PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN MEDICAL SCHOOL
DEPARTMENT OF PATHOLOGY

Thomas E. Wilson, M.D., Ph.D., Assistant Professor of Pathology, Department of Pathology, Medical School, is recommended for promotion to Associate Professor of Pathology, with tenure, Department of Pathology, Medical School.

Academic Degrees:

M.D.	1994	Washington University
Ph.D.	1994	Washington University
B.S.	1987	University of Wisconsin

Professional Record:

1999-Present	Assistant Professor of Pathology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Wilson has extensive teaching responsibilities, mainly for graduate students and postdoctoral fellows, both in his laboratory and in formal courses. He has had about three postdoctoral fellows and graduate students training in his laboratory at any one time over the past six years. The graduate students are both in the pathology and cell and molecular biology training programs. He has also been an instructor in graduate courses Pathology 581 and 582 and has been the Director of Pathology 850, a research seminar which is a critical component of the pathology graduate program. For the past four years he has also been a formal member of the teaching faculty for house officers and fellows in the summer postdoctoral research training program for physicians. He has served on several doctoral dissertation committees and is an active member of the cell and molecular biology steering committee. He has also served on thesis committees for graduate students in the Departments of Human Genetics and Biological Chemistry. Overall, the quality of his educational activities is regarded by his students as excellent.

Research: Dr. Wilson has developed an extensive reputation for his contributions to the understanding of DNA double strand breaks and repair. His work has provided insights into the importance of tyrosyl-DNA phosphodiesterase and polynucleotide kinase phosphatase as well as endonucleases for the repair of topoisomerase1 cleavage complexes. These studies are critical because inhibitors of the topoisomerase are used in cancer chemotherapy. His work is regarded as innovative, careful, and on the cutting edge. Since his recruitment to the Department of Pathology in 1999, his work has been consistently funded from outside sources, and he is currently the principal investigator for an NIH/NCI RO1 grant on systemic genetic analysis of yeast NHEJ. He has been invited to present his work at national and international meetings and

seminars including those at the University of Montreal, the University of Kentucky, the University of Southern California, Washington University, at the American Society for Microbiology Conference on DNA Repair and Mutagenesis in Bermuda, and in a recent Keystone Symposium on Genome Instability and Repair.

Recent and Significant Publications:

Daley JM, Wilson TE: Rejoining of DNA double-strand breaks as a function of overhang length. Mol Cell Biol 25:896-906, 2005.

Deshpande R, Wilson TE: Identification of DNA 3' phosphatase active site residues and their differential role in DNA binding, Mg^{2+} coordination and catalysis. Biochemistry 43:8579-8589, 2004.

Della M, Palmbos PL, Tseng HM, Tonkin LM, Daley JM, Topper LM, Pitcher RS, Tomkinson AE, Wilson TE, Doherty AJ: Mycobacterial Ku and Ligase proteins constitute a two-component NHEJ repair machine. Science 306:683-685, 2004. *Phillip Palmbos, from the Wilson laboratory, acts as co-first author.*

Wilson TE: A genomics-based screen for yeast mutants with an altered recombination/end-joining repair ratio. Genetics 162:677-688, 2002.

Vance JR, Wilson TE: Yeast Tdp1 and Rad1-Rad10 function as redundant pathways for repairing Top1 replicative damage. Proc Natl Acad Sci USA 99:13669-13674, 2002.

Service: Dr. Wilson has been involved in the molecular diagnostics laboratory as a technical consultant and in coverage of laboratory diagnostic activities when the Director, Dr. John Thorson, is absent. He has also been involved in making a recently required robotic instrument functional in the laboratory. He is a member of an NIH/NCI basic and preclinical subcommittee C, the Michigan Biomedical Research Council and the Medical Research Council of the United Kingdom, and he is scheduled to be a member of the NIH/CSR Molecular Genetics B Committee. He is an ad hoc manuscript reviewer for twelve high-quality peer-reviewed journals. At the University of Michigan, he is a member of the Pathology Graduate Program Curriculum Committee, the Cellular and Molecular Biology Program Steering Committee, the Committee of Reorganization of Residency Training in Clinical Pathology and, for the past three years, has been the Director of the Pathology Research Seminar Series. In all of these activities his contributions have been superb and he is a highly regarded member of the academic community of the University of Michigan.

External Review:

Reviewer A: "Dr. Wilson's work on nonhomologous end-joining has been top notch....His new work on yeast Tdp1 and Rad1-Rad10 functioning as redundant pathways for repairing Top1 replicative damage provides important new insights....Dr. Wilson is a creative, productive scientist who has clearly made his mark in the field of DNA repair."

Reviewer B: "Dr. Wilson has managed to achieve a truly outstanding record of contributions to this field...and this work has firmly established him as one of the leading

investigators [of his cohort] in the DNA repair field worldwide....because of this promising situation and Dr. Wilson's demonstrated ability to contribute leading research information in this field, his future is extremely promising."

Reviewer C: "...the quality of Tom's publications truly sets his work apart. In sum, his work is rock solid -- and everyone in the field appreciates it....Clearly, everyone in the field...knows and respects Tom's work."

Reviewer D: "He is clearly a 'thinking' scientist, which on reflection is evident in his papers. He clearly has an important grasp of the important questions to address in his field....he has an excellent reputation within the field of DNA repair."

Reviewer E: "...Dr. Wilson has shown outstanding productivity for an Assistant Professor. He has developed innovative genetic assays to monitor double-strand break repair in yeast and is using state-of-the-art high throughput methods for yeast mutant screening and two-hybrid analysis. His research program is clearly expanding and diversifying into different areas of DNA repair."

Summary of Recommendation:

Dr. Thomas Wilson has developed an extensive reputation as an innovative scientist whose work has made important breakthroughs in the study of DNA repair. His work has been consistently funded from external sources, and he has received numerous invitations from other institutions and national and international symposia. He is a very active educator mainly for graduate and postgraduate students, both in the laboratory and in formal teaching activities, and he has some responsibility in the molecular diagnostics laboratory in the division of clinical pathology. He is deserving of the promotion to Associate Professor, with tenure, in the Department of Pathology.

Allen S. Lichter, M.D., Dean
Newman Family Professor
of Radiation Oncology

May 2006