

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF INTERNAL MEDICINE  
DEPARTMENT OF HUMAN GENETICS

JoAnn Sekiguchi, Ph.D., assistant professor of internal medicine, Department of Internal Medicine, and assistant professor of human genetics, Department of Human Genetics, Medical School, is recommended for promotion to associate professor of internal medicine, with tenure, Department of Internal Medicine, and associate professor of human genetics, without tenure, Department of Human Genetics, Medical School.

Academic Degrees:

Ph.D.	1996	Cornell University
B.A./B.S.	1987	University of California, Davis

Professional Record:

2004-present	Assistant Professor of Human Genetics, University of Michigan
2003-present	Assistant Professor of Internal Medicine, University of Michigan

Summary of Evaluation:

Teaching: Dr. Sekiguchi provides didactic teaching and mentoring to students in various stages of their education. She has taught 15 courses since 2004. Dr. Sekiguchi has mentored 11 undergraduate students, four graduate students, and five postdoctoral students. She has also assisted in student rotations and provided invaluable skills to seven students through her mentoring. Dr. Sekiguchi is an active participant on many dissertation committees. She has served as chair on four out of the 11 committees she assists. Dr. Sekiguchi has contributed to the success of several departmental seminars. She is an active faculty participant on many training grants and training programs. Teaching is an important part of Dr. Sekiguchi's academic career and she is constantly developing new teaching modules so she can provide the best instruction to her students. She has received an average of 1.6 out of 5 (with 1 being the highest score) on her course evaluations, demonstrating that the students are very satisfied with her instruction.

Research: The area of expertise that Dr. Sekiguchi specializes in is elucidating mechanisms by which genomic stability is maintained in mammalian cells and understanding how defects in these processes lead to human diseases, including immunodeficiency and cancer. She recently initiated a novel line of investigation to elucidate the molecular mechanisms underlying lung disease in ataxia telangiectasia. This is a deadly disease which has not been previously studied to determine its causes and progression. Dr. Sekiguchi's preliminary studies allowed her to submit an NIH R01 application which was scored in the 4th percentile at the National Heart, Lung and Blood Institute.

Dr. Sekiguchi has a strong success rate in obtaining grant funding. She has completed seven grants within the last ten years and she served as principal investigator on all of them. She also has two pending grants; one of which is a supplement to her current R01 grant. Dr. Sekiguchi has published 52 peer-reviewed publications and was first author on 26 of these publications. Her research is recognized within the DNA repair community and is expressed by the many awards she has received

including the Pew Scholar in Biomedical Sciences from the Pew Charitable Trust Foundation (2004). She was also a finalist for the W.M. Keck Distinguished Young Scholars Award in 2006, and in 2008, Dr. Sekiguchi received the Elizabeth Caroline Crosby Award from the University of Michigan. Dr. Sekiguchi has been asked to participate in numerous seminars and extramural invited presentations. She also provides peer review service as an ad hoc reviewer on 18 journals and was an invited ad hoc grant reviewer for nine organizations. In 2009, Dr. Sekiguchi served as a grant reviewer for an NIH P01 review panel, the National Science Foundation and U.S. Department of State, Science Center Program.

Recent and Significant Publications:

Dinkelmann M, Spehalski E, Stoneham T, Buis J, Wu Y, Sekiguchi JM, Ferguson DO: Multiple functions of MRN in end-joining pathways during isotype class switching. *Nat Struct Mol Biol* 8:808-813, 2009.

Huang Y, Giblin W, Kubec M, Westfield G, St Charles J, Chadde L, Kraftson S, Sekiguchi JM: Impact of a hypomorphic Artemis disease allele on lymphocyte development, DNA end processing and genome stability. *J Exp Med* 206:893-908, 2009.

Giblin W, Chatterji M, Westfield G, Theisen B, Cheng HL, DeVido J, Alt FW, Ferguson DO, Schatz DG, Sekiguchi JM: Leaky SCID and aberrant DNA rearrangements due to a hypomorphic RAG1 mutation. *Blood* 113:2965-2975, 2009.

Buis J, Wu Y, Deng Y, Leddon J, Westfield G, Eckersdorff M, Sekiguchi J, Chang S, Ferguson DO: Mre11 nuclease activity has essential roles in DNA repair and genomic stability distinct from ATM activation. *Cell* 135:85-96, 2008.

Morrish TA, Garcia-Perez JL, Stamato TD, Taccioli GE, Sekiguchi J, Moran JV: Endonuclease-independent LINE-1 retrotransposition at mammalian telomeres. *Nature* 446:208-212, 2007.

Service: Dr. Sekiguchi is involved in several institutional committees that include the Education Committee for Human Genetics, Genetic Counseling Student Admissions Committee for Human Genetics, Faculty Search Committee for Human Genetics, James V. Neel Award Committee for Human Genetics, Biomedical Research Council Committee and the Qualifying Examination Committee for Doctoral Candidates for Human Genetics. In 2008, Dr. Sekiguchi served on the Annual Pew Scholars and Fellows meeting organizing committee and, in 2009, she was the session chair for the Midwest DNA Repair Symposium. Dr. Sekiguchi will be the faculty co-chair for the 2011 CMB Retreat Organizational Committee. She also served as a judge for the CMB Symposium Award competition. Dr. Sekiguchi was recently invited to become a member of the Biomedical Research Council Committee for the University of Michigan Health Sciences Schools. She is also an advisor to the senior associate dean for research.

External Review:

Reviewer A: "...nearly all her papers are in some of the best journals in the field and she is the first author on most of them. This is an astonishing level of productivity that is unlikely to be matched by any of her peers...JoAnn obtained an NIH R01 grant regarding Artemis shortly after arriving at U of M and I understand that this was recently renewed for another four years. In the [extremely]

competitive environment for funding we face today, this is an outstanding achievement and a recognition of Dr. Sekiguchi's accomplishments."

Reviewer B: "I regard Dr. Sekiguchi as someone who does highly reliable, high quality research on topics of central importance to a major field. When I see a Sekiguichi [sic] paper, I know that it carries the highest possible level of reliability...Dr. Sekiguchi is a clear and effective speaker, and I believe that this is reflected in her teaching as well."

Reviewer C: "Dr. Sekiguchi is a dedicated and creative scientist who has made very important contributions in the competitive and fast-moving field of DNA repair and cancer...Dr. Sekiguchi has published excellent papers, each addressing an important question informed by a deep understanding of biology and human disease."

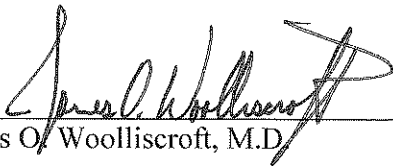
Reviewer D: "JoAnn has an impeccable scientific reputation. If she publishes something, it is correct. She is well known by the entire field—from young scientists to pillars of the field. There is no question that she is highly regarded by the scientific community."

Reviewer E: "Dr. Sekiguchi has published a large number of very significant studies in top journals during her whole career...I believe Dr. Sekiguchi is a top researcher in her field and has the required qualities to continue her work independently."

Reviewer F: "She does appear well-funded with two recently approved NIH awards and a number of 'stimulus package' supplements. Outside confidence in her potential is obvious based on her selection to receive three prestigious junior faculty awards from LLS, Pew, and Keck....Having heard her speak on a number of occasions, I would guess that she is an excellent teacher."

Summary of Recommendation:

Dr. Sekiguchi is a distinguished and highly gifted scientist who has contributed much to the DNA repair field. She is a great teacher, mentor and scientist and is recognized by many within the University of Michigan and outside. Her expertise in the DNA repair field and the funding she has received demonstrate her potential as a future superstar. Therefore, I strongly recommend Dr. Sekiguchi for promotion to associate professor, with tenure, in the Department of Internal Medicine and associate professor, without tenure, in the Department of Human Genetics.



James O. Woolliscroft, M.D.  
Dean  
*Lyle C. Roll Professor of Medicine*

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