

Curriculum Vitae

SHINICHI SOMEYA

Department of Aging and Geriatric Research
Division of Biology of Aging
College of Medicine
University of Florida
1600 SW Archer Road
PO Box 100143
Gainesville, FL 32610

Office: (352)294-5167
Fax: (352) 294-5058
Cell: 608-772-0977
E-mail: someya@ufl.edu

CURRENT POSITION

6/2011 to present Tenured and Full-time Associated Professor, Departments of Aging and Geriatric Research, Division of Biology of Aging, University of Florida, Gainesville, FL, USA.

EDUCATION

12/1991 Bachelor of Arts in Molecular and Cell Biology, University of California, Berkeley
3/2005 Ph.D. in Applied Biological Chemistry, University of Tokyo (Advisor: Dr. Masaru Tanokura)

POSITIONS AND EMPLOYMENT

4/2005 to 3/2010 Research Assistant Professor, Department of Applied Biological Chemistry, University of Tokyo, Tokyo, Japan. (Advisor: Dr. Masaru Tanokura)
5/2005 to 5/2010 Research Associate, Departments of Genetics & Medical Genetics, University of Wisconsin-Madison, Madison, WI, USA. (Advisor: Dr. Tomas Prolla)
6/2010 to 5/2011 Assistant Scientist, Departments of Genetics & Medical Genetics, University of Wisconsin-Madison, Madison, WI, USA. (Advisor: Dr. Tomas Prolla)

ACADEMIC GOVERNANCE AND SERVICE

University

2013 University of Florida College of Medicine, Interdisciplinary Program (IDP) Graduate Student Interview
2014 Invited judge to represent the Molecular Cell Biology (MCB) concentration for the Medical Guild competition for the Advancement to Candidacy Award
2014 University of Florida College of Medicine, Interdisciplinary Program (IDP) Graduate Student Interview
2014~ Member of Search Committee for Assistant/Associate Professor
2015~ Interim Executive Board member of the UF Asian Faculty and Staff Association
2015 UF Doctoral Degree Commencement Marshal
2015 Working group member for the new faculty resource website within the COM Faculty Council
2016~ External Relations Committee, Association for Research in Otolaryngology
2016~ Member of Graduate Education Committee, Department of Aging and Geriatric Research

PROFESSIONAL SOCIETIES

2003~ Association for Research in Otolaryngology
2005~ American Association for the Advancement of Science
2012~ Gerontological Society of America

GRANT REVIEW ACTIVITIES

Ad hoc reviewer for the following grants:

- 2012~ Action on Hearing Loss/Translational Research Initiative for Hearing Grant
- 2013~ The Netherlands Organisation for Scientific Research
- 2013~ San Antonio Nathan Shock Biology of Aging Center/Pilot Project Grant
- 2013~ Welcome Trust Research Training Fellowship
- 2013~ Canada Foundation for Innovation
- 2014 National Institute on Deafness and Communication Disorders: Auditory System (AUD) Study Section
- 2015~ University of Florida Health Cancer Center Cancer-Aging Collaborative Team Grant Program
- 2016~ University of Florida Claude D. Pepper Older American's Independence Center (OAIC) Interdisciplinary Pilot and Exploratory Study (PES) Program
- 2016~ Student Research Award, 7th Annual Spotlight on Aging Research,

HONORS AND AWARDS

- 2007 New Investigator Award in Biomedical Aging Research, 19th Annual Colloquium on Aging, UW Institute on Aging
- 2008 Paul Glenn Runner Up Award, The American Aging Association
- 2010 The 39th Annual Meeting of the American Aging Association Travel Award
- 2010 The 18th Annual NIA Summer Training Course in Experimental Aging Research Award
- 2011 The 2011 MidWinter Meeting Postdoctoral Fellow Travel Award
- 2014 Certificate of Appreciation, UF University Minority Mentorship Program
- 2014 University of Florida College of Medicine Exemplary Teacher for the 2013-2014 Year
- 2015 2015 William R. Jones Outstanding Mentor Awards, Florida Education Fund

OTHER PROFESSIONAL ACTIVITIES

Ad hoc reviewer for the following academic journals:

- Aging Cell
- American Academy of Audiology
- Audiology and Neurotology
- ASN Neuro
- Biochemical Journal
- Cell Death and Disease
- Experimental Gerontology
- Free Radical Biology and Medicine
- Gerontology
- Hearing Research
- Journal of the American Academy of Audiology
- Journal of Cellular Biochemistry
- Journal of Neuroscience
- Neuroscience Letters
- Neurobiology of Aging
- Oxidative Medicine and Cellular Longevity
- PLoS One
- Translational Research

TECHNOLOGICAL AND OTHER SCIENTIFIC INNOVATIONS

1. **S. Someya.** 2009. Compositions and methods for treating neurodegenerative diseases. PCT/US2009/040021. The present invention relates to compositions and methods for treating neurodegenerative diseases. In some embodiments, the present invention provides compositions for treating and preventing presbycusis.

- WO2009126778. Designated internationally in the United States, Africa, Eurasia, and Europe.
2. **S. Someya**. 2008. Compositions and methods for treating neurodegenerative diseases. US 8168675 B2. US 12/347,746. This invention relates to compositions and methods for treating and preventing presbycusis (age-related hearing loss).
 3. N. Someya, **S. Someya**, and S. Kitazato. 1996. Mineral preparation containing coral sand or corallite. EP19960904309. An edible or potable mineral preparation produced from a novel type of natural coral sand or corallite having a magnesium content of as high as about 10-12 % and a calcium-to-magnesium ratio of about 2 to 1, which is suitable for the human body. As it is extremely reduced in the content of lead and bismuth, it is safe. As it is tasteless, it is readily utilizable as food additive or the like.
 4. **S. Someya**. Compositions and methods for treating neurodegenerative diseases. PCT/US2008/088660. Approved: Yes. Licensed: No. Revenue: None. Korean Patent No 10-1417201.

RESEARCH SUPPORT

Ongoing/Active

Grant number: NIH/NIDCD RO1 R01DC014437

Period of performance: 04/01/15-03/31/20

Total direct cost: \$1,626,090

Title: Cochlear Detoxification System

Role: Principal Investigator (Someya, S)

Grant number: NIH/NIDCD RO1 RO1DC012552

Period of performance: 07/01/13-06/31/18

Total direct cost: \$1,250,000

Title: Mitochondrial Thioredoxin, Caloric restriction, and Age-related Hearing Loss

Role: Principal Investigator (Someya, S)

Grant number: NIH/NIA 5 P30 AG028740

Period of performance: 07/31/13-06/31/16

Grant support: 1.8 Cal Months

Title: Claude D. Pepper Older Americans Independence Center (OAIC)

Role: Co-Investigator (PI: Marco Pahor)

Completed

Grant number: NIH/NIDCD RO3 R03DC011840

Period of performance: 07/01/11-06/31/15

Total Direct Costs: \$300,000

Role: Principal Investigator (Someya, S)

Title: The Role of Glutathione Reductase in Age-Related Hearing Loss

Grant number: American Federation for Aging Research Grant (12388)

Period of performance: 07/01/12-06/31/15

Total direct costs: \$100,000

Title: Mitochondrial Isocitrate Dehydrogenase and Age-related Hearing Loss

Role: Principal Investigator (Someya, S)

Grant number: NIH/NIA 5 P30 AG028740

Period of performance: 07/01/11-06/31/13

Grant support: 3.0 Cal Months

Title: Career Development Core Junior Scholar Award, Claude D. Pepper Older Americans

Independence Center

Role: Early Stage Investigator (PI: Marco Pahor)

TEACHING RESPONSIBILITIES:

Course Director

- GMS 6486 Fundamentals of Biological Aging
- SPA 3032 Fundamentals of Hearing
- SPA6581 Auditory Pharmacology

Lecturer:

- GMS 6417 Integrative Aging Physiology
- GMS 6893 Clinical and Translational Science Institute Student Seminar
- GMS 6622 Mitochondrial Biology in Aging and Disease
- GMS 6063 Mechanisms of Aging
- GMS 6631 Stem Cell Biology

Doctoral Committee:

- Spring 2013~ College of Medicine, IDP Graduate student: Mi-Jung Kim, Expected complete date: June 2017
Role: Primary Advisor
- Fall 2013~ College of Public Health and Health Professions, PhD in Audiology Graduate student: Karessa White, Expected complete date: June 2017
Role: Primary Advisor
- Fall 2015~ College of Medicine, IDP Graduate student: Casey J Keuthan, Expected complete date: June 2019
Role: Committee member
- Fall 2015~ College of Medicine, IDP Graduate student: Abigail L Rosen, Expected complete date: June 2019
Role: Committee member
- Fall 2016~ College of Medicine, IDP Graduate student: Kaitlyn Calabro, Expected complete date: June 2020
Role: Committee member
- Spring 2016 College of Medicine, IDP Graduate student: Joonseok Cho, *Graduation date: June 2016*
Role: Committee member
- Spring 2016 College of Public Health and Health Professions, PhD in Audiology Graduate student: Angela Fulbright, *Graduation date: June 2016*
Role: Co-Primary Advisor
- Fall 2011~2015 University of Tokyo (Japan), PhD student: Dalian Ding, *Graduation date: February 2015*
Role: Co-Primary Advisor

Supervised Trainees

- 10/11 ~ 10/16 Postdoctoral fellow: Chul Han
- 7/15~ Assistant Scientist: Hyo-Jin Park
- Spring 2016~ Undergraduate student: Maria Tiscsa, Expected graduate date: June 2019
- Spring 2016~ Undergraduate student: Isabela Caicedo, Expected graduate date: June 2019
- Spring 2016~ Undergraduate student: Aaron Gomez, Expected graduate date: June 2019
- Spring 2016~ Undergraduate student: Sana Khalid, Expected graduate date: June 2019
- Fall 2015~ Undergraduate student: Zaimary Meneses, Expected graduate date: June 2017
- Summer 2015~ Undergraduate student: Jiyeon Koo, Expected graduate date: June 2017
- Summer 2015~ Undergraduate student: Cole Slade, Expected graduate date: June 2017
- Fall 2013~ Undergraduate student: Logan Walker, *Graduate date: June 2016*

Summer 2014~ Undergraduate student: Kap Owen, *Graduation date: June 2016*
Summer 2014~ Undergraduate student: Austin Showers, *Graduation date: June 2016*
Summer 2014~ Undergraduate student: Anamaria Parus, *Graduated: May 2015*

PUBLICATIONS

Research Articles:

1. Han C, Ding D, Lopez MC, Manohar S, Zhang Y, Kim MJ, Park HJ, White K, Kim YH, Linser P, Tanokura M, Leeuwenburgh C, Baker HV, Salvi RJ, **Someya S**. Effects of Long-Term Exercise on Age-Related Hearing Loss in Mice. *Journal of Neuroscience*. 2016; 36(44):11308-11319.
2. Mankowski RT, Ahmed S, Beaver T, Dirain M, Han C, Hess P, Martin T, Smith BK, **Someya S**, Leeuwenburgh C, Martin AD. Intraoperative hemidiaphragm electrical stimulation reduces oxidative stress and upregulates autophagy in surgery patients undergoing mechanical ventilation: exploratory study. *Journal of Translational Medicine*. 2016; 14(1):305.
3. Yu H, Vikhe Patil K, Han C, Fabella B, Canlon B, **Someya S**, Cederroth CR. GLAST Deficiency in Mice Exacerbates Gap Detection Deficits in a Model of Salicylate-Induced Tinnitus. *Frontiers in Behavioral Neuroscience*. 2016; 10:158.
4. Han C, Linser P, Park HJ, Kim MJ, White K, Vann JM, Ding D, Prolla TA, **Someya S**. Sirt1 deficiency protects cochlear cells and delays the early onset of age-related hearing loss in C57BL/6 mice. *Neurobiology of Aging*. 2016; 43:58-71.
5. Anton SD, Woods AJ, Ashizawa T, Barb D, Buford TW, Carter CS, Clark DJ, Cohen RA, Corbett DB, Cruz-Almeida Y, Dotson V, Ebner N, Efron PA, Fillingim RB, Foster TC, Gundermann DM, Joseph AM, Karabetian C, Leeuwenburgh C, Manini TM, Marsiske M, Mankowski RT, Mutchie HL, Perri MG, Ranka S, Rashidi P, Sandesara B, Scarpace PJ, Sibille KT, Solberg LM, **Someya S**, Uphold C, Wohlgemuth S, Wu SS, Pahor M. Successful aging: Advancing the science of physical independence in older adults. *Ageing Research Reviews*. 2015; 24(Pt B):304-27.
6. Fischer KE, Gelfond JA, Soto VY, Han C, **Someya S**, Richardson A, Austad SN. Health Effects of Long-Term Rapamycin Treatment: The Impact on Mouse Health of Enteric Rapamycin Treatment from Four Months of Age throughout Life. *PloS One*. 2015; 10(5):e0126644.
7. Barger JL, Anderson RM, Newton MA, da Silva C, Vann JA, Pugh TD, **Someya S**, Prolla TA, Weindruch R. A conserved transcriptional signature of delayed aging and reduced disease vulnerability is partially mediated by SIRT3. *PloS One*. 2015; 10(4):e0120738.
8. Ding D, Qi W, Yu D, Jiang H, Han C, Kim MJ, Katsuno K, Hsieh YH, Miyakawa T, Salvi R, Tanokura M, **Someya S**. Addition of exogenous NAD⁺ prevents mefloquine-induced neuroaxonal and hair cell degeneration through reduction of caspase-3-mediated apoptosis in cochlear organotypic cultures. *PloS One*. 2013; 8(11):e79817.
9. Han C, **Someya S**. Maintaining good hearing: calorie restriction, Sirt3, and glutathione. *Experimental Gerontology*. 2013; 48(10):1091-5.
10. Yamasoba T, Lin FR, **Someya S**, Kashio A, Sakamoto T, Kondo K. Current concepts in age-related hearing loss: epidemiology and mechanistic pathways. *Hearing Research*. 2013; 303:30-8.
11. Han C, **Someya S**. Mouse models of age-related mitochondrial neurosensory hearing loss. *Molecular and Cellular Neurosciences*. 2013; 55:95-100.

12. **Someya S** and Tanokura M. Mitochondria and Aging. *Jikenigaku*. 2013; 31 (20) 141-147 (*in Japanese*).
13. Dalian D, Haiyan J, Yong F, Yongqi L, Salvi R, **Someya S**, Tanokura M. Ototoxic model of oxaliplatin and protection from nicotinamide adenine dinucleotide. *Journal of Otolaryngology*. 2013; 8(1):63-71.
14. Dalian D, Haiyan J, Yong F, Salvi R, **Someya S**, Tanokura M. Ototoxic effects of carboplatin in organotypic cultures in chinchillas and rats. *Journal of Otolaryngology*. 2012; 7(2):92-101.
15. Lee WH, Kumar A, Rani A, Herrera J, Xu J, **Someya S**, Foster TC. Influence of viral vector-mediated delivery of superoxide dismutase and catalase to the hippocampus on spatial learning and memory during aging. *Antioxidants & Redox Signaling*. 2012; 16(4):339-50.
16. Dalian Ding, **Someya S**, Jiang H, Wei-dong Qi, Yu D, Masaru T, Salvi R. Detection of apoptosis by RT-PCR array in mefloquine-induced cochlear damage. *Journal of otology*. 2011 June; 6(1):1-9.
17. **Someya S**. Molecular mechanism of how caloric restriction prevents age-related hearing loss *Jikenigaku*. 2011; 29. 2673-2676 (*in Japanese*).
18. Hallows WC, Yu W, Smith BC, Devries MK, Ellinger JJ, **Someya S**, Shortreed MR, Prolla T, Markley JL, Smith LM, Zhao S, Guan KL, Denu JM. Sirt3 promotes the urea cycle and fatty acid oxidation during dietary restriction. *Molecular Cell*. 2011; 41(2):139-49.
19. **Someya S**, Yu W, Hallows WC, Xu J, Vann JM, Leeuwenburgh C, Tanokura M, Denu JM, Prolla TA. Sirt3 mediates reduction of oxidative damage and prevention of age-related hearing loss under caloric restriction. *Cell*. 2010; 143(5):802-12.
20. Hiona A, Sanz A, Kujoth GC, Pamplona R, Seo AY, Hofer T, **Someya S**, Miyakawa T, Nakayama C, Samhan-Arias AK, Servais S, Barger JL, Portero-Otín M, Tanokura M, Prolla TA, Leeuwenburgh C. Mitochondrial DNA mutations induce mitochondrial dysfunction, apoptosis and sarcopenia in skeletal muscle of mitochondrial DNA mutator mice. *PloS One*. 2010; 5(7):e11468.
21. **Someya S**, Prolla TA. Mitochondrial oxidative damage and apoptosis in age-related hearing loss. *Mechanisms of Ageing and Development*. 2010; 131(7-8):480-6.
22. **Someya S**, Tanokura M, Weindruch R, Prolla TA, Yamasoba T. Effects of caloric restriction on age-related hearing loss in rodents and rhesus monkeys. *Current Aging Science*. 2010; 3(1):20-5.
23. **Someya S** and Tanokura M. Bak-dependent mitochondrial apoptosis in Age-related Hearing Loss. *Jikenigaku*. 2010; 28, 917-920 (*In Japanese*).
24. **Someya S**, Xu J, Kondo K, Ding D, Salvi RJ, Yamasoba T, Rabinovitch PS, Weindruch R, Leeuwenburgh C, Tanokura M, Prolla TA. Age-related hearing loss in C57BL/6J mice is mediated by Bak-dependent mitochondrial apoptosis. *Proceedings of the National Academy of Sciences of the United States of America*. 2009; 106(46):19432-7.

25. **Someya S**, Yamasoba T, Kujoth GC, Pugh TD, Weindruch R, Tanokura M, Prolla TA. The role of mtDNA mutations in the pathogenesis of age-related hearing loss in mice carrying a mutator DNA polymerase gamma. *Neurobiology of Aging*. 2008; 29(7):1080-92.
26. **Someya S**, Yamasoba T, and Tanokura M. Presbycusis and Calorie Restriction. *Anti-Aging Medicine*. 2008; 4, 614-620 (*In Japanese*).
27. **Someya S**, Yamasoba T, Prolla TA, Tanokura M. Genes encoding mitochondrial respiratory chain components are profoundly down-regulated with aging in the cochlea of DBA/2J mice. *Brain Research*. 2007; 1182:26-33.
28. **Someya S**, Yamasoba T, Weindruch R, Prolla TA, Tanokura M. Caloric restriction suppresses apoptotic cell death in the mammalian cochlea and leads to prevention of presbycusis. *Neurobiology of Aging*. 2007; 28(10):1613-22.
29. Yamasoba T, **Someya S**, Yamada C, Weindruch R, Prolla TA, Tanokura M. Role of mitochondrial dysfunction and mitochondrial DNA mutations in age-related hearing loss. *Hearing research*. 2007; 226(1-2):185-93.
30. Yamasoba T, **Someya S**, Tanokura M. Mechanisms of presbycusis and its prevention by caloric restriction. *Otology Japan*. 2006; 16(2):131-134.
31. **Someya S**, Tanokura M, and Yamasoba T. Mitochondrial DNA mutations and presbycusis. *JOHNS*, 2006; 22, 1711-1714 (*In Japanese*).
32. **Someya S**, and Tanokura M. Mitochondrial DNA mutations, apoptosis, and presbycusis. *Brain Techno News*, 2005; 112, 20-24 (*In Japanese*).
33. Kujoth GC, Hiona A, Pugh TD, **Someya S**, Panzer K, Wohlgemuth SE, Hofer T, Seo AY, Sullivan R, Jobling WA, Morrow JD, Van Remmen H, Sedivy JM, Yamasoba T, Tanokura M, Weindruch R, Leeuwenburgh C, Prolla TA. Mitochondrial DNA mutations, oxidative stress, and apoptosis in mammalian aging. *Science*. 2005; 309(5733):481-4.
34. Suzuki T, **Someya S**, Hu F, Tanokura M. Comparative study of catechin composition in five Japanese persimmons (*Diospyros kaki*). *Food Chemistry*. 2005; 93(1):149-152.
35. Fujikawa T., Manabe Y, and **Someya S**. Atmosphere controlled sintering of coral sand powders by hot isostatic pressing. *Powder and Powder Metallurgy*, 2005; 52, 28-34 (*In Japanese*).
36. Fujimura H, Oomori T, Kouch S, and **Someya S**. Synthesis of protodolomite from coral reef sand. *Food Chemistry*. 2005; 99, 15-18.
37. **Someya S**, Nuno K, Kuriyama Y, and Sato N. Mineral composition of coral mineral powder. *Journal of Japanese Society for Magnesium in Research*, 2005; 32, 28-34 (*In Japanese*).
38. **Someya S**, Yoshiki Y, Okubo K. Antioxidant compounds from bananas (*Musa Cavendish*). *Food Chemistry*. 2002 November; 79(3):351-354.
39. Iida T, Yoshiki Y, **Someya S**, Okubo K. Generation of reactive oxygen species and photon emission from a browned product. *Bioscience, Biotechnology, and Biochemistry*. 2002; 66(8):1641-5.

40. **Someya S.**, Yoshiki Y, Tanokura M, and Okubo K. Antioxidant activities of banana extracts. *Japan Food Science*, 2002; 41, 101-104 (*In Japanese*).

Book Chapters:

41. Kim MJ, White K, Walker L, Han C, **Someya S.** Age-related Hearing Loss: Biochemical Pathways and Molecular Targets in Free Radicals in ENT pathology. Miller J, LePrell CG, Rybak L, editors. USA: *Humana Press*, 2015; 13, p.273-288. 502p.
42. Han Chul, **Someya S.** Update on the Free Radical Theory of Aging: The Role of Oxidative Stress in Age-related Hearing Loss in Systems Biology of Free Radicals and Anti-oxidants. Laher Issy, editor. Berlin Heidelberg, Germany: *Springer-Verlag*. 2014; 158, p.3581-98. 4108 p.
43. **Someya S.**, Prolla TA., Tanokura M. Effects of Nutraceuticals Antioxidants on Age-related Hearing Loss in Biotechnology in Functional Foods and Nutraceuticals. Bagchi D, Lau FC, Ghosh DK, editors. Boca Raton, FL, USA: *CRC Press*. 2010; 8, p.113-124. 591p.
44. Yamasoba T and **Someya S.** Hearing Loss and Anti-aging in Understanding Hearing Disorder. Ogawa, I., eds. *Nagai Press*. 2010; 356-341 (*In Japanese*).
45. **Someya S.**, Yamasoba T, Tanokura M. Prevention of presbycusis by caloric restriction in New otolaryngology and head and neck surgery. Kaga K, Komune S, editors. Japan: *Sentaniryogijitsu Kennkyujo*; 2005; p.110-113 (*In Japanese*).
46. Miyagawa M, **Someya S.**, and Tanokura M. Mechanisms of Anti-aging enzymes in Structural Biology. *Kyoritsu Press*. 2005; 65-172 (*In Japanese*).

PRESENTATIONS

Invited Oral Presentations:

1. **Someya S.** Seminar. Gene Expression Profiling of Inner Ear. Department of Otolaryngology, University of Tokyo. Tokyo, Japan. Jan 1, 2005.
2. **Someya S.**, Yamasoba T, Prolla T, and Tanokura M. Poster. Age-related Accumulation of Mitochondrial DNA Mutations Leads to Early Onset of Presbycusis in Mitochondrial Mutator Mice. 29th Association for Research in Otolaryngology Midwinter Meeting. Baltimore, MD, USA. Apr 5, 2006 - Apr 9, 2006.
3. **Someya S.**, Yamasoba T, Prolla T, and Tanokura M. Speech. Caloric restriction and inner ear aging. 7th Scientific Meeting of Japanese Society of Anti-Aging Medicine Conference. Tokyo, Japan. Jul 21, 2007.
4. **Someya S.**, Weindruch R, Tanokura M, and Prolla TA. Speech. The mitochondrial apoptosis activator Bak is required for the pathogenesis of presbycusis. American Aging Association-37th Annual Meeting. Boulder, CO. USA. Jun 1, 2008.
5. **Someya S.** Seminar. Oxidative stress and mitochondrial apoptosis in age-related hearing loss. Institute on Aging, Department of Aging and Geriatrics College of Medicine, University of Florida. Gainesville, FL, USA. Apr 20, 2009.
6. **Someya S.**, Yamasoba T, Prolla T, and Tanokura M. Poster. The role of Bak in the pathogenesis of age-related hearing loss. 9th Scientific Meeting of Japanese Society of Anti-Aging Medicine Conference. Tokyo, Japan. May 29, 2009.
7. **Someya S.** Seminar. Oxidative stress and mitochondrial apoptosis in presbycusis. Center for Hearing & Deafness, University at Buffalo. Buffalo, NY, USA. Jul 10, 2009.
8. **Someya S.** Speech. The role of Bak-dependent mitochondrial apoptosis in age-related hearing loss. 19th Annual Japan Otology Conference. Tokyo, Japan. Oct 9, 2009.

9. **Someya S.** Speech. Mitochondrial oxidative damage and apoptosis in age-related hearing loss. 8th Annual Mouse Ear Research Interest Group Meeting/33rd Association for Research in Otolaryngology Midwinter Meeting. Anaheim, CA, USA. Feb 6, 2010 - Feb 10, 2010.
10. **Someya S.** Seminar. The role of mitochondria in age-related hearing loss. Barshop Institute for Longevity and Aging Studies, University of Texas Health Science Center at San Antonio. San Antonio, TX, USA. Feb 2, 2011.
11. **Someya S.** Speech. The Role of Mitochondria in Age-related Hearing Loss. 11th Scientific Meeting of Japanese Society of Anti-Aging Medicine Conference. Tokyo, Japan. May 28, 2011.
12. **Someya S.** Speech. Strategies to prevent age-related hearing loss by calorie restriction. 1st International Conference on Anti-Aging Medicine. Kyoto, Japan. May 27, 2011.
13. **Someya S.** Seminar. The role of mitochondria in age-related diseases. Department of Cell Biology, Microbiology, and Molecular Biology, University of South Florida. Tampa, FL, USA. Sep 30, 2011.
14. **Someya S.** Symposium. Caloric Restriction, Sirt3, and Age-related Hearing Loss. American Aging Association 41st Annual Meeting. Fort Worth, Texas, USA. Jun 3, 2012. Symposium co-organizer
15. **Someya S.** Seminar. Oxidative stress, Calorie restriction, and AHL. The Mouse as an Instrument for Ear Research V, Jackson Laboratory. Bar Harbor, Maine, USA. Oct 4, 2012.
16. **Someya S.** Speech. Methods to measure hearing levels/hearing loss as a marker of aging. 2012 San Antonio Nathan Shock Center Conference on Aging. Mayan Ranch, Texas Hill Country, Bandera, Texas. Oct 20, 2012.
17. **Someya S.** Seminar. Roles of Sirtuins in Age-related Hearing Loss. Department of Applied Biological Chemistry, University of Tokyo. Tokyo, Japan. Dec 22, 2014.
18. **Someya S.** Seminar. Mechanisms of Age-related Hearing Loss: Cochlear Detoxification System. Center for Hearing and Balance Seminar Series, Department of Otolaryngology-Head & Neck Surgery, Johns Hopkins University. Baltimore, MD, USA. Apr 23, 2015.
19. **Someya S.** Seminar. Age-related hearing loss: Cochlear detoxification system. Department of Anatomy and Cell Biology, UF. BMS JG-32, UF. May 6, 2015.
20. **Someya S.** Seminar. Sex differences in aging and hearing loss. Department of Medicine, University of Tohoku. Sendai, Japan. July 8, 2016.

Poster Presentations

1. **Someya S,** Weindruch R, Tanokura M, and Prolla TA. 2004. Gene Expression Profiling of age-related hearing loss in cochlea of DBA/2J mice. 5th Molecular Biology of Hearing and Deafness. 209.
2. Yamasoba T, Yamada C, **Someya S,** and Tanokura M. 2006. 813: Decreased energy metabolism, mitochondrial dysfunction, and induction of apoptosis in the cochlea of CBA mouse given germanium dioxide. 29th Annual Meeting of the Association for Research in Otolaryngology. 29: 274.
3. Kujoth GC, **Someya S,** Pugh TD, Hacker T, Weindruch R, and Prolla TA. 2006. Calorie restriction fails to ameliorate premature aging phenotypes of mitochondrial mutator mice. Abstracts of Papers Presented at the 2006 Meeting on Molecular Genetics of Aging. 90.
4. **Someya S,** Yamasoba T, Prolla T, and Tanokura M. Poster. Age-related Accumulation of Mitochondrial DNA Mutations Leads to Early Onset of Presbycusis in Mitochondrial Mutator Mice. 29th Association for Research in Otolaryngology Midwinter Meeting. Baltimore, MD, USA. Apr 5, 2006 - Apr 9, 2006.
5. **Someya S,** Yamasoba T, Prolla T, and Tanokura M. Speech. Caloric restriction and inner ear aging. 7th Scientific Meeting of Japanese Society of Anti-Aging Medicine Conference. Tokyo, Japan. Jul 21, 2007.
6. **Someya S,** Yamasoba T, Weindruch R, Tanokura M, and Prolla TA. 2007. 346: Calorie restriction suppresses apoptotic cell death in the mammalian cochlea and leads to prevention of

- presbycusis. Abstracts of the 30th Annual Meeting of the Association for Research in Otolaryngology. 30: 119.
7. **Someya S**, Weindruch R, Tanokura M, and Prolla TA. Speech. The mitochondrial apoptosis activator Bak is required for the pathogenesis of presbycusis. American Aging Association-37th Annual Meeting. Boulder, CO. USA. Jun 1, 2008.
 8. **Someya S**, Weindruch R, Tanokura M, and Prolla TA. 2008. The mitochondrial apoptosis activator Bak is required for the pathogenesis of age-related hearing loss. Gordon Research Conferences-Auditory System. 105.
 9. **Someya S**, Weindruch R, Tanokura M, and Prolla TA. 2008. Calorie restriction fails to ameliorate premature aging phenotypes of mitochondrial mutator mice. 2006 meeting of Molecular Genetics of Aging. 142.
 10. **Someya S**, Yamasoba T, Prolla T, and Tanokura M. Poster. The role of Bak in the pathogenesis of age-related hearing loss. 9th Scientific Meeting of Japanese Society of Anti-Aging Medicine Conference. Tokyo, Japan. May 29, 2009.
 11. **Someya S**, and Leeuwenburgh C. 2011. 120. Effects of Phenylalanine Supplementation on Age-related Hearing Loss. 38th Annual Meeting of American Aging Association. 78-79.
 12. **Someya S**, Yu W, Hallows W, Xu J, Vann J, Leeuwenburgh C, Tanokura M, Denu J, and Prolla T. 2011. 145: Mitochondrial Sirt3 Mediates Reduction of Oxidative Damage and Prevention of Age-Related Hearing Loss Under Caloric Restriction. Abstracts of the 34th Annual Midwinter Research Meeting, Association for Research in Otolaryngology. 34: 48-49.
 13. Kim MJ, Walker L, Han C, Linser P, and **Someya S**. Mitochondrial isocitrate dehydrogenase and age-related hearing loss. UF Institute on Aging. The 4th Annual Spotlight on Aging Research, UF, Gainesville, FL. Sep 9, 2013.
 14. White K, Kim MJ, Walker L, Han C, Linser P, Le Prell C, and **Someya S**. Poster. The Role of Mitochondrial Isocitrate Dehydrogenase 2 in Age-related Hearing Loss in Mice. Gerontological Society of America. GSA's 2014 Annual Scientific Meeting, Washington, DC, USA. Nov 6, 2014.
 15. Han C, Kim MJ, Walker L, Rielo D, Linser P, and **Someya S**. Poster. The Roles of Glutathione Reductase in Age-Related Hearing Loss. Institute on Aging, University of Florida. 4th Annual Spotlight on Research in Aging, UF, Gainesville, FL. Sep 9, 2013.
 16. Han C, Park H, Kim MJ, White K, Walker L, Yamasoba T, Ding D, Salvi R, Linser P, and **Someya S**. Poster. The Roles of Glutathione Reductase in Age-Related Hearing Loss. Gerontological Society of America (GSA). GSA's 67th Annual Scientific Meeting, Washington, DC, USA. Nov 14, 2014.
 17. Ding D, **Someya S**, Tanokura M, Jiang H, Han C, and Salvi R. 2013. 1048: NAD attenuates mefloquine-induced cochlear damage from reactive oxygen species. Abstracts of the 36th Annual Midwinter Research Meeting, Association for Research in Otolaryngology. 2013: 802.
 18. Kim MJ, Walker L, Han C, Linser P, and **Someya S**. 2013. Mitochondrial isocitrate dehydrogenase and age-related hearing loss. The UF 3rd Annual Interdisciplinary Program in Biomedical Sciences Open House.
 19. Kim MJ, Walker L, Han C, Linser P, and **Someya S**. 2013. Mitochondrial isocitrate dehydrogenase and age-related hearing loss. The 4th Annual Spotlight on Aging Research. 2013: 16.
 20. Walker L, Kim MJ, Han C, White K, Paul Linser and **Someya S**. Mitochondrial isocitrate dehydrogenase and age-related hearing loss. UF. The 2014 Center for Undergraduate Research Board of Students Research Symposium, Gainesville, FL. Mar 1, 2014.
 21. Walker L, Kim MJ, White K, Han C, Linser P, and **Someya S**. Mitochondrial isocitrate dehydrogenase and age-related hearing loss. UF. The 2014 Creativity in the Arts and Sciences Event, Gainesville, FL. Feb 1, 2014.
 22. Han C, Kim MJ, Walker L, Rielo D, Linser P, and **Someya S**. 2014. PS-013: The Roles of Glutathione Reductase in Age-Related Hearing Loss. Abstracts of the 37th Annual MidWinter meeting of the Association for Research in Otolaryngology. 37: 16-17.

23. Kim MJ, Walker L, White K, Han C, Linser P, and **Someya S**. 2014. The role of mitochondrial thioredoxin in cochlear and auditory function in mice. The 5th Annual Spotlight on Aging Research.
24. White K, Kim MJ, Han C, Walker L, Linser P, and **Someya S**. 2014. The Role of Isocitrate Dehydrogenase 2 in Age-related Hearing Loss. 5th Annual Spotlight on Aging Research.
25. Han C, Kim MJ, Walker L, Linser P, and **Someya S**. 2014. 32: The Roles of Glutathione Reductase in Age-Related Hearing Loss. 5th Annual Spotlight on Research in Aging.
26. White K, Kim MJ, Han C, Walker L, **Someya S**, and Le Prell C. 2014. The Role of Isocitrate Dehydrogenase 2 in Age-related Hearing Loss. 2014 UF Public Health and Health Professions Research Day. 4.
27. Kim MJ, Walker L, White K, Han C, Linser P, and **Someya S**. 2014. 18: Mitochondrial Thioredoxin and Hearing Loss. 2014 UF College of Medicine Celebration of Research. 2014: 10.
28. White K, Kim MJ, Han C, Walker L, Linser P, and **Someya S**. 2014. 19: The Role of Isocitrate Dehydrogenase in Age-related Hearing Loss. 2014 UF College of Medicine Celebration of Research. 10.
29. Han C, Kim MJ, Walker L, Rielo D, Linser P, and **Someya S**. 2014. 17: The Roles of Glutathione Reductase in Age-Related Hearing Loss. 2014 UF College of Medicine Celebration of Research. 2014: 10.
30. Kim MJ, Walker L, Han C, Linser P, and **Someya S**. 2014. PS-004: The roles of mitochondrial isocitrate dehydrogenase in age-related hearing loss. Abstracts of the 37th Annual MidWinter meeting of the Association for Research in Otolaryngology. 37: 12.
31. Han C, Park HJ, Kim MJ, White K, Walker L, Yamasoba T, Ding D, Salvi R, Linser P, and **Someya S**. 2015. 15: Progress Report on the Roles of Glutathione Reductase in the Auditory System. 2015 UF College of Medicine Celebration of Research. 9.
32. White K, Kim MJ, Han C, Walker L, **Someya S**, and Le Prell C. 2015. An Update on the Role of Isocitrate Dehydrogenase 2 in Age-related Hearing Loss. 2015 UF Public Health and Health Professions Research Day. 5.
33. Kim MJ, Han C, Walker L, White K, Ding D, Leeuwenburgh C, Salvi R, Linser P, and **Someya S**. 2015. PS-514: Progress Report on the Roles of Mitochondrial Thioredoxin in the Auditory System. Abstracts of the 38th Annual MidWinter Meeting of the Association for Research in Otolaryngology. 38: 318.
34. White K, Kim MJ, Walker L, Han C, Linser P, Le Prell C, and **Someya S**. 2015. PS-510: Progress Report on the Roles of Mitochondrial Isocitrate Dehydrogenase in the Auditory System. Abstracts of the 38th Annual MidWinter Meeting of the Association for Research in Otolaryngology. 38: 316.
35. Han C, Park HJ, Kim MJ, White K, Walker L, Yamasoba T, Ding D, Salvi R, Linser P, and **Someya S**. 2015. PS-511: Progress Report on the Roles of Glutathione Reductase in the Auditory System. Abstracts of the 38th Annual MidWinter Meeting of the Association for Research in Otolaryngology. 38: 317.
36. Kim MJ, Han C, Walker L, White K, Ding D, Leeuwenburgh C, Salvi R, Linser P, and **Someya S**. 2015. 16. Progress report on the roles of mitochondrial thioredoxin in the auditory system. 2015 UF College of Medicine Celebration of Research. 9.
37. White K, Kim MJ, Han C, Walker L, Linser P, and **Someya S**. 2015. 17. Progress report on the roles of mitochondrial isocitrate dehydrogenase in the auditory system. 2015 UF Celebration of Research. 9.
38. Kim MJ, Han C, Walker L, White K, Ding D, Leeuwenburgh C, Salvi R, Linser P, and **Someya S**. 2016. PS-1: Progress Report on the Roles of Mitochondrial Thioredoxin 2 in the Auditory System. Abstracts of the 39th Annual MidWinter Meeting of the Association for Research in Otolaryngology. 12.
39. Han C, Park HJ, Kim MJ, White K, Walker L, Yamasoba T, Ding D, Salvi R, Linser P, and **Someya S**. 2016. PS-2: Progress Report on the Roles of Glutathione Reductase in the Auditory

- System. Abstracts of the 39th Annual MidWinter Meeting of the Association for Research in Otolaryngology. 13.
40. White K, Kim MJ, Walker L, Han C, Linser P, Le Prell C, and **Someya S**. 2015. PS-3: Progress Report on the Roles of Mitochondrial Isocitrate Dehydrogenase in the Auditory System. Abstracts of the 39th Annual MidWinter Meeting of the Association for Research in Otolaryngology. 13
 41. Park HJ, Han C, Kim MJ, White K, Ding D, Salvi R, Linser P, and **Someya S**. 2016. Effects of Gsta4 Deficiency on Age-related Hearing Loss in Mice. Abstracts of the 46th Annual Meeting of the Society for Neuroscience.
 42. White K, Kim MJ, Han C, Park HJ, Ding D, Linser P, Salvi R, and **Someya S**. 2016. The Effects of Glucose-6-Phosphate Dehydrogenase Deficiency on Cochlear and Auditory Function in mice. Abstracts of the 46th Annual Meeting of the Society for Neuroscience.

STATEMENT OF RESEARCH INTERESTS

Hearing loss is the third most prevalent chronic health condition, causes individuals to understand speech poorly, and affects the quality of life in older adults. The most common type of permanent hearing loss is sensorineural hearing loss that results from damage to the cochlea, and/or to the auditory nerve pathways from the cochlea to the brain. Sensorineural hearing loss is caused by several contributing factors such as aging, ototoxic chemicals, noise exposure, and/or genetic conditions. Work in my Laboratory is focused on understanding the molecular and cellular mechanisms that underlie age-related hearing loss using various transgenic and knockout mice. A second question being studied in my laboratory is how the cochlea protects itself from endogenous and exogenous toxins throughout the lifespan. We are also interested in understanding the molecular mechanisms underlying the beneficial effects of physical activity on auditory function.