

CURRICULUM VITAE

Name: Mihoko Kai
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DEMOGRAPHIC AND PROFESSIONAL INFORMATION

Current Appointments: Assistant Professor
Department of Radiation Oncology and
Molecular Radiation Sciences
Department of Oncology
The Sydney Kimmel Cancer Center
Johns Hopkins University School of Medicine

Personal data:

Address: Department of Radiation Oncology and
Molecular Radiation Sciences
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Education and training:

1990 – 1994	B.S.	Science University of Tokyo	Science
1994 – 1996	M.S.	Science University of Tokyo	Biological Science
1996 – 1999	Ph.D.	Science University of Tokyo	Biological Science
1999 – 2003	Postdoctoral Fellow	Stanford University School of Medicine	Molecular Biology Genetics, Biochemistry

Professional Experiences:

07/2003 - 09/2005	Basic Life Science Research Associate, full time Stanford University School of Medicine Department of Pathology
10/2005 - 10/2007	Instructor, full time Stanford University School of Medicine Department of Pathology
10/2007 – 8/2008	Basic Life Science Senior Research Scientist, full time Stanford University School of Medicine Department of Pathology

7/2008 – present

Assistant Professor
Johns Hopkins University School of Medicine
Department of Radiation Oncology and
Molecular Radiation Sciences
Department of Oncology
The Sydney Kimmel Cancer Center

RESEARCH ACTIVITIES

Publications:

1. **Kai, M.**, Takahashi, T., Todo, T. and Sakaguchi, K. Novel DNA binding proteins highly specific to UV-damaged DNA sequences from embryos of *Drosophila melanogaster*. *Nucleic Acids Research*. 1995 Jul 25; 23(14):2600-2607.
2. Kimura, S., **Kai, M.**, Kobayashi, H., Suzuki, A., Morioka, H., Otsuka, E. and Sakaguchi, K. A structure-specific endonuclease from cauliflower (*Brassica oleracea* var. botrytis) inflorescence. *Nucleic Acids Research*. 1997 Dec 15; 25(24):4970-4976.
3. **Kai, M.**, Todo, T., Wada, M., Ryo, H., Masutani, D., Kobayashi, H., Morioka, H., Ohtsuka, E., Hanaoka, F. and Sakaguchi, K. A new *Drosophila* ultraviolet light-damaged DNA recognition endonuclease that selectively nicks a (6-4) photoproduct site. *Biochem Biophys. Acta*. 1998 Apr 29; 1397(2):180-188.
4. Tanaka, K., Yonekawa, T., Kawasaki, Y., **Kai, M.**, Furuya, K., Iwasaki, M., Murakami, H., Yanagida, M. and Okayama, H. Fission yeast of Eso1p is required for establishing sister chromatid cohesion during S phase. *Molecular and Cellular Biology*. 2000 May; 20(10):3459-3469.
5. **Kai, M.**, Tanaka, H. and Wang, T.S. Fission Yeast Rad17 Associates with Chromatin in Response to Aberrant Genomic Structures. *Molecular and Cellular Biology*. 2001 May 15; 21(10):3289-3301.
6. Tanaka, K., Hao, Z., **Kai, M.** and Okayama, H. Establishment and maintenance of sister chromatid in fission yeast by a unique mechanism. *EMBO J*. 2001; 20(20): 5779-5790.
7. **Kai, M.** and Wang, T. S.-F. Checkpoint activation regulates mutagenesis translesion synthesis. *Genes & Development*. 2003 17 (1): 64-76.
8. **Kai, M.** and Wang, T.S. Checkpoint response to replication stalling: inducing tolerance and preventing mutagenesis (review). *Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis*. 2003 532: 59-73 (invited)
9. **Kai, M.**, Boddy, M.N., Russell, P. and Wang, T.S. Replication checkpoint kinase Cds1 regulates Mus81 to preserve genome integrity during replication stress. *Genes & Development*. 2005; 19: 919-932
10. **Kai, M.**, Taricani, L., and Wang, T.S. Methods for Studying Mutagenesis and Checkpoints in *Schizosaccharomyces Pombe*. *Methods in Enzymology*, 2005; 409:183-194. (invited)

11. **Kai. M.**, Kanji Furuya, Francesca Paderi, Antony M. Carr, and Teresa S.F. Wang. Rad3-dependent phosphorylation of the checkpoint clamp regulates repair-pathway choice. *Nature Cell Biology*, 2007; 9:691-697.

Extramural Funding:

2007-2012 NIH K01 Research Career Award: The Howard Temin Award
 “Role of the Checkpoint in Maintaining Genome Stability”
Identification number: 1 K01 CA114027-01
Sponsor: National Institute of Health
Total direct cost: \$719,375
Principle Investigator: Mihoko Kai
My role: Cancer biomedical research as a principle investigator
My percent effort: 75%

ORGANIZATIONAL ACTIVITIES

Editorial Activities:

01/2006 Journal peer review (Molecular and Cellular Biology)
08/2008 Journal peer review (Molecular Biology of the Cell)

RECOGNITION

Honors and awards:

1997 – 1999 JSPS Research Fellow (Research Fellowships of the Japan Society for the Promotion of Science for Young Scientists) for graduate students
1999 – 2000 JSPS Research Fellow (Research Fellowships of the Japan Society for the Promotion of Science for Young Scientists) for postdoctoral fellows
2004 Young Investigator Award, The third Mutagenesis and Carcinogenesis Gordon Conference
2007-2013 NIH K01 Research Career Award: The Howard Temin Award

Invited talks:

1. 03/2004, “Control of Mus81 by Cds1 Preserves Genome Integrity During Replication Stress”, Ventura (California), The Third Mutagenesis and Carcinogenesis Gordon Conference

2. 06/2006, “Checkpoint Regulation of DNA Repair During Chromosome Replication”, Indian Wells (California), FASEB (The Federation of American Societies for Experimental Biology) Summer Research Conference (Yeast Chromosome Structure, Replication & Segregation)
3. 01/2007, “Crosstalk between Checkpoint and Repair”, University of Florida
4. 01/2007, “Crosstalk between Checkpoint and Repair”, Florida State University
5. 12/2007, “Rad3^{ATR}-dependent phosphorylation of the checkpoint clamp regulates repair pathway choice”, Yokohama (Japan), BMB2007 (Joint meeting of the Japanese Biochemical Society & the Molecular Biology Society of Japan)