's Hospital, Harvard Medical School, Boston, MA

1999-2005	Assistant Professor, Department of Anatomy and Cell Biology, Brody School of Medicine at East Carolina University, Greenville, NC
2006-2012	Associate Professor with Tenure, Department of Anatomy and Cell Biology, Brody School of Medicine at East Carolina University, Greenville, NC
2016-2019	Guest Professor, School of Pharmaceutical Sciences, Kunming Medical University, Kunming
2010-2019	Director, The Harriet and John Wooten Laboratory for Alzheimer's and Neurodegenerative Diseases Research, East Carolina University
2008-2023	Adjunct Associate Professor, Department of Biology, Thomas Harriot College of Arts and Sciences, East Carolina University, Greenville, NC
2008-2023	Member, Leo Jenkins Cancer Center, Brody School of Medicine at East Carolina University, Greenville, NC
2008-2023	Full Member, Cancer Cell Biology Program, Lineberger Comprehensive Cancer Center, The University of North Carolina at Chapel Hill, Chapel Hill, NC
2012-2023	Professor with Tenure, Department of Anatomy and Cell Biology, The Brody School of Medicine at East Carolina University, Greenville, NC
2023-Current	Professor with Tenure, Department of Chemistry and Biochemistry, College of Arts and Sciences, The University of South Carolina, Columbia, SC
2023-Current	SmartState Endowed Chair in Neurotherapeutics, Center for Neurotherapeutics, The University of South Carolina, Columbia, SC

HONORS AND AWARDS:

1989	Marine Biological Laboratory Summer Scholarship, Woods Hole, Massachusetts
1991	Dorothy Wilson Award for 31st American Society for Cell Biology Annual Meeting
1992	Sigma Xi Award for Outstanding Research, Sigma X Scientific Society
1993	Cold Spring Harbor Laboratory Scholarship, Cold Spring Harbor, New York
1995-1997	NIH NRSA Postdoctoral Fellow
1998	Finalist for Clifford Barger Excellence in Mentoring Award of Harvard Medical School
2000-2003	Faculty Research Award from the Brody School of Medicine
2005	Helms Award for Outstanding Research, Sigma X Scientific Society
2005-	William E. Laupus Library Faculty Author Recognition Award
2005	Journal Cover Selection, <<Human Pathology>>, Vol 36 (No 10). October Issue
2005	Recognized for leadership and support at East Carolina University's Chancellor's Awards for Excellence ceremony in honor of George W. Lanford's Devotion to Duty Award
2006	Valentine Award for Shiloh Jones (Mentored PhD student)
2005, 2010	Biographer in Who's Who in America
2005	Featured Inventor, Office of Technology Transfer at East Carolina University

2009	Five-Year Achievement in Excellence in Research/Creative Award, East Carolina University
2009	Inaugural Inventor Award, East Carolina University (2009)
2010	Journal Cover Selection, <<NeuroToxicology>>, Vol 31 (No 2). March Issue
2009-2010	Honorable guest, The First and Second Capital International Cancer Forum, Beijing, China
2009-10	UNC Tomorrow Technology Initiative Implementation Task Force
2011	Undergraduate Research and Creativity Award (Mentor for Jonathan Lee)
2012	Inductee of National Academy of Inventors
2014	Carol F. Volkman Award at 8th Annual ECU Research and Creative Achievement Week. (Mentor for PhD student Jongdee Nopparat)
2015-2016	PhD Dissertation Award (Mentor of Amy Friesland), East Carolina University
2016	North Carolina Science, Mathematics, and Technology Student Leadership Award (Mentor for Serena Mooney)
2018	The Inventor Recognition, East Carolina University
2018	The Albert Nelson Marquis Lifetime Achievement Award
2019	Journal Cover Selection, <<Molecular Cancer Research>>, Vol 17 (No 9). September Issue
2020	Barry Goldwater Undergraduate Research Award (Mentor for William Guiler)
2021	Robert H. Wright Leadership Award from East Carolina University (Mentor for William Guiler)
2021	NIH Director's Transformative Research Award
2022	2021 Outstanding Faculty Recognition– Recognized in 2022
2023	URCA Award from (East Carolina University (Mentor for Ysabella Villaccorte)
2023	SmartState Endowment Award from South Carolina Economic Growth Fund
2025	Magellan Journey Award (Mentor for Anna Phan)

SOCIETY MEMBERSHIPS:

- American Association for Cancer Research
- American Chemical Society
- American Society for Cell Biology
- American Association for the Advancement of Science
- American Society for Neuroscience
- International Brain Research Organization
- New York Academy of Science
- National Academy of Inventors

ACADEMIC ACTIVITIES:

A. Service on Scientific Review Boards/Panels:

2001	Brody School of Medicine Faculty Research Award Review Panel
2002-Current	Primary IIRG (Investigator-Initiated Research Grant) Review Panel, Alzheimer's Association
2004-Current	Primary IIRG and NIRG (New Investigator-Initiated Research Grant) Review Panel, Alzheimer's Association
2006, 2010	Primary Zenith Award Review Panel, Alzheimer's Association
2007	Singapore A*STAR Biomedical Research Council Grant Review
2008	International Evaluation Group (Site-Visit Panelist for Strategic Evaluation of Shanghai JiaoTong University School of Pharmacy)
2009	NIH NCI Special Emphasis Panel ZRG1 OBT-A (58) R Study Section
2009	Austrian Academy of Science Advanced High Technology Grant Review Panel
2010	Florida Department of Health, Bankhead-Coley Cancer Research Program, RPG Review Panel
2010	Department of Defense (DOD) Congressionally Directed Medical Research Program (CDMRP) PCRP-PCT-2 Grant Review Panel
2011	The Wellcome Trust (2011)
2014-2015	Primary Zenith Award Review Panel, Alzheimer's Association
2014-2015	NIH Eastern Regional Comprehensive Metabolomics Research Core
2016-2017	NIH Special Emphasis Panel ZRG1 F09B-M
2018	Alzheimer's Innovation Award Review Panel, Alzheimer's Association
2018	NIH Special Emphasis Panel ZCA1 SRB-2 (J2)
2021	Translational Biomedical Research Award - Sir Jules Thorn Charitable Trust, UK
2019-Current	Alzheimer's Association Research Grant - New to the Field (AARG-NTF) Review Panel
2025	NIH Director's Autism Data Science Initiative (ADSI) Review
2025	NIH Special Emphasis Panel ZRG1 F09B-W (20) L
2025	USC The G. Harold & Leila Y. Mathers Foundation Grant Selection Review

B. Departmental Activities at East Carolina University:

2000-2003	Member, Departmental Graduate Studies Committee
2005-2009	Member, Departmental Graduate Studies Committee
2007-2010	Member, Departmental Personnel Committee

2007	Member, Departmental Ad Hoc Committee on Tenure & Promotion Guideline Revision
2014-2015	Chair, Departmental Tenure and Promotion Committee
2013-2016	Member, Departmental Graduate Studies Committee
2014-2017	Chair, Departmental Personnel Committee
2015-2016	ACB Faculty Search Committee (Karen Litwa)
2016-2017	ACB Faculty Search Committee (Jeff Eells)
2018-2021	Chair, Departmental Personnel Committee
2019	Chair, Departmental Tenure and Promotion Committee
2021	Ex-officio members, Faculty Search Committee
2022	Member, *Ad hoc* Departmental Ethics Review
2021-2023	Member, Departmental Tenure and Promotion Committee
2017-2023	Department Controlled Substance License Compliances

C. <u>Brody School of Medicine Activities</u>:

2000-2003	Member, The Research Committee for the Brody School of Medicine
2001	Member, *Ad hoc* Brody School of Medicine Nomination Committee
2002	Member, Brody School of Medicine Research Committee Manual Subcommittee
2014-2015	Research and Education Fund Review Committee, Vidant Medical Center
2006-2019	Member, Brody School of Medicine Laser Micro-dissection Core Facility Steering Committee
2008-2019	Member, The Harriet and John Wooten Foundation for Alzheimer's Disease and Neurodegenerative disease research
2009-2019	Founding Director, The Harriet and John Wooten Laboratory for Alzheimer's Disease and Neurodegenerative disease research

D. <u>Institutional Activities at East Carolina University:</u>

2000-2001	Member, ECU Research/Creative Activity Grants Committee
2006-2008	Chair, ECU Chapter of society for Neuroscience Seminar Committee
2008-2009	Chair, ECU Chapter of society for Neuroscience Public Relations Committee
2006-2008	Member, ECU/North Carolina Biotechnology Center Clinical/Translational Medicine Regional Exchange (CT-Reg)
2006-2008	Councilor, ECU Chapter of Society for Neuroscience
2009-2010	UNC Tomorrow Initiative Implementation Team (ECU Faculty entrepreneurs/research leaders)
2009-2012	ECU Student Scholarship Committee

2009-2019	The Wooten Laboratory Research Advisory Board
2011-2017	Member, ECU Graduate School Award Selections Committee
2015-2018	Senator Alternate, East Carolina University

E. Service Activities Since Joining University of South Carolina:

2023-2024	Chair, Chemistry and Biochemistry Faculty Search Committee
2024-2025	Chair, Chemistry and Biochemistry Faculty Search Committee
2024-2025	Member, Search Committee for USC EM Center Director
2024-	Chemistry and Biochemistry Research Education Committee
2024-	Chemistry and Biochemistry Teaching Peer Review Committee
2025-	Member, Chemistry and Biochemistry Faculty Search Committee
2025-	Member, Search Committee for McCausland Endowed Chair for Neuroscience

E. Teaching/Training:

- **Teaching at Emory University and Harvard University**:

1989	Gross Anatomy (Allied Health Science Master Program) Emory University School of Medicine
1992-1993	Premedical student thesis, Emory University School of Medicine
1997	Biochemical Sciences 91r: Introduction to Research, Harvard University
1997-1998	Biochemical Sciences 99: Laboratory Research for Honor Thesis, Harvard University

- **Medical Teaching at The Brody School of Medicine, East Carolina University**:

2001-2023	ANAT 6215: M1 Medical Neuroscience. Every spring semester
2003-2023	ANAT7210: M1 Medical Histology. Every fall semester
2010-2021	8210.01.35: Dental Neuroscience, Every spring semester

- **Graduate Teaching at East Carolina University**:

2001-2023	ANAT 6242: Research Problems in Anatomy. Every spring and fall semester
2000-2020	ANAT 7202/MCBI 7410: Molecular Cell Biology. Every fall semester
2002	ANAT 6440: Advance Molecular Genetics. Spring semester
2002-2023	ANAT 6250: Seminar in Anatomy. Every Spring semester
2004-2005	ANAT6242: Current Topics in Cell Biology. Fall semester (**Director**)
2000, 2002, 2005	NEUR 5000: Molecular and Cellular Neuroscience. Spring semester

2007, 2008, 2009 PHLY7733: Graduate Neuroscience. Spring semester

2016-2022 ANAT 6291: Current Topics in Cancer Biology, Every Spring semester

2021-2022 BMSC7002: Foundations Course I. Fall semester. Graduate course

- **Teaching Since Joining University of South Carolina**:

2023 CHEM790 FALL Introduction to Research

2024 CHEM790 SPRING Introduction to Research

2024 CHEM790 SUMMER Introduction to Research

2024 CHEM790 FALL Introduction to Research

2025 CHEM790 SPRING Introduction to Research

2025 CHEM790 SUMMER Introduction to Research

2025 CHEM790 FALL Introduction to Research

2023 CHEM791 FALL Introduction to Research

2024 CHEM791 SPRING Introduction to Research

2024 CHEM791 SUMMER Introduction to Research

2024 CHEM791 FALL Introduction to Research

2025 CHEM791 SPRING Introduction to Research

2025 CHEM791 SUMMER Introduction to Research

2025 CHEM791 FALL Introduction to Research

2025 NSCI498 FALL Individual Research in Neuroscience

2025 CHEM659 SPRING-2025 Topic: Modern Drug Discovery

2025 CHEM759 SPRING-2025 Topic: Modern Drug Discovery

2025 BIOL545 FALL-2025 Biochemistry/Molecular Biol I (CHEM555 & BIOL545 merged)

- **Mentor for Post-doctoral Fellow or Medical Residents**:

  - **Chittam Thakore,** Ph.D. (2005)

    Currently: Patent Attorney, Atlanta, GA

  - **Yan Zeng,** MD (2005-2007)

    Currently: Director of Pathology, Jinan Medical College, Jinan, China

  - **Tao Wang,** MD, Ph.D. (2005-2007)

    Currently: Professor and Deputy Chief in Thoracic Surgery, Nanjing University School of Medicine, Nanjing, China

  - **Kwonseop Kim,** Ph.D. (2006-2007)

    Currently: Dean of Admission, Chonnan University School of Pharmacy, Guangju, South Korea

- **Tim Cahill,** MD. (2003-2004) (Medical Resident Co-mentored with Dr. Jianjun Li, Chief in Enterogastrology for Department of Medicine)
- **Frank Brown,** MD (2005) (Medical Resident mentored for Department of Pathology and Laboratory Medicine)
- **Jian-Ping Lu,** Ph.D. (2008-2009)

  Currently: Professor, College of Life Sciences and Technology, Zhejiang University, Hangzhou, China
- **Jiao Zhang,** MD, Ph. D (2007-2011)

  Currently: Chief Scientific Officer, KMJM Biomedical Corporation, Shenzhen, China
- **Zhiying Weng,** MD, Ph.D (2011-2013)

  Currently, Associate Professor and Deputy Chair, Department of Clinical Pharmacology, Kunming Medical University School of pharmacy, Kunming., China
- **Byron Aguilar,** Ph.D. (2014-2020)

  Currently: Scientist, Boston University School of Medicine and Bedford VA Hospital
- **Satyaveni Malasala,** Ph.D. (2022-Present)

  Currently: Center for Neurotherapeutics, The University of South Carolina
- **Fereshteh Azimian**, Ph.D. (2023-2025)

  Currently: Center for Neurotherapeutics, The University of South Carolina
- **Shayan Nik Akhtar,** Ph.D. (2024-2025)

  Currently: Center for Neurotherapeutics, The University of South Carolina

- **Mentor for Graduate Students:**

  -**Shiloh Jones**, Ph.D. (2005)

  Associate Professor, Interim Director, Anatomical Sciences Education Center, Oregon Health & Science University

  -**Sonja Bareiss,** Ph.D. PT. MPT. (2009)

  Professor, Bellarmine University and Kentucky Spinal Cord Injury Research Center

  -**Sarah E. James,** MD, Ph.D. (2009)

  Attending Radiation Oncologist, Radiation Onoclogy, Mayor Clinic

  -**Amy Friesland,** Ph.D. (2013)

  Lecturer, Department of Biological Sciences, NC State University

  -**Jongdee Nopparat,** Ph.D. (2014)

  Assistant Professor, Department of Anatomy, Prince of Songkla University, Thailand

  -**Christi Boykin,** MS (2012)

  Research Specialist, Center for Neurotherapeutics, The University of South Carolina

- **Yi Zhu,** Ph.D. (2019)

  Postdoc fellow, Department of Anesthesiology, Children's Hospital of Philadelphia, Department of Medicine, University of Pennsylvania

- **Katy Davis,** MD (2022)

  Naval Medical Center Camp Lejeune, Camp Lejeune, NC

- **Shayan Nik Akhtar,** Ph.D. (2023**)**

  Postdoc fellow, Center for Neurotherapeutics, The University of South Carolina

- **Emma Dixon,** Ph.D. Candidate (2023-)

  The University of South Carolina

- **Mentor for University of South Carolina Graduate Students**
  - Emma Dixon (Ph.D. Advisor, Advisory Committee, 2023-)
  - Ethan Lewis (Rotation, 2024)
  - Rofiat Oladimeji (Rotation, 2024 and Chair, Ph.D. Advisory Committee, 2025-)
  - Chigozie Odo (Rotation, 2024)
  - Michael Madden (Ph.D. Qualifying Exam Committee, 2025-)
  - Emma Otey (Ph.D. Advisory Committee, 2025-)
- **Mentor for East Carolina University Students**

Department of Anatomy and Cell Biology, Brody School of Medicine, ECU

Chair

Shiloh B. Jones (Ph.D., 2005)
Sonja Bareiss (Ph.D., 2009)
Christi Boykin (MS., 2012)
George Howard (MS., 2016, Co-Advisor)
Shayan Nik Akhtar (Ph.D., 2023)
Sarah James (Ph.D., 2009)
Amy Friesland (Ph.D., 2013)
Jongdee Nopparat (Ph.D., 2014, Co-Advisor)
Yi Zhu (Ph.D., 2019)

Member

Mark Mayhew (Ph.D., 2000)
Chittam Thakore (Ph.D., 2005)
Na Luo (Ph. D., 2012)
Emily Wilson (Ph.D. 2019-2021)
Tiaoshi Xing (Ph.D., 2016-2020)
Tonia Foreman (Ph.D., 2002)
Brian Lehmann (Ph.D., 2006)
Zhe Lu (Ph.D., 2013)
Heath Partington (Ph.D., 2018-2023)
Amna Naser (Ph.D., 2020-2022)

Pre-candidate Committee Member

Michele Alexandre (2001-2002)
Sonja Bareiss (2003-2005)
Zhe Lu (2007-2009)
Tiaoshi Xing (2014-2016)
Amna Naser (2019-2020)

Extradepartmental Member or Chair

Hiromi Sanders, Ph.D. Physiology (2004-2006)

Peng Li, Ph.D. Pharmacology and Toxicology (2005-2008)

Christi Boykin, MS, Department of Biology (2007-2012; **Committee Chair**)

Laxmi Tutika, MS, Department of Chemistry (2008-2009)

Christopher Obondi, MS, Department of Chemistry (2008-2009)

Di Wu, Ph.D., Department of Physiology (2009-2012)

Calvin Richard Justus, MS, Department of Oncology (2010-2012)

Annalise vonderEmbse, MS, Pharmacology and Toxicology (2013)

Annalise VonderEmbse, PhD, Pharmacology and Toxicology (2017)

Kelly Baker, MS, Physiology (2017)

Samar Rezq, Ph.D. Pharmacology and Toxicology (2016)

Ali Mohammed A. Al-alawi, Ph.D. Pharmacology and Toxicology (2016-2019)

Denise Rohlik, MS, Department of Microbiology and Immunology (2019)

Denise Rohlik, Ph.D., Department of Microbiology and Immunology (2019-2022)

- **Mentor for Harvard University Undergraduate Students**

  -Mercedes Paredes, NINDS funded undergraduate fellowship. Harvard Medical School and Brigham and Women's Hospital (1997-1998)

- **Mentor for University of South Carolina Undergraduate Students**
  - Peter Hoegy, Top Scholar, Honors Class. College of Arts and Sciences at the University of South Carolina (2024-)
  - Stephanie Wozny, College of Arts and Sciences at the University of South Carolina (2024-)
  - Anna Phan, Undergraduate Magellan Journey Awardee. Arnold School of Public Health at the University of South Carolina (2025-)
  - Anuvarshini Rajaji Sivaranjani, College of Arts and Sciences at the University of South Carolina (2025-)
  - Angelina Joby Chacko, College of Arts and Sciences at the University of South Carolina (2025-)
  - Grady Sellman, College of Arts and Sciences at the University of South Carolina (2025-)

- Madilynn Kalsow, College of Arts and Sciences at the University of South Carolina (2025-)

- **Mentor for East Carolina University Undergraduate Students**
  - Anna Sirota, Undergraduate Honor Thesis. Department of Biology at East Carolina University (2000-2001)
  - Rodney Tatum, Undergraduate research. Department of Biology at East Carolina University (2003-2005)
  - Christi Boykin, Undergraduate Honor Thesis. Department of Biology at East Carolina University (2007)
  - Kyle T. Fulk, Undergraduate Honor Thesis. Neuroscience Program at East Carolina University (2010-2013)
  - Jonathan Lee, Undergraduate Honor Thesis. Neuroscience Program at East Carolina University (2010-2013)
  - Colin Daw, Undergraduate Research. Neuroscience Program at East Carolina University (2014-2015)
  - Zachary Elliott, Undergraduate Research. Neuroscience Program at East Carolina University (2015-2017)
  - Taylor Leposa, Undergraduate Research. Neuroscience Program at East Carolina University (2016-2019)
  - William Guiler, Undergraduate Research. Neuroscience Program at East Carolina University (2018-Present)
  - Addison Koehler, Neuroscience Program at East Carolina University (2020-Present)
  - Ysabella Villacorte, Neuroscience Program at East Carolina University (2020-Present)

- **Mentor for ECU Brody School of Medicine Honor Medicine Students**
  - Agustin Abdallah, High School Honor Medicine Program at East Carolina University School of Medicine (2002-2003)
  - Kimberly Rispress, High School Honor Medicine Program at East Carolina University School of Medicine (2003-2004)
  - Megan Carpenter, High School Honor Medicine Program at East Carolina University School of Medicine (2010-2011)
  - Jasmine Wiggins, High School Honor Medicine Program at East Carolina University School of Medicine (2010-2011)
  - Maria Duenas, High School Honor Medicine Program at East Carolina University School of Medicine (2011-2012)
  - Lauren Halsey High School Honor Medicine Program at East Carolina University School of Medicine (2012-2013)
  - Thomas Phinizy High School Honor Medicine Program at East Carolina University School of Medicine (2012-2013)
  - Logan Webb, High School Honor Medicine Program at East Carolina University School of Medicine (2013-2014)

- Zach Elliott, High School Honor Medicine Program at East Carolina University School of Medicine (2013-2014)
- Hannah Eberenz, High School Honor Medicine Program at East Carolina University School of Medicine (2014-2015)
- Emily Downs, High School Honor Medicine Program at East Carolina University School of Medicine (2014-2015)
- Oreyane Tate, High School Honor Medicine Program at East Carolina University School of Medicine (2015-2016)
- Serena Mooney, High School Honor Medicine Program at East Carolina University School of Medicine (2015-2016)
- Myna Tirupattur, High School Honor Medicine Program at East Carolina University School of Medicine (2018-2019)

- **Mentor for ECU Summer Ventures of Science and Mathematics Institute Students**
  - Sonya Purushothaman, Summer Venture High School Program (2002)
  - Sera V. Haith, Summer Venture High School Program (2003)
  - India B. Evans, Summer Venture High School Program (2003)
  - Maina Edula, Summer Venture High School Program (2015)

- **Advisor of ECSU Minority Institution Students**

  -This program was designed for Elizabeth City State University for the Department of Defense Minority Program (2006). During 2006 spring semester, three students participated in our regular lab meetings every week

F. Editorial Service

- 2010- International Editor, Neural Regeneration Research
- 2011- Associate Editor, Journal of Alzheimer's Disease
- 2011- Editorial Member, World Journal of Medical Genetics
- 2011- Editorial Member, Journal of Alzheimer's Disease and Parkinsonism
- 2020-2022 Guest Associate Editor, Frontier in Cellular Neuroscience

G. Service as a Reviewer for Journals

Journal of Biological Chemistry
Journal of Neuroscience Research
Brain Research
European Journal of Neuroscience
Molecular Brain
Journal of Neuroscience
Experimental Cell Research
Neuroscience
Glia
FEBS Letters

Acta Biochimica et Biophysica Sinica
Recent Patents on Anti-Cancer Drug Discovery
Journal of Advances in Bioscience and Biotechnology
The Open Prostate Cancer Journal
Journal of Pathology
American Journal of Pathology
Reviews On Recent Clinical Trials
Cellular and Molecular Life Sciences
Neural Regeneration Research
Clinical & Experimental Metastasis
Oncogene
Clinical Nutrition
European Journal of Pharmacology
BioEssays
Journal of Molecular Neuroscience
Neuroglia
British Journal of Cancer
PlosOne
Behavior Brain Research
European Journal of Cancer
Experimental Hematology
Cancer Research
Future of Drugs
Cell Biology International
Lung Cancer
NeuroToxicology
Cancer Letters
Scientific Reports
Current Proteomics
Neurotoxicity Research
Cell Press
Cells

H. Service to the Community:

- Provide Interview for AP History. J. H. Rose High School (2003)
- Provide Interview for AP History. J. H. Rose High School (2004)
- Support America's Distinguished Young Women of the Year Program in Greenville and State of North Carolina (2006-2009)
- Represent ECU Dementia Research at Cypress Glen Memory Luncheon Events (2009-2010)
- Introduction as ECU scientist to promote State of North Carolina Commerce Department Workshop during NC Governor's visit to China (2009)
- Organize Wooten Laboratory to participate in Alzheimer's Walk (2010). The Walk led to a $10,000 donation to ECU Medical Foundation for research in Alzheimer's disease and neurodegenerative diseases research
- As Director of Wooten Laboratory in bringing Wooten family to contribute four times a total of $500,000 to support ECU research on Alzheimer's disease and other neurodegenerative diseases (2008, 2011, 2012, 2013, and 2017)
- Organize Wooten Laboratory to participate in Alzheimer's Walk (2017). The Walk led to a $10,000 donation to ECU Medical Foundation for research in Alzheimer's disease and neurodegenerative diseases research
- Organize Wooten Laboratory to participate in Alzheimer's Walk (2018). The Walk led to a $10,000 donation to ECU Medical Foundation for research in Alzheimer's disease and neurodegenerative diseases research
- Organize Wooten Laboratory to participate in Alzheimer's Walk (2018). The Walk led to a WITN TV story on ECU research in Alzheimer's disease and neurodegenerative diseases research
- Organize Fund Raising efforts to Atlantic Beach and Oriental, North Carolina (2019-present) with series of ongoing donations to ECU Medical Foundation for research in Alzheimer's disease and neurodegenerative diseases research

- BGA's career development webinar to share knowledge and experience with the Brody graduate students. February 5, 2021
- ECU Ad hoc preselection review committee for the Brain Research Foundation Seed Grant
- BSOM Internal Study Section. Support BSOM faculty in grant submissions by review of new or revised grant applications

INVITED LECTURES AND SYMPOSIA PRESENTATIONS:

1. "δ-Catenin and the mediation of cell compaction and dispersion decisions". Gordon Research Conference: Cell Contact and Adhesion. **Procter Academy. New Hampshire,** June 4-9, 1999
2. "Recent advances in cell adhesion and developmental biology". Neurobiology lectures at Academia Sinica. **Shanghai, China,** July 6, 1999
3. "Novel catenins and adhesive junctions: implications in Alzheimer's disease and chromosomal deletion syndromes". Neurobiology lectures at Academia Sinica. **Shanghai, China,** July 6, 1999
4. "δ-Catenin: a brain armadillo protein implicated in cell adhesion, signal transduction and human disorders". Keystone Symposium. Intercellular junctions: short-range interactions fundamental to the development, differentiation and homeostasis of cellular assemblies. **Keystone, Colorado.** February 3-9, 2000
5. "Presenilin binding proteins: zoom into cytoskeletons and cell junctions. Lineberger Cancer Center, University of North Carolina at Chapel Hill. **Chapel Hill, North Carolina.** January 17, 2001
6. "Cell adhesion complexes in neuronal development: δ-Catenin regulation of dendritic differentiation and cytoskeletal reorganization". Department of Biochemistry, East Carolina University School of Medicine. **Greenville, North Carolina.** November 19, 2001
7. "Postsynaptic cell adhesion complexes: δ-Catenin regulation of dendritic morphogenesis and Cytoskeletal reorganization". Department of Physiology, East Carolina University School of Medicine. **Greenville, North Carolina.** March 7, 2002 "Cell adhesion proteins and human diseases". Liao Ning University, **Dalian, China.** June 24-25, 2002.
9. "Analysis of gene functions in neuronal cultures and transgenic mice". Department of Biology, East Carolina University. **Greenville, North Carolina.** December 5, 2002.
10. "Cell adhesion proteins in Alzheimer's disease and Cancer". Department of Physics, East Carolina University. **Greenville, North Carolina.** April 8, 2003. "Functions of δ-catenin in prostate cancer diagnosis and treatment". UIG, Inc. **Boston, Massachusetts.** August 6, 2003 "β-Amyloid mediated neuronal toxicity and plasticity". Department of Neurology, University of North Carolina at Chapel Hill. **Chapel Hill, North Carolina.** August 11, 2003.
13. "Functional Implications of Genes in the Cri-du-Chat Region". North Carolina Medical Genetics Association Annual Conference. **Greenville, North Carolina.** Oct 3rd, 2003
14. "δ-Catenin and cell-cell adhesion in prostate cancer". 43rd Annual Meeting of American Society for Cell Biology. **San Francisco, California**. December 13, 2003
15. "New method of cancer screening and detection". Southeast Technology Expo. New Frontiers in Therapeutics: Emergent Technologies in Infectious Diseases and Oncology. **Research Triangle Park (RTP), North Carolina**. October 7, 2004
16. "Anti-Cancer Induced Neuronal Degeneration And Reversal". The Scientific Research Society of Sigma Xi. Helms award presentation. **Greenville, North Carolina.** January 27, 2005

17. "Rho GTPase Signaling: Road to the Therapeutic Intervention for Cellular Injury?" National Institute for Environmental Health Sciences. **Research Triangle Park RTP, North Carolina.** November 2, 2005
18. "δ-Catenin Processing and Its Potential Regulation by Presenilin-1 Expression". Society for Neuroscience 35th Annual Meeting, **Washington, DC.** November 12, 2005
19. "Prostate and Breast Cancer Diagnosis and Therapy in the Industrialized World: Our Progresses, Opportunities for Breakthrough and Future Challenges". Zhejiang University College of Life Sciences. **Hangzhou, China,** December 28, 2005
20. "δ-Catenin: From Molecule of Neurologic Disorder to Modulator of Cancer". Department of Physiology, East Carolina University School of Medicine. **Greenville, North Carolina.** February 12, 2006"δ-Catenin: a Potential Multifunctional Protein of Neurologic Disorder and Modulator of Cancer". Department of Cancer Biology, Wake Forest University School of Medicine and Cancer Center, **Winston-Salem, North Carolina.** September, 2006 "δ-Catenin: a Potential Multifunctional Protein of Neurologic Disorder and Modulator of Cancer". Department of Pathology and Norris Cancer Center, Medical University of South Carolina, **Charleston, South Carolina.** September, 2006 "δ-Catenin: a Potential Multifunctional Protein of Neurologic Disorder and Modulator of Cancer". The University of Kentucky College of Medicine, **Lexington, Kentucky** September, 2006
30. "Validation of Cell Junction Associated Protein δ-Catenin (CTNND2) As a Potential Biomarker for Prostate Cancer". The First World Cancer Congress. **Shanghai, China.** June. 2008
31. "Pro- and anti-oncogenic signaling and challenges and opportunities in cancer therapy ". Shanghai JiaoTong University School of Pharmacy. **Shanghai, China.** July. 2008
32. "Interaction of Alzheimer Disease-linked Presenilin Mutations with Actin Cytoskeleton and the Implications on Synaptic Dysfunction. 10th East Carolina Neuroscience Symposium. **Greenville, North Carolina.** November, 2008
33. "Development of CdSe/ZnS QDs-Antibody Biosensor for the Detection of a Prostate Cancer Biomarker. American Chemical Society Regional Meeting. **Knoxville. Tennessee.** 2008
34. "Cytoskeletal Mechanisms of Alzheimer's Disease Pathogenesis". Department of Pathology Ground Rounds, East Carolina University School of Medicine. **Greenville, North Carolina.** April 6, 2009.
35. "Molecular and cellular regulation by cucurbitacin IIa in cancer apoptosis". Kunming Medical University. **Kunming, China.** July. 2009
36. "Fighting Cancers: We have won battles, Can we win the war?" Zhejiang University College of Life Sciences. **Hangzhou, China,** July 6, 2009
37. "Alzheimer disease-linked presenilin mutation (PS1M146L) induces filamin expression and gamma-secretase independent redistribution". 39th Society for Neuroscience Annual Meeting Nano symposium. **Chicago, Illinois.** 2009
38. "Fighting cancers: we have won battles, can we win the war?" ECU's Five Year Achievement Award in Research and Creativity acceptance speech. **Greenville, North Carolina.** April, 2009
39. "Pro- and anti-oncogenic signaling and challenges and opportunities in cancer therapy". The First Capital International Cancer Conference (CICC). **Beijing, China.** October, 2009.
40. "New Integrative Cancer Management Strategy: Effective Early Detection and Personalized Therapy". The Second Capital International Cancer Conference (CICC). **Beijing, China.** October, 2010
41. "Oncogenic and anti-oncogenic pathways: opportunities and challenges of cancer therapy". The Chinese Medical University. **Shengyang, China.** July. 2010

42. *"Real* Estate of Compartmentalized β-Catenin Family Member δ-Catenin: Are Cell Fate and Behavior Mutation- and Location-Dependent within the Prostate Tumor Clusters?" Lineberger Comprehensive Cancer Center, UNC at **Chapel Hill, NC**, March, 2011
43. "Ca25: Potential Urine Biomarker for Prostate Cancer Detection". Round Table, Zhejiang University School of Medicine First Affiliated Hospital. **Hangzhou, China-PRC**. July, 2011
44. "Small molecule strategy for Rho GTPase signaling". Shanghai JiaoTong University School of Pharmacy, **Shanghai, China-PRC.** July, 2011
45. "Integrative Cancer Management Strategy: Early Detection and Personalized Therapy". Jinan Military General Hospital, **Jinan, China-PRC.** July, 2011
46. "Ca25: Potential Cancer Biomarker". Capital Medical University Affiliated Shijitan Hospital and Beijing University 9th Clinical Hospital, **Beijing, China-PRC.** July, 2011
47. "BGI Gene Mutation Analysis". BGI Shen Zhen Round Table, **ShenZhen, China-PRC**. November, 2011
48. "Multidisciplinary Research model for studies on small GTPases as drug targets", Kunming Medical University School of Pharmacy, **Kunming, China** December, 2012
49. "Small molecules to GTPases". Shanghai JiaoTong University School of Pharmacy, **Shanghai, China-PRC.** December, 2012
50. "Non-Invasive Urine Biomarkers for Prostate Cancer Detection". 8th Annual Biomarker & Diagnostics World Congress, **Philadelphia, Pennsylvania.** 2012
51. "Alzheimer's and Dementia Update" Keynote speech at 9th Caregiver Education Conference, **Goldsboro, NC,** August, 2013
52. "From the Study of Alzheimer's Disease to Cancer Research: A Molecular Medicine Program at the Brody School of Medicine". Department of Pathology Ground Rounds, East Carolina University, **Greenville, NC.** November, 2013
53. "Inducible functional nonsense mutations of δ-catenin promotes prostate tumorigenesis in mice overexpressing Myc oncogene and alters Wnt/β-catenin signaling". 19th World Congress on Advances in Oncology and 17th International Symposium on Molecular Medicine. **Athens, Greece**, October, 2014
54. "Shared molecular pathways of aging disorders and the therapeutic opportunities. Kunming Medical University, **Kunming, China,** 2015
55. "Re-evaluating Rho GTPase signaling as a potential therapeutic target for Alzheimer's disease". By Yi Zhu and Q. Lu at Society for Neuroscience National Conference as a nanosymposium presentation**. Washington DC**, 2017.
56. "Compartmentalized δ-catenin driven by genomic rearrangement in prostate cancer dictates growth factor dependent, intratumoral cell fate and behavior". 32rd Annual European Association for Urology Congress Symposium Presentation. **London, UK.** July, 2017.
57. "Dichotomy of oncogene and tumor suppressor in cancer progression", Beijing Urological Oncology Conference, **Beijing, PRC,** June, 2018
58. "Regional Architecture of β-Catenin and p120-Catenin Interactions Examined by Stochastic Optical Reconstruction Microscopy (N-STORM)". RCAW. By William Guiler, Christi Boykin and Qun Lu. **Greenville, NC.** April 2019.
59. "Alzheimer's Disease and Dementia". Rotary International Meeting. **Oriental, North Carolina**, July 2019
60. "Mapping the Maze: An Alzheimer's Awareness Education". By Byron Aguilar and Qun Lu, Carolina East Medical Center Education Event, **New Bern, North Carolina,** June, 2019
61. "Research with Cancer Biomarker". IBM-ECU Collaboration. **Greenville, North Carolina**, May, 2020.
62. "Understanding and Targeting Actin Modulatory Networks in Human Diseases". East Carolina University, **Greenville, North Carolina**, January 8, 2021.

63. "Small Molecule Approaches for Targeting Actin Modulatory Networks in Neurodegenerative Diseases". Medical College of Georgia. **Augusta, Georgia**. March, 2022
64. "Targeting the Interactions of Small GTPase ARF with C9ORF72:SMCR8:WDR41 Complexes Implicated in Amyotrophic Lateral Sclerosis/Frontotemporal Dementia", Alzheimer's Association International Conference (AAIC). **Amsterdam, Netherlands**. July 2023.
65. "Planar and Spatial Analysis of 3xTg-AD Mouse Brain Revealed RhoA-LIMK signaling Axis Dysregulation". Society for Neuroscience Annual Conference. **Washington D.C.** November, 2023.
66. "Homeostatic Reset as a New Therapeutic Paradigm for Slow Progression Diseases – Part I" at NIH HRHR seminar series. January, 2024
67. "Homeostatic Reset as a New Therapeutic Paradigm for Slow Progression Diseases". Child Neurotherapeutics Colloquium. **Columbia, SC.** April, 2024.
68. ''Homeostatic Reset as a New Therapeutic Paradigm for Slow Progression Diseases". Instituto de Investigação e Inovação em Saúde. **University of Porto, Portugal**. May, 2024
69. "Enabling Systemic Identification and Functionality Profiling for Cdc42 Homeostatic Modulators to Broaden Therapeutic Landscape". NIH HRHR Symposium. **Bethesda, MD**. June, 2024.
70. "Neurotherapeutics for Alzheimer's Disease and Related Dementias - Why Targeting Small GTPases". USC School of Medicine, Department of Pharmacology, Physiology and Neuroscience. **Columbia, SC**. September 23, 2024.
71. "Small GTPase Signaling: Autism - Alzheimer's Disease Interface". USC Carolina Autism Center (CAN) Annual Retreat. USC Alumni Center. **Columbia, SC.** August 14, 2024

FUNDING HISTORY

A. <u>Current Funding:</u>

NIH/NIGMS-R01GM146257 Lu (PI) 09/15/2021-08/31/2026
Title: Homeostatic Reset as a New Therapeutic Paradigm for Slow Progression Diseases

NIH/NIGMS-R01GM146257-02S Lu (PI) 09/01/2023-08/31/2026
Title: Homeostatic Reset as a New Therapeutic Paradigm for Slow Progression Diseases

SC SmartState Endowment Lu (PI) 08/16/2023-08/15/2028
Title: Center for Neurotherapeutics

University of South Carolina Lu (PI) 08/16/2023-0815/2027
Title: Start-up Fund

Devro Corporation Lu (Co-PI; Chen, PI) 10/01/2025-03/31/2026)
Title: Enhanced Understanding of Sandy Run Hide Using Biochemical and Morphological Approaches

B. <u>Completed Funding</u>:

Wooten Foundation Lu (PI) 2010-2023
Title: Triple Transgenic Alzheimer's Disease Mouse Core
The overall goal is to promote collaborative research by providing Alzheimer's mouse core resources.

Role: PI

Lu Research Fund Lu (PI) 2010-2023
Title: Bridging Fund for Drug Discovery
The overall goals are to develop small molecules for research applications
Role: PI

ELIONCO, INC 2015-INFA-03 Chen (PI) 04/01/16-12/31/2021
Title: Effects of HMYS101 on junctional complex
The overall goal is to test the roles of HMYS101 in junctional complex formation and inflammatory effects.
Roel: Co-PI

NIH/NIDDK -DK10316601A1 Chen (PI) 09/20/16-08/31/2021
Title: Role of Claudin-7 in Intestinal Structure and Inflammation
The major goals of this project are to investigate the role of claudin-7 in intestinal structure and functions and how deletion of claudin-7 evokes the mucosa ulcerations and epithelial cell damage.
Role: Co-PI

Brody School of Medicine Seed Grant Shelton (PI) 09/01/15-08/31/2019
Title: Gene Polymorphisms on SSRI Treatment of Child and Adolescent Depressive and Anxiety Disorders: a Clinical Utility Study
The overall goals are to determine whether gene polymorphisms can guide SSRI treatment of child and adolescent depressive and anxiety Disorders
Roel: Co-PI

Brody Brothers Endowment Chen (PI) 01/01/19-12/31/2019
Title: The role of claudin-7 in intestinal epithelial stem cell functions
Roel: Co-PI

NIH/NCI-CA165202 Lu (PI) 05/15/12-04/30/2016
Title: Rho GTPases and Neuroprotection Model in Cancer Therapy

NIH/NHLBI-HL085752 Chen (PI) 07/10/08-06/31/2014
Title: The Function of Claudin-7 in Renal Epithelial Cells (Lu, Co-PI)

North Carolina Biotechnology Center MRG-1101 Lu (PI) 01/15/12-08/31/2014
Title: Cell-Cell Junction Proteins as Biomarker for Prostate Cancer Detection

(Clinical Trial-ECU & UNC Epidemiology)

Alzheimer's North Carolina Lu (PI) 07/15/13-03/31/2015
Title: A Multidisciplinary Approach to Fight Senior Dementia:
the Wooten Laboratory for Alzheimer's and Neurodegenerative Diseases Research

Golfers Against Cancer Woods (PI) 01/25/13-01/25/2015
Title: Better than PSA: Using Delta-Catenin as a Biomarker for Prostate Cancer
(Clinical Study-ECU Family Medicine & UNC Lineberger Comprehensive Cancer Center
(Lu, Co-I)

NIH/NCI-CA111891 Lu (PI) 02/01/06– 01/31/2012
δ-Catenin and cell-cell adhesion in prostate cancer

NIH/NCI-CA111891S Lu (PI) 02/01/10-01/31/2012
Title: δ-Catenin and Cell-Cell Adhesion in Prostate Cancer

NIH/NIA-AG026630 Lu (PI) 07/01/05 - 06/30/2008
Title: δ-Catenin cleavage by presenilin and synaptic remodeling

Department of Defense-PC040569 Lu (PI) 11/1/04-04/30/2008
Title: Functions of δ-Catenin in Prostate Cancer

North Carolina Biotechnology Center **Thomassen (PI)** 2007-2008
Title: Laser Microdissection Core Facility
Role: Co-PI

Brody Brother Endowment **Knudson (PI)** 10/01/07-09/30/2008
Title: Function of CD44 in Tumor Stem Cells Derived from Human Prostate Carcinoma
Role: Co-PI

ECU Division of Graduate Studies and Research 04/15/05-06/30/2006
(Co-PI; PI, Arthur Rodriguez)
Title: Investigations into the development of quantum dot-antibody biosensors as diagnostic probes using fluorescence techniques

American Cancer Society. **Lu (PI)** 07/01/03-06/30/2004
Title: Functions of delta-catenin in prostate cancer

C. Pending Funding

NIH 1R01AG091491 (Subaward PI) 01/01/2025-12/30/2029
Neuroimmune Mechanisms of Rab10 in Alzheimer's Disease

NIH 1R03AG095470-01 (Wang, Lu, Co-PI) 07/01/2025-06/30/2027
AI-Powered Small Molecule Modulator Design for Small G Proteins

NIH 1R01HL183941-01 (Tan, Lu, Jegga, Co-PI) 12/01/2025-11/30/2029
Mechanism of endothelial pathogenic remodeling in congenital capillary malformations

D. Other:

NRSA Fellowship:

NINDS T32 Fellowship **Lu (PI)** 1995-1997

Title: Regulation of amyloid precursor proteins by the mitogen-activated protein kinase in neurodegeneration

Patents:

2004 US Patent No 7,445,906. “Method of Detecting Cancer Using δ-Catenin”

2008 US Patent No 8,058,020. “Method of Detecting Cancer Using δ-Catenin”

2015 US Patent No 8,932,824 B2. “Method of Detecting Cancer Using δ-Catenin”

2017 US Patent No 9,625,461 B2. “Method of Detecting Cancer Using δ-Catenin”

2018 US Patent Application Serial No. 62/562,816. Roles of Modulators of Intersectin-Cdc42 Signaling in Alzheimer’s Disease

2025 U.S. Provisional Patent Application No. 63/782,679. Title: Compositions and Methods of Prevention and Treatment of Neurodegenerative Diseases

PUBLICATIONS:

1. Lu Q. Functional Studies of Alzheimer’s disease tau protein. **Ph.D. Thesis**. 1993.
2. Williams NE, Honts JE, Lu Q, Olson CL, Moore KC. Identification and localization of major cortical proteins in the ciliated protozoan, Euplotes eurystomus. **J Cell Sci**. 1989; 92 (Pt 3):433-439.
3. Lu Q, Soria JP, Wood JG. $p44^{mpk}$ MAP kinase induces Alzheimer type alterations in tau function and in primary hippocampal neurons. **J Neurosci Res**. 1993; 35: 439-444.
4. Lu Q, Wood JG. Characterization of fluorescently derivatized bovine tau protein and its localization and functions in cultured Chinese hamster ovary cells. **Cell Mot Cytoskel**. 1993; 25:190-200.
5. Wood JG, Lu Q, Reich C, Zinsmeister P. Proline directed kinase systems in Alzheimer's disease pathology. **Neurosci Lett**. 1993; 156: 83-86.
6. Lu Q, Wood JG. Functional studies of Alzheimer's disease tau protein. **J Neurosci**. 1993; 13: 508-515.
7. Lu Q, Kanumury R, Wood JG. Abnormal phosphorylation of tau proteins in brain microtubules: Activation by excess ATP and tyrosine dephosphorylation. **J Neurosci Res**. 1994; 37: 759-768.
8. Ferreira A, Lu Q, Orecchio L, Kosik KS. Selective phosphorylation of adult tau isoforms in mature hippocampal neurons exposed to fibrillar Aβ. **Molec Cell Neurosci**. 1997; 9: 220-234.
9. Lu Q, M. Paredes, J. Zhang, and K. Kosik. Basal extracellular signal-regulated kinase activity modulates cell-cell and cell-matrix interactions. **Mol. Cell Biol**. 1998; 18:3257-3265.
10. Lu Q, Paredes M, Medina M, Zhou JH, Cavallo R, Peifer M, Orecchio L, Kosik KS. δ-Catenin, an adhesive junction associated protein which promotes cell scattering. **J.Cell Biol**. 1999;144 (3): 1-14.
11. Flaherty D, Lu Q, Soria J and Wood JG. Regulation of tau phosphorylation in microtubule fractions by apolipoprotein E. **J. Neurosci Res**. 1999; 56: 271-274.
12. Chen YH, Lu Q, Schneeberger EE, and Goodenough D. Restoration of tight junction structure and barrier function by down-regulation of Mitogen-activated protein kinase pathway in Ras-transformed Madin-Darby canine kidney cells. **Mol Biol Cell**. 2000; 11: 849–862.
13. Lu Q, Mukhopadhyay N, Griffin J, Paredes M, Medina M and Kosik KS. Brain armadillo protein δ-catenin interacts with Abl tyrosine kinase and modulates cellular morphogenesis in response to growth factors. 2002. **J. Neurosci Res**. 67 (5): 618-624.
14. Chen YH, Lu, Q, Goodenough D and Jeansonne B. Interaction of non-receptor tyrosine kinase c-yes with occludin regulate tight junction formation. 2002. **Mol Biol Cell**. 13: 1227-1237.

15. Kim K, Sirota A, Chen YH, Jones SB, Dudek R, Lanford GW, Thakore C and Lu Q. Dendrite-like process formation and cytoskeletal remodeling regulated by δ-catenin expression. 2002. **Exp Cell Res.** 275: 171-184.
16. Jones SB, Sirota A, Chen YH, Kim K, Lanford GW, Moribito M and Lu Q. Glutamate-induced δ-catenin redistribution and dissociation from postsynaptic receptor complexes. 2002. **Neuroscience.** 115 (4): p1009-1021.
17. Jeansonne B, Lu Q, Goodenough DA and Chen YH. Claudin-8 interacts with multi-PDZ domain protein 1 (MUPP1) and reduces paracellular conductance in epithelial cells. 2003. **Cell Mol Biol**. 49 (1):13-21.
18. Jones SB, Lu HY, Lu Q. Abl tyrosine kinase promotes dendrogenesis by inducing actin cytoskeletal rearrangements in cooperation with Rho family small GTPases in hippocampal neurons. 2004. **J Neurosci.** 24 (39):8510-8521.
19. Alexandre MD, Lu Q and Chen YH. Overexpression of claudin-7 decreases the paracellular Cl^- conductance and increases the paracellular Na^+ conductance in LLC-PK1 cells. 2005. **J Cell Sci.** 118:2683-2693.
20. Lu Q, Dobbs LJ, Christopher WG, Lanford GW, Revelo MP, Shappell S and Chen YH. Increased expression of δ-catenin/neural plakophilin-related armadillo protein (NPRAP) is associated with the downregulation and redistribution of E-cadherin and $p120^{ctn}$ in human prostate cancer. 2005. **Human Pathology**. 36: 1037-1048 (Featured article with cover illustration).
21. Kim J, Bareiss SK, Kim KK, Tatum R, Han J, Jin YH, Kim H, Lu Q*, and Kim K. Presenilin-1 inhibits δ-catenin-induced cellular branching and promotes δ-catenin processing and its turnover. 2006. **Biochem Biophys Res Commun**. 351(4):903-908. (*Co-correspondence)
22. Tatum R, Zhang Y, Lu Q, Kim K, Jeansonne BG, and Chen YH. WNK4 phosphorylates ser (206) of claudin-7 and promotes paracellular Cl(-) permeability. 2007. **FEBS Lett**. 581(20):3887-3891.
23. Kim H, Han JR, Park J, Oh M, James SE, Chang S, Lu Q, Lee KY, Ki H, Song WJ, Kim K. Delta-catenin-induced dendritic morphogenesis. An essential role of p190RhoGEF interaction through Akt1-mediated phosphorylation. 2008. **J Biol Chem**. 283(2):977-987.
24. Kim K, Oh M, Ki H, Wang T, Bareiss S, Fini ME, Li D and Lu Q. Identification of E2F1 as a positive transcriptional regulator for δ-catenin. 2008. **Biochem Biophys Res Commun**. 369 (2): 414-420.
25. James SE, Burden H, Burgess R, Xie Y, Yang T, Massa SM, Longo FM and Lu Q. Anti-cancer drug induced neurotoxicity and identification of Rho pathway signaling modulators as potential neuronprotectants. **Neurotoxicology**. 2008;29 (4):605-612.
26. Kim H, Oh M, Lu Q, Kim K. E-Cadherin negatively modulates δ-catenin-induced morphological changes and RhoA activity reduction by competing with p190RhoGEF for δ-catenin. 2008. **Biochem Biophys Res Commun**. 377(2):636-641.
27. Yang T, Knowles J, Lu Q, Rajadas J, Fuller G, Wang Q, Andreasson K, Moore L, Chang T, Massa SM, Longo FM. Small molecule, non-peptide $p75^{NTR}$ ligands inhibit Aβ-induced neurodegeneration. 2008. **PLoS ONE**. 3 (11). e3604.
28. Lu Q, Zhang J, Allison R, Gay H, Yang WX, Bhowmick N, Frelix G, Shappell S, Chen YH. Identification of extracellular δ-catenin accumulation for prostate cancer detection. 2009. **The Prostate**. 69(4):411-418.
29. Chen YH, Lin JJ, Jeansonne B, Tatum R, Lu Q. Analysis of claudin genes in pediatric patients with Bartter's syndrome. 2009. **Ann N Y Acad Sci**. 1165:126-34.
30. Lu Q, Longo FM, Zhou HC, Massa SM, and Chen YH. Signaling through Rho GTPase pathway as viable drug target. 2009. **Current Medicinal Chemistry.** 16(11):1355-65.

31. Dunham MW, James SE, Lever TE, Lu Q, Carrion-Jones MJ. Methodology to obtain a sensory component of the sciatic nerve in mice. 2009. **Amer J of Phys Med Rehab**. 88(7):542-6.
32. Baulac S, Lu H, Strahle J, Yang T, Goldberg MS, Shen J, Schlossmacher MG, Lemere CA, Lu Q, Xia W. Increased DJ-1 expression under oxidative stress and in Alzheimer's disease brains. 2009. **Molec Neurodegen.** 4: 12.
33. Zeng Y, Abdallah A, Lu JP, Wang T, Chen YH, Terrian DM, Kim K, Lu Q. δ-Catenin promotes prostate cancer cell growth and progression by altering cell cycle and survival gene profiles. 2009. **Molec Cancer.** 8:19.
34. Wang T, Chen YH, Hong H, Bareiss S, Jeansonne B, Lu Q. Increased nucleotide polymorphic changes in the 5'-untranslated region of *δ-catenin* (CTNND2) gene in prostate cancer. 2009. **Oncogene.** 28(4): 555-564.
35. Tatum R, Zhang YG, Salleng K, Lu Z, Lu Q, Lin JJ and Chen YH. Renal Salt Wasting and Chronic Dehydration in Claudin-7-Deficient Mice. 2009. **Amer J of Physiology: Renal Physiology**. 298(1): F24-34.
36. Oh M, Kim H, Yang I, Bareiss S, Ki H, Lu Q, No J, Kwon I, and Kim K. GSK-3 phosphorylates δ-catenin and negatively regulates its stability via ubiquitination/proteosome-mediated proteolysis. 2009. **J Biol Chem**. 284(42): 28579-28589.
37. Gu, D, Sater, AK, Ji, H, Clark, M, Stratton, SA, Barton, MC, Lu, Q and PD McCrea. Xenopus delta-catenin is expressed widely across developing and adult tissues, is essential in early embryogenesis and is functionally linked to cadherins and small GTPases. 2009. **J Cell Sci.** 122(Pt 22):4049-61.
38. Yang I, Chang O, Lu Q, and Kim K. δ-Catenin affects the localization and stability of p120-catenin by competitively interacting with E-cadherin. 2010. **Mol. Cells**. 29: 1-10.
39. James SE, Dunham M, Carrion-Jones M, Murashov A, and Lu Q. Rho kinase inhibitor Y-27632 facilitates recovery from experimental peripheral neuropathy induced by anti-cancer drug cisplatin. **NeuroToxicology**. 2010. 31(2): 188-194.
40. Zhang J, Lu J, Suter D, Fini E, Krause K, Chen B, and Lu Q. Isoform- and dose-sensitive feedback interactions between paired box 6 gene and δ-catenin in cell differentiation and death. **Exp Cell Res**. 2010. 316(6): 1070-1081.
41. Zhang J, Chen YH and Lu, Q. Pro-oncogenic and anti-oncogenic pathways: opportunities and challenges of cancer therapy. **Future Oncology**. 2010. 6(4): 587-603.
42. Bareiss KS, Kim K and Lu, Q. δ-Catenin/NPRAP: a new member of the glycogen synthase kinase-3β signaling complex that promotes β-catenin turnover in neurons. **J. Neurosci Res**. 2010. 88 (11):2350-2363.
43. Lu Q, Boykin C, Kai D, Frosch MP, Jones S, Wolfe M and Lanford GW. Alzheimer disease-linked presenilin mutation (*PS1M146L*) induces filamin expression and γ-secretase independent redistribution. **Journal of Alzheimer's disease**. 2010. 22(1): 235-245.
44. Lu Q. δ-Catenin dysregulation in cancer: interactions with E-cadherin and beyond. **J Pathology.** 2010. 222(2):119-123.
45. Lu J, Zhang J, Kim K, Case T, Matusik R, Caudy M, Wolfe M, Chen YH, Nopparat J and Lu Q. Human homolog of Drosophila Hairy and enhancer of split 1, Hes1, negatively regulates delta-catenin (CTNND2) expression in cooperation with E2F1 in prostate cancer. **Molec Cancer.** 2010. 9:304.
46. Boykin C, Zhang G, Chen YH, Zhang RW, Fan XE, Yang WM, Lu Q. Cucurbitacin IIa: a novel class of anti-cancer drug inducing non-reversible actin aggregation and inhibiting survivin independent of JAK2/STAT3 phosphorylation. **Br J Cancer.** 2011 [Epub ahead of print].
47. Zhang G, Lai BB, Zhou YY, Chen BA, Wang XM, Lu Q, Chen YH. Fe_3O_4 nanoparticles with daunorubicin induces apoptosis through Caspase-8/PARP pathway and inhibits K562

leukemia cell-induced tumor growth *in vivo.* **Nanomedicine: Nanotechnology, Biology, and Medicine**. *2011. In press.*
48. Lu Z, Ding L, Hong H, Hoggard J, Lu Q, Chen YH. Claudin-7 inhibits human lung cancer cell migration and invasion through ERK/MAPK signaling pathway. **Exp Cell Res**. 2011. 317 (13):1935-1946.
49. Zhang G, Ding L, Renegar R, Wang X, Lu Q, Huo S, Chen YH. Hydroxycamptothecin-loaded Fe3O4 nanoparticles induce human lung cancer cell apoptosis through caspase-8 pathway activation and disrupt tight junctions. **Cancer Sci.** 2011. 102 (6):1216-1222.
50. Kim H, He Y, Yang I, Zeng Y, Kim Y, Seo YW, Murnane MJ, Jung C, Lee JH, Min JJ, Kwon DD, Kim KK, Lu Q, Kim K. δ-Catenin promotes E-cadherin processing and activates β-catenin-mediated signaling: implications on human prostate cancer progression. **Biochim Biophys Acta**. 2012. 1822 (4):509-21.
51. Ding L, Lu Z, Foreman O, Tatum R, Lu Q, Renegar R, Cao J, Chen YH. Inflammation and disruption of the mucosal architecture in claudin-7-deficient mice. **Gastroenterology.** 2012; 142 (2):305-315.
52. He Y, Han JR, Chang O, Oh M, James SE, Lu Q, Seo YW, Kim H, Kim K. 14-3-3ε/ζ Affects the stability of δ-catenin and regulates δ-catenin-induced dendrogenesis. **FEBS Open Bio**. 2012. 3:16-21.
53. Lu, Z., Ding L., Lu, Q., Chen, Y.-H. 2013. Claudins in Intestines: Distribution and Functional Significance in Health and Diseases. **Tissue Barriers**. 1(3): e24978.
54. Lu, Z., Lu, Q., Ding L., Chen, Y.-H. 2013. The Role of Claudin Proteins in Lung Tumorigenesis. In: **Lung Cancer, A Comprehensive Overview**. Nova Science Publishers, Inc, New York. p255-276.
55. Ding L., Lu, Z., Lu, Q., Chen, Y.-H. 2013. The Claudin family of proteins in human malignancy: A clinical perspective. **Cancer Management and Research**. 5: 367-375.
56. He Y, Kim H, Ryu T, Kang Y, Kim JA, Kim BH, Lee JH, Kang K, Lu Q, Kim K. δ-Catenin overexpression promotes angiogenic potential of CWR22Rv-1 prostate cancer cells via HIF-1α and VEGF. **FEBS Lett**. 2013. 587(2):193-9.
57. Hoggard J, Fan J, Lu Z, Lu Q, Sutton L, Chen YH. Claudin-7 increases chemosensitivity to cisplatin through the upregulation of caspase pathway in human NCI-H522 lung cancer cells. **Cancer Sci.** 2013. 104 (5):611-8.
58. Friesland A, Zhao Y, Chen YH, Wang L, Zhou H, and Lu Q. Small molecule targeting Cdc42-intersectin interaction disrupts Golgi organization and suppresses cell motility. **Proc Natl Acad Sci USA**. 2013; 110(4):1261-1266.
59. He Y, Kim H, Ryu T, Lee KY, Choi WS, Kim KM, Zheng M, Joh Y, Lee JH, Kwon DD, Lu Q, Kim K. C-Src-mediated phosphorylation of δ-catenin increases its protein stability and the ability of inducing nuclear distribution of β-catenin. **Biochim Biophys Acta.** 2014. 1843 (4):758-768.
60. Lu Q, Lanford GW, Hong H, Chen YH. δ-Catenin as a potential cancer biomarker. **Pathol Int.** 2014. 64(5):243-246.
61. Friesland A, Weng ZY, Duenas M, Massa SM, Longo FM, and Lu Q. Amelioration of cisplatin-induced experimental peripheral neuropathy by a small molecule targeting $p75^{NTR}$. **NeuroToxicology**. 2014; 45:81-90.
62. Vezzu DA, Lu Q, Chen YH, Huo S. Cytotoxicity of cyclometalated platinum complexes based on tridentate NCN and CNN-coordinating ligands: remarkable coordination dependence. **J Inorg Biochem.** 2014; 134:49-56.
63. Lu Z, Kim do H, Fan J, Lu Q, Verbanac K, Ding L, Renegar R, Chen YH. A non-tight junction function of claudin-7-Interaction with integrin signaling in suppressing lung cancer cell proliferation and detachment. **Mol Cancer.** 2015;14:120.
64. Nopparat J, Zhang J, Lu J, Chen YH, Zheng DH, Neufer PD, Fan JM, Hong H, Christi Boykin C, Lu Q. δ-Catenin, a Wnt/β-Catenin modulator, reveals inducible mutagenesis promoting

cancer cell survival adaptation and metabolic reprogramming. **Oncogene.** 2015. 19;34 (12):1542-1552.
65. Lu Q, Aguilar BJ, Li M, Jiang Y, Chen YH. Genetic alterations of δ-catenin/NPRAP/Neurojungin (CTNND2): functional implications in complex human diseases. **Hum Genet.** 2016. 135(10):1107-1116.
66. Haskins M, Jones TE, Lu Q, Bareiss SK. Early alterations in blood and brain RANTES and MCP-1 expression and the effect of exercise frequency in the 3xTg-AD mouse model of Alzheimer's disease. **Neurosci Lett.** 2016; 610:165-170.
67. Zhao Y, Zhu M, Lu Q, and Zhou H. Target protein-protein Interactions in Rho GTPase regulation using small molecules. **Science.** 2016; 351(6278): 1223.
68. Aguilar BJ, Zhou H, Lu Q. Cdc42 Signaling Pathway Inhibition as a Therapeutic Target in Ras- Related Cancers. **Curr Med Chem.** 2017;24(32):3485-3507
69. Aguilar BJ, Zhu Y, Lu Q. Rho GTPases as therapeutic targets in Alzheimer's disease. **Alzheimer's Res Ther.** 2017. 15;9(1):97.
70. Kim DH, Xing TS, Yang ZB, Dudek R, Lu Q and Chen, Y-H. Epithelial Mesenchymal Transition in Embryonic Development, Tissue Repair and Cancer: A Comprehensive Overview. **Journal of Clinical Medicine.** 2017. 7 (1): 1-25.
71. Do K, Laing BT, Landry T, Bunner W, Mersaud N, Matsubara T, Li P, Yuan Y, Lu Q, Huang H. The effects of exercise on hypothalamic neurodegeneration of Alzheimer's disease mouse model. **PLoS One.** 2018 Jan 2;13(1):e0190205.
72. Zhu Y, Howard GA, Pittman K, et al. Therapeutic Effect of Y-27632 on Tumorigenesis and Cisplatin-Induced Peripheral Sensory Loss through RhoA-NF-κB. Molecular cancer research : MCR. 2019;17(9):1910-1919.
73. Aguilar BJ, Zhao Y, Zhou H, Huo S, Chen Y-H, Lu Q. Inhibition of Cdc42-intersectin interaction by small molecule ZCL367 impedes cancer cell cycle progression, proliferation, migration, and tumor growth. **Cancer Biology & Therapy**. March 2019:1-10.
74. Kim DH, Lu Q, Chen Y-H. Claudin-7 modulates cell-matrix adhesion that controls cell migration, invasion and attachment of human HCC827 lung cancer cells. **Oncology Letters.** 2019;17(3):2890-2896.
75. Xing T, Benderman LJ, Sabu S, Parker J, Yang J, Lu Q, Ding L, Chen YH. Tight Junction Protein Claudin-7 Is Essential for Intestinal Epithelial Stem Cell Self-Renewal and Differentiation. **Cell Mol Gastroenterol Hepatol.** 2020;9(4):641-659.
76. Li M, Nopparat J, Aguilar BJ, et al. Intratumor δ-catenin heterogeneity driven by genomic rearrangement dictates growth factor dependent prostate cancer progression. **Oncogene.** 2020;39(22):4358-4374.
77. Naser A, Guiler W, Chen YH*, and Lu Q*. Nanoarchitecture and Molecular Interactions of Epithelial Cell Junction Proteins Revealed by Super-resolution Microscopy. Submitted. *: Co-corresponding authors. 2021.
78. Guiler W, Koehler A, Boykin C, and Lu Q. Pharmacological Modulators of Small GTPases of Rho Family in Neurodegenerative Diseases. **Frontiers in Cellular Neuroscience**. 2021;15(661612).
79. Bareiss SK, Johnston T, Lu Q, Tran TD. The Effect of Exercise on Early Sensorimotor Performance Alterations in the 3xTg-AD Model of Alzheimer's Disease. **Neurosci Res**. 2022; 178:60-68.
80. Lee SJ, Zdradzinski MD, Sahoo PK, Kar AN, Patel P, Kawaguchi R, Aguilar BJ, Lantz KD, McCain CR, Coppola G, Lu Q, Twiss JL. Selective Axonal Translation of the mRNA Isoform Encoding Prenylated Cdc42 Supports Axon Growth. **J Cell Sci.** 2021;134(7):jcs251967.
81. Lu Q, Chen Y-H. TRPV4: En RhoA To a Cure? **Bioessays**. 2022; 20:e2200071.
82. Naser AN, Lu Q, Chen YH. Three-Dimensional Culture of Murine Colonic Crypts to Study Intestinal Stem Cell Function Ex Vivo. **J Vis Exp.** 2022 Oct 11;(188). doi: 10.3791/64534. PMID: 36314830

83. Naser AN, Lu Q, Chen YH. Trans-Compartmental Regulation of Tight Junction Barrier Function. **Tissue Barriers**. 2022 Oct 11:2133880. doi: 10.1080/21688370.2022.2133880. Online ahead of print. PMID: 36220768
84. Naser AN, Guiler W, Lu Q, Chen YH. Nanoarchitecture and molecular interactions of epithelial cell junction proteins revealed by super-resolution microscopy. **Ann N Y Acad Sci.** 2022 Oct;1516(1):175-187. doi: 10.1111/nyas.14855. Epub 2022 Jul 12. PMID: 35819053
85. Linseman DA, Lu Q. Editorial: Rho family GTPases and their effectors in neuronal survival and neurodegeneration. **Front Cell Neurosci**. 2023 Feb 21;17:1161072. doi: 10.3389/fncel.2023.1161072. PMID: 36896267
86. Nik Akhtar S, Bunner WP, Brennan E, Lu Q, Szatmari EM. Crosstalk between the Rho and Rab family of small GTPases in neurodegenerative disorders. **Front Cell Neurosci**. 2023 Jan 27;17:1084769. doi: 10.3389/fncel.2023.1084769. PMID: 36779014
87. Malasala S, Azimian F, Chen YH, Twiss JT, Boykin C, Nik Akhtar S, and Lu Q. Enabling systemic identification and functionality profiling for Cdc42 homeostatic modulators. **Communications Chemistry**. 2024; 7(1): 271
88. Zhang D, Penwell T, Chen YH, Koehler A, Wu R, Nik Akhtar S, and Lu Q. G-Protein signaling in Alzheimer's disease: spatial expression validation of semi-supervised deep learning based computational framework. **J Neurosci.** 2024; 44 (45): e0587242024.
89. Nik Akhtar S, Tran T, Chen Y-H, Lu Q. Spatial and Planar Profiling of Rac1/Cdc42 Signaling in Alzheimer's Disease Brain Journal of Alzheimer's Disease. **Journal of Alzheimer's disease**. 2024; 102(3): 670-682.
90. Naser A, Xing TS, Tatum R, Lu, Q, Boyer PJ and Chen Y-H. Colonic crypt stem cell functions are controlled by tight junction protein claudin-7 through Notch/Hippo signaling. **Ann NY Acad Sci.** 2024;1535(1):92-108.
91. Hoegy P, Chen YH, and Lu, Q. The role of small GTPases in Alzheimer's disease tau pathologies. **Front Cell Neurosci.** 2025; (In press)

BOOK CHAPTERS AND PROCEEDINGS:

1. Lu Q. Alterations of signal transduction in Alzheimer's disease. **FuDan Lectures in Neurobiol**. 2000. XVI (236): 105-116.
2. Chen YH and Lu Q. Association of non-receptor tyrosine kinase c-Yes with tight junction protein occludin by co-immunoprecipitation assay. 2003. **Methods in Molecular Biology**. 218: 127-132.
3. Lu Q, Zhang J and Chen YH. Prostate cancer cell growth and death: complex roles of pro- and anti-oncogenic protein signaling. 2009. *In:* **Handbook of Prostate Cancer Cell Research** (Editor: Alan T. Meridith). Nova Science Publishers, Inc. 431-447.
4. Chen YH, Rodriguez AA, and Lu Q. Urine Biomarkers for Prostate Cancer Detection. 2012. *In*: **Cancer Biomarkers**. CRC Press. Chapter 4. 77-100.

PEER-REVIEWED ABSTRACTS:

1. **Lu, Q** and Wood, JG. Functional studies of Alzheimer's disease tau proteins. *Soc Neurosci.* 1991; 17: 1067.
2. **Lu, Q** and Wood, JG. Properties of fluorescently derivatized bovine tau protein. *J Cell Biol.* 1991; 115: 384a.
3. **Lu, Q** and Wood, JG. Distribution and function of fluorescently labeled bovine tau protein in living cells. *Soc Neurosci.* 1992; 18: 562.
4. Reich, C, **Lu, Q** and Wood, JG. CDC2 kinase distribution and regulation in Alzheimer's disease. *69th Annual Meeting of the American Association of Neuropathologists.* 1993. Presented by Dr. Reich.

5. **Lu, Q,** Soria, JP and Wood, JG. MAP kinase p44mpk induces Alzheimer type alterations in tau function and in primary hippocampal neurons. *Soc Neurosci.* 1993; 19: 1638.
6. **Lu, Q,** Kanumury, R and Wood, JG. Regulation of phosphorylation states of tau protein in bovine brain microtubules. *Molec Biol Cell.* 1993; 4: 390a.
7. **Lu, Q,** Kanumury, R and Wood, JG. The regulation of tau phosphorylation in isolated bovine brain microtubules: Activation by excess ATP and inhibition by apolipoprotein E. *Soc Neurosci.* 1994; 20: 1036.
8. **Lu, Q,** Zhang, JM and Kosik, KS. MAP kinase activity and the balance between cell-cell and cell-matrix interactions. *Molec Biol Cell.* 1996; 7: 461a.
9. **Lu, Q,** Zhou, JH, Paredes, M, Lu, M and Kosik, KS. Expression and characterization of human δ-catenin in cultured cells. *Molec Biol Cell.* 1997; 8: 303a.
10. Kosik, KS, **Lu, Q,** Zhou, JH, Paredes, M, Lu, M, Medina, M, Morin, P, Hartley, D, Perimon, N, Noll, E, Bhide, P and Ho, C. Presenilin Interactions. 6th International Conference on Alzheimer's disease and Related Disorders. *Neurobiology of Aging.* 1998. Vol 19, No 4S: 1276.
11. **Lu, Q,** Paredes, M, Medina, M, Zhou, JH, Orecchio, L and Kosik, KS. δ-Catenin: an adhesive junction associated protein which promotes motile behavior. *Molec Biol Cell.* 1998. 9(S): 461a.
12. Kosik, KS, Donahue, CP, **Lu, Q** and Baxter, MG. Differential gene expression and function in the dorsal and ventral hippocampus. *Soc Neurosci.* 1999; 25: 944.
13. **Lu, Q,** Mukhopadhyay, N, Yuan, ZM, Zhou, JH and Kosik, KS. δ-Catenin and the mediation of cell compaction or dispersion decision. *Gordon Res Conference.* 1999.
14. **Lu, Q.** δ-Catenin: a brain armadillo protein implicated in cell adhesion, signal transduction and human disorders. Intercellular junctions: short-range interactions fundamental to the development, differentiation and homeostasis of cellular assemblies. *Abstract in: Keystone Symposium.* 2000; p129.
15. Kim, K, Sirota, A, Chen, YH, Jones, SB, Dudek, R, Lanford, GW, Thakore, C and **Lu, Q.** Dendrite-like process formation and dynamic cytoskeletal interplay regulated by δ-catenin expression. *Molec Biol Cell.* 2001; 12(S): 42a.
16. Jones, SB, Sirota, A, Chen, YH, Kim, K, Lanford, GW, Moribito, M and **Lu, Q.** δ-Catenin is a postsynaptic scaffolding protein which modulates neuronal dendritic differentiation. *Molec. Biol Cell.* 2001; 12(S): 184a.
17. Chen, YH, **Lu, Q,** Goodenough, D and Jeansonne, B. Interaction of occludin with non-receptor tyrosine kinase c-yes regulates tight junction formation in canine kidney epithelial cells. *Molec Biol Cell.* 2001; 12(S): 219a.
18. **Lu Q**, Lanford GW, Jones SH, Chen YH. An essential role of □-catenin in neuronal Dendritic Morphogenesis. Abstr. Soc Neurosci. 2002. 452.4.
19. **Lu, Q.** Abdul, A, Chen, YH, Terrian, DM, Gregory, CW, and Lanford, GW. δ-Catenin has the potential to promote the proliferation/survival and invasiveness of human cancer cells. *Molec. Biol Cell.* 2003.
20. Jones, SB, Lu, Hope, Griffin, JD and **Lu, Q.** Non-Receptor Tyrosine Kinase Abl Regulates Dendrogenesis and Rho Family Small GTPases in Hippocampal Neurons. *Molec. Biol Cell.* 2003.
21. Sanders, HM, Jones, SB, **Lu, Q**, and Teller, JK. Morphological and Functional Alterations in Hippocampal Neurons Exposed to Brain-Specific Amyloid Peptides. *Annual Meeting of the American Society for Investigative Pathology and Experimental Biology*. 2004.
22. James, SE, Jones, SB, Burgess, R, Rispress, K and **Lu, Q**. Anti-Neoplastic Drug Induced Dendritic Cytoskeletal Degeneration And Recovery In Developing Hippocampal Neurons. *Molec. Biol Cell.* Session 460. L159. 2004. 44th Annual Meeting of the American Society for Cell Biology.

23. **Lu, Q,** Dobbs, LJ, Gregory, CW, Lanford, GW, Revelo, MP, Shappell, S and Chen, YH. Increased Expression of δ-Catenin/Neural Plakophilin-Related Armadillo Protein (NPRAP) Is Associated with the Downregulation and Redistribution of E-Cadherin and p120^{ctn} In Human Prostate Cancer. *96th Annual Meeting of American Association for Cancer Research*. 2005.
24. Bareiss, SK, Kim J, Tatum, T, Kim, K and **Lu, Q**. δ-Catenin Processing and Its Potential Regulation by Presenilin-1 Expression. *Soc Neurosci.* 2005.
25. Chen, YH, Jeansonne, B, Bareiss, SK and **Lu Q**. Analysis of δ-Catenin Mutations and Modifications in Cancer. *Molec. Biol Cell.* 2005.
26. Bareiss SK, Kim K, Xia W, Wolfe M and **Lu Q**. 2006. Presenilin/γ-secretase dependent processing of δ-catenin results in multiple cleavage products. 32th Annual meeting for Society for Neuroscience.
27. James S, Burden H, Burgess R, Xie Y, Yang T, Longo FM, Massa SM and **Lu Q**. 2006. Characterization of anti-cancer drug induced neurotoxicity and identification of novel neuroprotectants. 32th Annual meeting for Society for Neuroscience.
28. Wang T, Chen YH, Jeansonne B, Hong H, Zeng Y, Kim K, Bareiss SK and **Lu Q**. 2007. Analyses of δ-Catenin Gene Overexpression in Human Prostate Cancer. 98th Annual meeting of American Association for Cancer Research.
29. Zeng Y, Abdul A, Wang T, Chen YH, Kim K, Terrian DM, Weidner D and **Lu Q**. 2007. A Non-canonical Role of δ-Catenin/NPRAP/Neurojungin in Prostate Cancer Cell Cycle Misregulation and Genetic Instability. 98th Annual meeting of American Association for Cancer Research.
30. Dunham M, James SE, **Lu Q** and Carrion-Jones M. 2007. Methodology to obtain a sensory component of the sciatic nerve in a murine specimen. 54th Annual Meeting of American Association of Neuromuscular & Electrodiagnostic Medicine in Tuson, AL.
31. Wang T, Kim K, Chen YH, Hong H and **Lu Q.** 2007. Transcriptional Regulation of *δ-Catenin/NPRAP/Neurojungin* (CTNND2) Gene Expression in Human Prostate Cancer. 47th Annual Meeting of American Society or Cell Biology.
32. M. Oh, H. Kim, S. Bareiss, **Lu Q** and K. Kim. 2007. GSK3 Phospholylates δ-catenin and Affects Its Stability. 47th Annual Meeting of American Society or Cell Biology.
33. Gu D, H. Ji, **Lu Q**, S. Stratton, M. Barton, P. McCrea. 2007. Developmental Characterization of δ-Catenin, a Cadherin Binding Molecule of the P120-Catenin Sub-Family Required for *Xenopus* Early Development. 47th Annual Meeting of American Society or Cell Biology.
34. Y. Zhang, R. Tatum, K. Salleng, B. G. Jeansonne, **Lu Q**, N. Luo, D. M. Terrian, J. J. Lin, Y. H. Chen. 2007. Renal Tubular Dysfunction in Claudin-7 Deficient Mice. 47th Annual Meeting of American Society or Cell Biology.
35. Knowles J, Yang T, **Lu Q**, Rajadas J, Fuller G, Wang Q, Andreasson K, Moore L, Massa S, Longo FM. 2007. Novel, small molecule p75NTR ligands prevent amyloid-β induced neurodegeneration.
36. Lu, Q, Zeng, Y, Wang T, B Jeansoone, Bareiss S, James S.E. Chen, Y-H. 2008. Novel Oncogenic Functions of Delta-catenin in Prostate Cancer Progression. Department of Defense. IMPcaT Meeting. Atlanta, GA.
37. Weiming Xia, W. Campbell, T. Liu, H. Zhao, X. Zhou, H. Lu, A. Amsterdam, Q. Lu, C.-B. Chien, S. Wong. Phenotypic analysis of zebrafish embryos lacking Alzheimer's gamma-secretase components. *37thth Annual Meeting Society for Neuroscience*. San Diego, California.
38. Yang, T., Knowles, JK T. Lu, Q. Chang, Q. Wang, K. Andreasson, J. Rajadas, G. Fuller, Y. Xie, S. M. Massa, F. M. Longo (2009). Small molecule p75NTR ligands inhibit A²-induced synaptic impairment and neurodegeneration. *39th Annual Meeting Society for Neuroscience*. Chicago, Illinois.

39. Lu, Q., Boykin, C., Ding, K., Jones, S., Wolfe, M., Weiming Xia and Matt Frosch, (2009). Alzheimer disease-linked presenilin mutation (PS1M146L) induces filamin expression and gamma-secretase independent redistribution. *39th Annual Meeting Society for Neuroscience*. Chicago, Illinois.

40. Zhang, J., Lu, J., Suter, D., Krause, K., Fini, E., Baoan Chen and Qun Lu, (2009). Isoform- and Dose-Sensitive Regulation of delta-Catenin Expression and Apoptosis by Paired Box 6 Gene. *49th Annual Meeting for American Society for Cell Biology*. San Diego, California.

41. Lu, J., Zhang, J., Kim, K., Case, T., Matusik, R., M. Caudy, M. Wolfe, Q. Lu, (2009). Human Homolog of Drosophila Hairy and Enhancer of Split 1, Hes1, Negatively Regulates delta-Catenin (CTNND2) Expression in Cooperation with E2F1 in Prostate Cancer. *49th Annual Meeting for American Society for Cell Biology*. San Diego, California.

42. Zhang, G., Ding, L., Lu, Q., Wang, X., & Chen, Y. (2009). Drug-Loaded Fe3O4 Nanoparticles Induces Lung Canccer Cell Apoptosis through Caspase-8 Pathway Activation. *49th Annual Meeting for American Society for Cell Biology*. San Diego, California.

43. Lu, Z., Hong, H., Lu, Q., & Chen, Y. (2009). Inhibition of cell migration by claudin-7 is mediated through p42/44 MAPK signaling pathway. *49th Annual Meeting for American Society for Cell Biology*. San Diego, California.

44. Lu Q, Christi Boykin, Gen Zhang, Yan-Hua Chen, Ren-wei Zhang, XE Fan, Weimin Yang. (2010). Anticancer potential of curcurbitacin IIa trough STAT3/JAK2-independent, survivin and PARP mediated apoptosis and disruption of actin cytoskeleton. *AACR 101st Annual Meeting*. Washington, DC.

45. Friesland A and Lu Q. (2010). Effects of Cisplatin on the Actin Cytoskeleton: Potential Target for Reducing Cytotoxicity and Enhancing Anti-Cancer Therapy. 50th *Annual Meeting for American Society for Cell Biology*. Philadelphia, California.

46. Chen, Y. & Lu, Q. (2011, November). Nanoparticles induce apoptosis. BIT's 2nd annual world congress of nanomedicine-2011, Shen Zhen, China-PRC.

47. Lu, Q. & Chen, Y. (2012). Non-Invasive Urine Biomarkers for Prostate Cancer Detection. 8th Annual Biomarker & Diagnostics World Congress, Philadelphia, Pennsylvania.

48. Friesland, A. (2013). Amelioration of Cisplatin-Induced Experimental Peripheral Neuropathy by a Small Molecule Targeting p75NTR. Experimental Biology Meeting 2013, Boston, Massachusetts.

49. Nopparat, J. (2013). Delta-Catenin/ NPRAP/Neurojungin mutation promotes prostate tumorigenesis in mice overexpressing Myc oncogene. Am. Assoc. Cancer Research, DC, District of Columbia.

50. Weng, Z. (2013). Differential effects of cisplatin on lung cancer cells and primary neurons: roles of small GTPase RhoA. Experimental Biology Meeting 2013, Boston, Massachusetts.

51. Johnston, T., Tran, T., Lu, Q., & Bareiss, S. (2014). Exercise slows the development of early sensorimotor and cognitive symptoms in the triple-transgenic mouse model of Alzheimer's disease. American Physical Therapy Association.

52. Lu, Q. (2014). Targeting Ras Downstream to Control Motions: Rho GTPase. Am. Assoc. Cancer Research, Orlando, Florida.

53. Nopparat, J., Chen, Y., Zhang, J., Boykin, C., Zhu, Y., Qun Lu (2014). Inducible functional nonsense mutations of δ-catenin promotes prostate tumorigenesis in mice overexpressing Myc oncogene and alters Wnt/β-catenin signaling. 19th World Congress on Advances in Oncology and 17th International Symposium on Molecular Medicine, Athens, Greece.

54. Aguilar, B., Chen, Y., Huo, S., & Lu, Q. (2015). Inhibition of Cdc42 decreases migration and invasion in A549 lung cancer cells with oncogenic KRAS and upregulated Cdc42. American Chemical Society National meeting.

55. Kim DH, Lu Z, Lu Q, Shea M and Chen, YH. （2015. Dual Roles of claudin-7 in human lung cancer cell growth and metastasis. FASEB J. 29:629.10 52

56. Lu, Q. (2015). Contextual contributions of oncogenic and tumor suppressive pathways. International Conference on Prostate Cancer, Orlando, Florida., Orlando, Florida.
57. Zhu Y, Howard GA, IV, Pittman K, Boykin C, Verbanac K, and Lu Q. (2016). The therapeutic effect of Rho kinase inhibitor Y-27632 on protection from chemotherapy induced peripheral neuropathy in a tumor-bearing mouse model. Society for Neuroscience Annual Meeting. San Diego, CA. 2016-S-8232-SfN.
58. Lu Q, Li MC, Zhang J, Chen YH, Boykins C, Du J, Ai X, Chen BA, Jiang YG. （2017）. Compartmentalized δ-Catenin Driven by Genomic Rearrangement in Prostate Cancer Dictates Growth Factor Dependent, Intratumoral Cell Fate and Behavior. Eur Urol Suppl 16 (3) 161. London, UK.
59. Zhu Y and Lu Q. (2017). Re-evaluating Rho GTPase signaling as a potential therapeutic target for Alzheimer's disease. Society for Neuroscience Annual Meeting. Washington DC.
60. Li MC, Nopparat J, Zhang J et al. (2019). Intratumor δ-catenin heterogeneity driven by genomic rearrangement dictates growth factor dependent prostate cancer cell fate and behavior. Am. Assoc. Cancer Research, Atlanta, Georgia.
61. Aguilar B, Zhu Y and Lu Q. (2019) Development of Cdc42 Regulators as Potential Therapeutic Agents for Alzheimer's Disease. Alzheimer's Association International Conference 2019. Los Angles, CA.
62. Zhu Y, Leposa T, Aguilar B, Tran T, Boykin C and Lu Q. (2019). Alternative Approaches to Reveal Behavioral Abnormalities in an Alzheimer's Disease Mouse Model. Triangle Society for Neuroscience Meeting 2019.
63. Leposa T, Zhu Y and Lu Q. (2019). Age-dependent Study of Pathological Progression of Alzheimer's Disease in Hippocampal and Cortical Tissue of Human and an AD Mouse Model. Triangle Society for Neuroscience Meeting 2019. Raleigh, NC
64. Nik Akhtar S, Zhu Y and Lu Q (2022). Spatial Dysregulation of Rho-GTPases in Alzheimer's Disease Brain in Human and in Transgenic Mouse Model Alzheimer's Association International Conference 2022. San Diego, CA.
65. Malasala S, Penwell T, Boykin B, Chen YH, Nik Akhtar S, and Lu Q. (2022). Identification of Cdc42-ITSN Modulators as Novel Partial Agonists. American Society for Cell Biology 2022 Annual Meeting. Washington D.C.
66. Zhang F, Penwell T, Wu R, and Lu Q. (2023). G-Protein Signaling as target for Alzheimer's Disease: Spatial Expression Validation of Depp Learning and Network Analysis Based Computational Framework. AD/PD23: 17th International Conference on Alzheimer's and Parkinson's Diseases: Mechanisms, Clinical Strategies and promising Treatments of Neurodegenerative Diseases. Gothenburg, Sweden.
67. Nik Akhtar S, Tran T, Chen YH, and Lu Q. (2024). Spatial and rostral-caudal plane based profiling of RhoA/Rac1/Cdc42 activity status in the brain of 3xTg-AD mouse model of Alzheimer's disease. Society for Neuroscience Annual Conference. October, Chicago, IL.
68. Malasala S, Chen YH, and Lu Q. (2024) Identification of a Spectrum of Homeostatic Modulators of Cdc42-ITSN Interactions. American Chemical Society Annual Fall Conference: August, Denver, CO.
69. Azimian F, Chen YH, and Lu Q. (2024) Predictive Assignment of Cdc42 Homeostatic Modulators by Computer-Aided Drug Design. American Chemical Society Annual Fall Conference. August, Denver, CO.
70. Malasala S, Azimian F, Chen YH, and Lu Q. (2024). Enabling Systemic Identification and Functionality Profiling for Cdc42 Homeostatic Modulators to Broaden Therapeutic Landscape. NIH HR-HR Symposium. June, Bethesda, MD.
71. Dixon E, Malasala S, Tatum R, Chen YH, and Lu Q. (2025). Determining Interactions of Homeostatic Modulators to Small GTPase Cdc42 using Surface Plasmon Resonance.

Annual Meeting at American Society for Biochemistry and Molecular Biology. April. Chicago, IL.

72. Azimian F, Tatum R, Wang J, Chen YH and Lu Q. (2025). Small molecule modulators targeting the ARF1–C9ORF72:SMCR8:WDR41 interaction in ALS/FTD". Southeastern Chemical Biology and Drug Discovery Symposium. May. Athens, GA.

73. Sivaranjani A, Malasala S, Chen YH and Lu Q. (2025). Investigation of Rab10 Expression in Alzheimer's Disease Mouse Brain Models. Southeastern Chemical Biology and Drug Discovery Symposium. May. Athens, GA.

74. Dixon E, Tatum R, Chen YH and Lu Q. (2025). Determining Interactions of Homeostatic Modulators to Small GTPase Cdc42 using Surface Plasmon Resonance at Southeastern Chemical Biology and Drug Discovery Symposium. May. Athens, GA.

75. Hoegy P, Chen YH, and Lu Q. (2025). The role of small GTPases in Alzheimer's disease tau pathologies. Southeastern Chemical Biology and Drug Discovery Symposium. May. Athens, GA.

76. Joby Chacko A, Azimian F, Chen YH and Lu Q. (2025). Regional Patterns of ARF1 Dysregulation in a 3xTg-AD Alzheimer's Mouse Model. Southeastern Chemical Biology and Drug Discovery Symposium. May. Athens, GA.

Appendix:

Notice of Award

1. NIH

Department of Health and Human Services
National Institutes of Health
NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES

Notice of Award
FAIN# R01GM146257
Federal Award Date
08/12/2025

Recipient Information	**Federal Award Information**
1. Recipient Name UNIVERSITY OF SOUTH CAROLINA 1600 HAMPTON ST COLUMBIA, SC 29208	**11. Award Number** 5R01GM146257-06
2. Congressional District of Recipient 06	**12. Unique Federal Award Identification Number (FAIN)** R01GM146257
3. Payment System Identifier (ID) 1576001153A1	**13. Statutory Authority** 42 USC 241 42 CFR 52
4. Employer Identification Number (EIN) 576001153	**14. Federal Award Project Title** Homeostatic Reset as a New Therapeutic Paradigm for Slow Progression Diseases
5. Data Universal Numbering System (DUNS) 041387846	**15. Assistance Listing Number** 93.859
6. Recipient's Unique Entity Identifier J22LNTMEDP73	**16. Assistance Listing Program Title** Biomedical Research and Research Training
7. Project Director or Principal Investigator QUN LU, PHD qun@mailbox.sc.edu 252-347-1226	**17. Award Action Type** Non-Competing Continuation **18. Is the Award R&D?** Yes
8. Authorized Official Jessica Stucker jstucker@mailbox.sc.edu 803-777-5370	

Summary Federal Award Financial Information	
19. Budget Period Start Date 09/01/2025 **– End Date** 08/31/2026	
20. Total Amount of Federal Funds Obligated by this Action	$677,409
20 a. Direct Cost Amount	$454,637
20 b. Indirect Cost Amount	$222,772

2. Devro Corporation