March 2011

CURRICULUM VITAE

Siegfried Hekimi

Academic Degrees

Bachelor's degree, 1980, Univ. of Geneva, Switzerland

Ph.D. in Biology, 1984-1988, Univ. of Geneva, Switzerland

Professional Appointments and Honors

1986 - 1988:	Teaching assistant in the laboratory of Prof. Michael O'Shea in the Department of Animal Biology, University of Geneva, Switzerland.
1988 - 1992:	Post-doctoral fellow funded by the Fonds National Suisse de la Recherche Scientifique at the Laboratory of Molecular Biology of the Medical Research Council of Cambridge, England. Advisor J. G. White.
1992 - 1997:	Assistant Professor at the Department of Biology, McGill University, Montréal.
2002 - to date:	Affiliate Member of the McGill Centre for Studies in Aging, Faculty of Medicine
1997 – 2003 :	Associate Professor at the Department of Biology, McGill University, Montréal.
1999-2004	CIHR Scientist
Since 2004	Full Professor at the Department of Biology, McGill University, Montreal.
Since 2004	Strathcona Chair of Zoology
Since 2007	Robert Archibald & Catherine Louise Campbell Chair in Developmental Biology

Since 2010 Fellow of the Royal Society of Canada

Research Grants

Years	Agency and Type of Grant	Project Title	Amount
1992	NSERC Equipment Grant	Zeiss Inverted Injection Microscope	$30,000
1993	NSERC Equipment Grant	Leica Compound Research Microscope	$50,000
1994	NSERC Equipment Grant	Photo-documentation equipment	$12,000
1992-1995	NSRC Operating Grant	Molecular genetics of nervous system development in *Caenorhabitis elegans*	$90,000
1995-1999	NSRC Operating Grant	Molecular genetics of nervous system development in *Caenorhabitis elegans*	$90,000
1993-1995	FCAR Operating Grant	Genetique du développement nerveux chez *C. elegans*	$40,000
1996-1999	FCAR Team Grant	Neurobiolgy	$60,000
1996	FCAR Equipment	Neurobiology	$19,000
1993-1996	MRC Operating Grant	Evolutionarily conserved genes involved in nervous development	$150,000
1997	MRC Equipment Grant	Miscellaneous equipment	$11,000
1997	NCI Equipment Grant	Miscellaneous equipment	$6,000
1997-2000	MRC Operating Grant	Molecular genetics of biological timing in *C. elegans*	$240,000
1997-2000	NCI Operating Grant	The role of clock genes in the cell cycle	$180,000
1998-2003	Chronogen Inc. Res. contract	Role of clock genes in biological timing	$5,800,000
1997-2003	T2C2. Res contract	Role of clock genes in biological timing	$460,000
2001	Millennium Pharmaceuticals	Gene characterization (service contract)	$50,000
2001	CIHR (Team PI H. Bennett)	Rainin Symphony Peptide Synthesizer	$128,000
2003-2007	Chronogen Inc. Res. contract	Role of clock genes in biological timing	$3,270,000
2004-2007	Canadian Fund for Innovation (Team Leader: P. Lasko)	How to build a 4-dimensional living being from one-dimensional genetic information	$19,500,000
2004-2006	CIHR Operating grant	Canadian Longitudinal Study of Aging	$1,744,000
(Principal investigators: Christina Wolfson, Susan Kirkland, Parminder Raina)			
2005	NSERC McGill General Grant	Biology of *mclk1* in mice and cells	$50,000
2005	Chronogen Inc. Service contract	Phenotypic effect of 35 compounds on *C. elegans*' biological characteristics	$25,000
2005-2008	NSERC (CRDPJ)	Biology of *mclk1* in mice and cells	$781,000
2008-2011	NCIC	The mechanisms of action of *Mclk1* in a mouse model of cancer	$378,000
2008-2011	CIHR operating grant	Genetics of lipoprotein metabolism in C. elegans	$312,000
2008-2009	CIHR operating grant	Mouse models of the role of mitochondria in longevity	$100,000
2009-2013	CFI (Team Leader: P.Lasko)	McGill University Life Sciences Complex: Disease to Therapy Initiative	$10,600,000

2009-2013	CFI (Team Leader: M.Prentki)	Linking Basic, Clinical & Population Health Research to Prevent & Treat Diabetes, Metabolic Syndrome & Complications $6,200,000
2009-2014	CIHR operating grant	Molecular and physiological mechanisms of longevity in *Mclk1*$^{+/-}$ mutants $625,000

Postdoctoral Fellows * Indicates PDFs with independent funding

Name	Duration (years) or start date	PhD
1. Shin Takagi	1993-1996	Kyoto*
2. Thomas Barnes	1994-1998	Cambridge
3. Jonathan Ewbank	1993-1997	Cambridge*
4. Brent McCright	1999 - 2001	Utah
5. Yue Zhang	1999 - 2001	U.Beijing
6. Chang-Su Lim	1998 - 2001	Missouri
7. F. Levavasseur	1998 - 2001	Rennes
8. Yahya Tamimi	1998	Liège
9. Madeleine Garcia	1999 - 2001	Lyon*
10. Abdelmadjid Hihi	1999 - 2003	Lausanne*
11. Frederic Bussière	1999 - 2002	U.Sherbrooke
12. Vera Gorbunova	1999 - 2001	Weizmann Institute*
13. Andrei Seluanov	1999 - 2001	Weizmann Institute
14. Ning Jiang	1999 - 2004	Hunan U.
15.Yukimasa Shibata	1999 - 2002	Nagoya U.
16. Shane Rea	2001	U. of Queensland
17. Liesbeth DeJong	2000 - 2003	U. of Amsterdam
18. Hiroko Miyadera	2002	U. of Tokyo
19. Xihua Jia	2002 - 2005	Bejijing Inst. Biotech.
20. Jingjing Li	2002 - 2007	Guangdong Acad. Sci.
21. Xingxing Liu	2002 - 2006	Hirosaki, Japan
22. Claire Bénard	2004	McGill
23. Zara Stepanyan	2004 - 2007	Yerevan State Med Uni.
24. Audrey Carrière	2005 - 2006	U. de Toulouse*
25. Dantong Wang	2005 -	U. Libre de Bruxelles*
26. Jérôme Lapointe	2005 -	U. Laval
27. Basile Tarchini	2006	U. de Genève*
28. Huaien Zheng	2005 - 2007	3rd Mil. Med. U. Chongqing
29. Robyn Branicky	2006	McGill
30. Jeremy van Raamsdonk	2006 -	U. of British Columbia*
31. Tian Chian	2007	Agricultural U. Beijing

Graduate Students

Name	Start date and degree obtained
1. Anne Wong	1992 MSc
2. Bernard Lakowski[1]	1993 PhD
3. Paula Boutis	1993 MSc
4. Claire Bénard[2]	1996 PhD
5. Jason Lemieux	1998 MSc
6. Stephanie Felkai	1997 MSc
7. Dong Han	1999 MSc
8. Mathieu Lupien (co-supervision with Jerry Pollack)	1996 MSc
9. Antonina Levina (co-supervision with Jerry Pollack)	1998 MSc
10. Jinliu Feng	1999 MSc
11. Robyn Branicky[3]	1998 PhD
12. Patrick Allard	1999 n.a.
13. Yan Meng	1999 MSc
14. Antonio Ubach	1998 MSc
15. J.-C. Labbé (co-supervision with Luis Rokeach, UdM)	1995 PhD
16. Jason Burgess	1999 MSc
17. Ying Wang	2000 MSc
18. Yuan Gao	1999 MSc
19. I. Landaverde	2002 MSc
20. Darius Camp	2002 MSc
21. Wen Yang	2002 PhD (in progress)
22. T. Rodrigues	2003 MSc
23. Dominic Cliche	2004 PhD (in progress)
24. Bryan Hughes	2003 PhD (in progress)
25. Mhairi Lathe	2003 n.a.
26. T.P.A Nguyen	2002 MSc
27. Sansan Lee	2004 MSc
28. Lu-Jing Liu	2007 PhD (in progress)
29 Ying Wang	2009 PhD (in progress)
31 Darya Kryzskaya	2009 MSc (in progress)
30. David Desjardins	2008 PhD (in progress)
31. Catherine Argyriou	2010 MSc (in progress)

[1] Dean's honors list
[2] Dean's honors list; Gordon Maclachlan Prize for the most outstanding McGill graduate receiving a Ph.D. degree in any discipline of the biological and health sciences in 2002-2003.
[3] Recommended by the jury for the Dean's honors list

Invited Lectures

1. Mutations in the nematode *C. elegans* which affect a variety of developmental and behavioral cycles. December 1992; Dpt of Biochemistry, McGill.

2. A central biological clock in the nematode *Caenorhabditis elegans*.
December 1995; Department of Animal Biology, University of Geneva, Switzerland.

3. A physiological clock paces the life of the nematode *Caenorhabditis elegans*.
July 1996; Aieveos Sciences Group, Seattle.

4. A physiological clock paces the life of the nematode *Caenorhabditis elegans*.
August 1996; Merck Research Center, Montréal.

5. The nematode *C.elegans,* its genome, its development and its behaviour.
January 1996; IRCM, Université de Montréal.

6. The genetic approach to biological timing ou la vie dans le temps.
October 1996; Dpt de Biochimie, Université de Montréal; invited by the graduate students.

7. Physiological timing in the nematode *C.elegans*.
December 1996; Douglas Hospital Research Centre, Verdun.

8. CLK-1, an evolutionarily conserved molecule, sets the pace of life in the nematode *C. elegans.* January 1997; Dpt of Cellular and Molecular Biology, Harvard University; invited by the graduate students.

9. Four Clock genes of *C. elegans* interact to determine lifespan by a novel mechanism. Gordon Conference on the Biology of Aging. January 1997, Ventura, California.

10. Genetic and molecular characterization of the nematode timing gene *clk-1*.
February 1997; Dpt of Anatomy and Cell Biology, McGill University.

11. Genetic and molecular characterization of the nematode timing gene *clk-1*.
April 1997; RSVS, Laval University, Québec City.

12. Expression and activity of the nematode timing gene *clk-1*.
May 1997; Yale University, Medical School, New Haven.

13. The *clk-1* gene controls physiological rates and aging in *C. elegans*.
September 1997; McGill Cancer Center, McGill

14. The *clk-1* gene controls physiological rates and aging in *C. elegans*.
November 1997; Montreal's Children Hospital, McGill.

15. The *clk-1* gene controls physiological rates and aging in *C. elegans*
October 1997; Molecular Oncology; Royal Victoria Hospital; McGill

16. Clock genes and regulation of cellular metabolism in *C. elegans*.
November 1997; Gerontological Society of America meeting symposium; Cincinnati.

17. The *clk-1* gene controls physiological rates and aging in *C. elegans*
January 1998, Dpt of Parasitology, McGill

18. The *clk-1* gene controls physiological rates and aging in *C. elegans*
February 1998, Montreal General Hospital, McGill.

19. The *clk-1* gene controls physiological rates and aging in *C. elegans*.
March 1998, Dartmouth College, Dartmouth.

20. The *clk-1* gene controls physiological rates and aging in *C. elegans*.
March 1998, Symposium Genetics of Aging, Cold Spring Harbour Laboratory, N-Y.

21. The *clk-1* gene of *C. elegans* controls physiological rates and aging.
March 1998, U. of Ottawa, Neuroscience Research Institute.

22. The *clk-1* gene of *C. elegans* controls physiological rates and aging.
April 1998, U. of Calgary, Cancer Research Center.

23. The level of CLK-1 activity controls respiration, behavior and aging in the*C.elegans.*
September 1998, Department of Pharmacology, McGill University.

24. Control of Metabolism, Physiological Rates and Aging by the *C. elegans* Gene *clk-1*
November 1998, Gerontological Society of America meeting symposium; Philadelphia

25. The Molecular Characterization of the Life Span Extending Clock Genes of *C. elegans* November 1998, Gerontological Society of America meeting symposium; Philadelphia.

26. A model system for all weather: from cool embryogenesis to hot life span in Caenorhabditis elegans January 1999, IRCM, University of Montréal.

27. The Genetics of Life Span in the Nematode *Caenorhabditis elegans*: a molecular link to vertebrate aging. February 1999, The Pan-American Congress of Gerontology meeting symposium; San Antonio.

28. The Genetics of Life Span in the Nematode *Caenorhabditis elegans*: a molecular link to vertebrate aging. March 1999, Sick Children Hospital Research Institute, Toronto.

29. The Genetics of Life Span in the Nematode *Caenorhabditis elegans*: a molecular link to vertebrate aging. June 1999, CFBS meeting symposium; Winnipeg.

30. From Embryogenesis to Death, From Point Mutation to the Genome and From Yeast to Mouse. June 1999, Genetic Society of Canada meeting symposium; Montreal.

31. Genes that coordinate development, growth, fertility, behavior and life span in *Caenorhabditis elegans*. July 1999, University of Geneva, Department of Molecular Biology

32. The *clk-1* gene and why slow living worms life long.August 1999, Woods Hole Marine Biology Laboratory, Woods Hole, Mass.

33. Using genetics to understand the biology of aging.
September 1999, Annual meeting of the Royal College of Physicians and Surgeons of Canada. Montreal.

34. Clk mutants live long because they live slowly: molecular and genetic evidence.
January 2000, Gordon Conference on Aging, Ventura, California

35. Clk genes mitochondria and life span.
August 2000, Woods Hole Marine Biology Laboratory, Woods Hole, Mass.

36. Molecular Genetics of *clk* genes in *Caenorhabditis elegans*.
The 3rd Genetics of Aging Meeting. The Jackson Laboratory, Bar Harbour, Maine, 2000

37. Physiological rates and life span determination in *Caenorhabditis elegans*
The Anne and Max Tannenbaum Chair inaugural symposium on the biology of aging
January 2001, University of Toronto, Toronto.

38. *clk* genes, mitochondria and life span
August 2001, Woods Hole Marine Biology Laboratory, Woods Hole, Mass.

39. A Clk phenotype is sufficient for increased life span
July 2001, International Congress of Gerontology, Symposium on Model Systems

40. The *clk* genes of *Caenorhabditis elegans*: Molecular Diversity,
Physiological Complexity and Mechanistic Simplicity
August 2002, Woods Hole Marine Biology Laboratory, Woods Hole, Mass.

41. Mitochondria and lifespan in *C. elegans*
Gordon Conference on Mitochondria and Chloroplasts
August 2002, Queens College, Oxford, England

42. Molecular Genetics of Aging in *Caenorhabditis elegans*
Department of Chemistry and Biochemistry, Concordia University, Montreal

Winter 2002

43. Molecular Mechanisms of life span extention in *C. elegans*
Meeting on Molecular Genetics of Aging, Cold Spring Harbor, New-York.
November 2002

44. Molecular mechanisms underlying the phenotype of *clk-1* mutants
Gordon Conference on Oxidative Stress and Disease, Ventura, California, March 2003

45. What genetics tells us about the nature of aging
Extending the Human Lifespan: Ethical, Legal, and Social Issues
Genome Canada Symposium, Biomedical Ethics Unit, McGill University, April 2003

46. Ce que la génétique nous apprends sur la nature du vieillissement
Colloque La Recherche sur le vieillissement: accomplissements et enjeux de la prochaine décennie. Sherbrooke, May 2003

47. Molecular mechanisms of longevity in the nematode Caenorhabditis elegans
Nobel Mini Symposium on Molecular Genetics of Mitochondrial Dysfunction.
Stockholm, May 2003.

48. Two faces of reactive oxygen species : toxicity and signalling.
Meeting on Cell growth in development and disease.
Arolla, Switzerland, August 2003.

49. Genetics of Aging
The Cutting Edge seminar series of the Royal Society of Canada
The Redpath museum, McGill University, Montreal, January 2004

50. Two faces of reactive oxygen species : toxicity and signaling
The lipid club seminar series
University of Brooklyn, New York, February 2004

51. CLK-1, ubiquinone, reactive oxygen species, and lipoproteins in the nematode *Caenorhabditis elegans.* Cardiovascular Research & Therapeutic Development Conference Boston, July 04

52. Two faces of reactive oxygen species: toxicity and signaling
Eidgenossisch Technisch Hochschule (ETH) Hoenggerberg, Zuerich, Sept. 04

53. Genetics of Aging
Retreat of the PhD students association of the ETH Hoenggerberg, Kiental, Switzerland, Sept. 04

54. Genetics of Aging: Worms, Nuts and You.
Our genes: Our choice - 2004 McGill Student Bioethics Conference

55. Two faces of reactive oxygen species: toxicity and signaling
The Montreal Institute of Cardiology, University of Montreal, Montreal, Nov. 04

56. Two faces of reactive oxygen species: toxicity and signaling
Department of Biology, Concordia University, Montreal, Nov. 04

57. CLK-1 and CoQ biosynthesis: from worms to mice.
5th International CoQ meeting, Los Angeles, April 05.

58. The Genetics of Reactive Oxygen Species
15th International *C. elegans* meeting, Los Angeles, June 05

59. La Génétique du Vieillissement
Rencontre Annuelle des Médecins Gériatres du Québec, Montreal, October 05

60. *clk-1*: from worms to mice: from aging to age-dependent diseases
Gordon Conference on the Biology of Aging, Ventura, CA, February 06

61. From genes to drugs, from longevity to age-dependent diseases, from worms to people, from basic research to the clinic.
The Aging Institute of the Canadian Institute in Health Research (CIHR) first Summer Program on Aging Satellite Symposium, June 2006.

62. From post-mitotic invertebrates to long-lived mice and age-dependent diseases.
American Aging Association Annual Meeting, Boston, June 2006.

63. Genetic and pharmacological interventions on CLK-1
Meeting on Molecular Genetics of Aging, Cold Spring Harbor, New-York.
October 2006. Session Chair.

64. A Pharmacological Link between Neurodegeneration and the Aging Process
CIHR Canada-China Joint Workshop on Neurogenetics, Ottawa, September 2006.

65.A new role for electron transport in lifespan determination.
Inter-departmental seminar, Northwestern University, Chicago, January 2007.

66. A new role for electron transport in lifespan determination.
CGCF/CGDN Annual Scientific, St-Sauveur, April 2007.

67. CLK-1, mitochondria, aging, drugs and Alzheimer's disease.
Novartis Institudes of Biomedical Research, Boston, July 2007.

68. Energy metabolism, not mitochondrial oxidative stress, determines mitochondrial and systemic aging.
Biology of Aging, 4th Key Symposium. Stockholm, September 2007

69. Testing theories of aging by genetic analysis.

Department of Biology, Queens University, Kingston, November 2007

70. Testing theories of aging with worms and mice yields surprises.
Department of Biochemistry and Molecular Biophysics, Columbia University, May 2008.

71. A genetic and pharmacological model of lipoprotein metabolism in *C. elegans*.
Inauguration of the McGill Life Sciences Complex, Scientific Symposium, Sept 08.

72.Targets, Drugs, and Drug Targets for Dyslipidemia and Beyond.
Novartis Institute of Biomedical Research, Boston, September 2008.

73. Energy metabolism, not mitochondrial oxidative stress, determines aging and sensitivity to age-dependent diseases in worms and mice. Cold Spring Harbor New-York. September 2008.

74. Energy metabolism, not mitochondrial oxidative stress, determines aging and sensitivity to age-dependent diseases in worms and mice. CIHR 7th Annual New Investigator Meeting. Jackson's Point. November 2008.

75. Testing theories of aging with worms and mice yields surprises. 13th Congress of the International Association of Biomedical Gerontology (I.A.B.G). Quebec, May 2009.

76. ROS and longevity. Symposium "Aging, Neurodegeneration and Mitochondria", Espoo, Finland. June 2009.

77. Mitochondrial energy metabolism, not mitochondrial oxidative stress, is crucial to the rate of aging in worms and mice. MiMage Conference on Mitochondria in Ageing and Age Related Disease. Les Diablerets, Switzerland, September 2009.

78. Unexpected relationships between mitochondrial function, oxidative stress, inflammation, aging, and age-dependent diseases. Montreal Diabetes Research Center Meeting, Montreal, January 2010.

79. Mitochondrial ROS increase HIF-1α expression and enhance the immune response in long-lived *Mclk1*+/- mutant mice. Keystone meeting on the biology of hypoxia. Keystone, Colorado, January 2010.

80. Unexpected relationships between mitochondrial function, oxidative stress, inflammation, aging, and age-dependent diseases. Centre Hospitalier de l'Université de Montréal Research Center, Montreal, March 2010.

81. Unexpected relationships between mitochondrial function, oxidative stress, inflammation, aging, and age-dependent diseases. Lady Davis Research Institute, Jewish General Hospital, Montreal, April 2010.

82. Mitochondrial ROS signalling moderates the rate of aging in worms and in mice. The United Mitochondrial Disease Foundation (UMDF) annual meeting. Scottsdale, AZ, June 2010.

83. Mitochondrial ROS signalling moderates the rate of aging in worms and mice. International Symposium on “The Chemistry and Biology of Reactive Oxygen Species”. The Wenner-Gren Foundations, Wenner-Gren Center, Stockholm, September 2010.

84. Reactive oxygen species signaling—An alternative way to account for the correlation between oxidative stress and aging. CSH meeting on the Genetics of Aging, Cold Spring Harbour, New York, October 2010.

85. Mitochondrial ROS signalling moderates the rate of aging in worms and mice. The 13th John B. Little symposium. Harvard School of Public Health, Boston, October 2010.

86. Mitochondrial ROS signalling moderates the rate of aging in worms and mice. Annual symposium of the Association of the Graduate Students in Biological Science of York University, Toronto. March 2011.

Publications

Refereed Research Journal Publications

*indicate authors directly supervised by me

1. Hekimi, S. and O'Shea, M. (1987)
Identification of precursors of the insect neuropeptide adipokinetic hormone.
J. Neurosci. 7(9):2773-2784

2. Hekimi, S. and O'Shea, M. (1989)
Biosynthesis of adipokinetic hormones (AKHs): further characterisation of precursors and identification of novel products of processing.
J. Neurosci. 9(3):996-1004.

3. Hekimi, S. and O'Shea, M. (1989)
Antisera against AKHs and AKH precursors to study an insect neuroendocrine system.
Insect Biochem. 19:79-83.

4. Hekimi, S., Burkhart, W., Moyer, M., Fowler, E. and O'Shea, M. (1989)
Dimer structure of neuropeptide precursor established: consequences for processing.
Neuron, 2:1363-1368.

5. Hekimi, S. (1990)
A neuron-specific antigen in *C.elegans* allows visualization of the entire nervous system.
Neuron, 4:855-865.

6. Hekimi, S., Fischer-Lougheed, J. and O'Shea, M. (1991)
Regulation of neuropeptide stoichiometry in neurosecretory cells.
J. Neurosci. (10)11:3246-3257.

7. Hosono, R., Hekimi, S., Kamiya, Y., Sassa, T., Murakami, S., Nishiwaki, S., Miwa, J., Taketo, A. and Kodaira, K.-I. (1991)
The gene *unc-18* encodes a novel protein affecting the kinetics of acetylcholine metabolism in the nematode *C.elegans*.
J. Neurochem. 58(4):1517-1525.

8. Hekimi, S. and *Kershaw D. (1993)
Axonal guidance defects in a *Caenorhabditis elegans* mutant reveal cell-extrinsic determinants of neuronal morphology. **J. Neurosci**. 13(10):4254-4272.

9.*Wong A., *Boutis P., and Hekimi S. (1995) Mutations in the *clk-1* gene of

Caenorhabditis elegans affect developmental and behavioral timing. **Genetics**, 139:1247-1259.

10.*Barnes T., Kohara Y., Coulson A, and Hekimi S. (1995) Meiotic recombination, non-coding DNA and genomic organization in *Caenorhabditis elegans*. **Genetics**, 141: 159-179

11. Hekimi S., *Boutis P., and *Lakowski B. (1995) Viable, maternal-effect mutations which affect the development of the nematode *Caenorhabditis elegans.* **Genetics**, 141: 1351-1364.

12.*Barnes TM, Yin Y, Horvitz HR, Ruvkun G, Hekimi S. (1996) The *C.elegans* behavioural gene *unc-24* encodes a novel bipartite protein similar to both erythrocyte band 7.2 (stomatin) and non-specific lipid transfer protein (nsLTP). **J Neurochemistry**, 67(1): 46-57.

13.*Lakowski B, Hekimi S. (1996) Determination of Life-Span in *Caenorhabditis elegans* by Four Clock Genes. **Science**, 272:1010-1013.

14.*Ewbank JJ, *Barnes TM, *Lakowski B, Lussier M, Bussey H, Hekimi S (1997) Structural and Functional Conservation of the *C. elegans* Clock Gene *clk-1*. **Science**, 279: 980-983.

15.Ogura K, Shirakawa M, *Barnes T, Hekimi S, Ohshima Y (1997) The UNC-14 protein required for axonal elongation and guidance in *Caenorhabditis elegans* interacts with the serine/threonine kinase UNC-51. **Genes and Development**, 11(14): 1801-1810.

16.*Barnes T, Hekimi S (1997) The *C. elegans* avermectin resistance and anesthetic response gene *unc-9* encodes a member of a protein family implicated in electrical coupling of excitable cells. **J Neurochemistry**, 69(6): 2251-2260.

17.*Takagi S, *Bénard C, *Pak J, Livingstone D, Hekimi S (1997) Cellular and axonal migrations are misguided along both body axes in the maternal-effect *mau-2* mutants of *Caenorhabditis elegans*. **Development**, 124(24): 5115-5126.

18.*Lakowski B, Hekimi S (1998) The genetics of caloric restriction in *C. elegans*. **Proceeding of the National Academy of Science of the USA**, 22: 13091-13096

19.*Labbé J-C, Hekimi S, Rokeach LA, (1998) The levels of RoRNP-associated Y RNA are dependent upon the presence of ROP-1, the *Caenorhabditis elegans* Ro60 protein. **Genetics**, 151: 143-150.

20.*Felkai S, *Ewbank J, *Lemieux J, *Labbé J-C, Brown G, Hekimi S (1999) Control of respiration behavior and aging by the physiological clock gene *clk-1*. **EMBO J**, 18 (7): 1783-1792.

21.Whitfield CW, *Benard C, *Barnes T, Hekimi S, Kim SK (1999) Basolateral localization of the *C. elegans* EGF receptor in epithelial cells by the PDZ protein LIN-10. **Molecular Biology of the Cell**, 10 (6):2087-100.

22.*Labbé J-C, *Burgess J, Rokeach L, Hekimi S (2000) ROP-1, an RNA quality control pathway component, affects *Caenorhabditis elegans* dauer formation. **Proceeding of the National Academy of Science of the USA**, 97: 13233-38

23.Miyadera H, Amino H, Hiraishi A , Taka H, Murayama K, Miyoshi H, Sakamoto H, Ishii A, Hekimi S, Kita K (2001) Altered quinone biosynthesis in the long-lived *clk-1* mutants of *Caenorhabditis elegans* **Journal of Biological Chemistry**, 276:7713-7716.

24.*Jiang N, *Levavasseur F, *McCright B, Shoubridge EA, Hekimi S (2001) Mouse CLK-1 is imported into mitochondria by an unusual process that requires a leader sequence but no membrane potential. **Journal of Biological Chemistry,** 276:29218-29225.

25.*Lemieux J, *Lakowski, *Webb A, *Barnes T, *Meng Y, Hekimi S (2001) Regulation of physiological rates in *Caenorhabditis elegans* by a tRNA modifying enzyme in the mitochondria. **Genetics**, 159: 147-157.

26.*Bénard C, *McCright B, *Zhang Y, *Felkai S, *Lakowski B, Hekimi S (2001) The *C. elegans* maternal-effect gene *clk-2* affects developmental timing, is essential for embryonic development, encodes a protein homologous to yeast Tel2p, and is required for telomere length regulation. **Development**, 128 (20): 4045-4055.

27.*Branicky R, *Shibata Y, *Feng J, Hekimi S (2001) Suppressor analysis of *clk-1* reveals that adaptation of behavior to changes in temperature is an active process in *Caenorhabditis elegans.* **Genetics**, 159 (3): 997-1006.

28.*Feng J, *Bussière F, Hekimi S (2001) Mitochondrial electron transport is a key determinant of life span in *Caenorhabditis elegans*. **Developmental Cell**, 1(5): 633-44.

29.*Levavasseur F, Miyadera H, Sirois J, Tremblay M, Kita K, Shoubridge E, Hekimi S (2001) Ubiquinone is necessary for mouse embryonic development but is not essential for mitochondrial respiration.

Journal of Biological Chemistry 276 (49):46160-4

30.*Hihi A, *Gao Y, Hekimi S (2002) Ubiquinone is necessary for *C. elegans* development at mitochondrial and non-mitochondrial sites. **Journal of Biological Chemistry** 277(3):2202-6.

31.*Jiang N, *Bénard C, *Kébir H, Shoubridge E, Hekimi S (2003) hCLK2 links cell cycle progression, apoptosis and telomere length regulation. **Journal of Biological Chemistry,** 278(24):21678-84.

32.*Hihi A, *Kébir H, Hekimi S (2003) Sensitivity of *Caenorhabditis elegans clk-1* mutants to ubiquinone side-chain length reveals multiple ubiquinone-dependent processes. **Journal of Biological Chemistry**, 277(3):2202-6.

33.*Shibata Y, *Branicky R, *Landaverde I, Hekimi S (2003) Redox regulation of germline and vulval development in *Caenorhabditis elegans*. **Science**, 302(5651): 1779-82.

34.*Burgess J, *Hihi, A, *Bénard C, *Branicky R, Hekimi S (2003) Molecular mechanism of maternal rescue in the *clk-1* mutants of *Caenorhabditis elegans*. **Journal of Biological Chemistry**, 278(49): 49555-62.

35.*De Jong L, *Meng Y, Dent J, Hekimi S (2004) Thiamine pyrophosphate biosynthesis and transport in the nematode *Caenorhabditis elegans*. **Genetics**,168(2):845-54.

36.*Bénard C, *Kébir H, *Takagi S, and Hekimi S (2004) *mau-2* acts cell-autonomously to guide axonal migrations in *Caenorhabditis elegans.* **Development**,31:5947-58.

37.*Liu, X, *Jiang N, *Hughes B, *Bigras E, Shoubridge E, Hekimi S (2005) Evolutionary conservation of the *clk-1*-dependent mechanism of longevity: loss of *mclk1* increases cellular fitness and lifespan in mice. **Genes & Development,** 19:2424-34.

38.*Branicky R, Hekimi S (2005) Specification of Muscle Neurotransmitter Sensitivity by a Paired-like Homeodomain Protein in *C. elegans*. **Development,** 132**:**4999-5009.

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