

May 17, 2007

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN MEDICAL SCHOOL
DEPARTMENT OF PATHOLOGY

Gregory R. Dressler, Ph.D., Associate Professor of Pathology, with tenure, Department of Pathology, Medical School, is recommended for promotion to Professor of Pathology, with tenure, Department of Pathology, Medical School.

Academic Degrees:

Ph.D.	1986	University of Pennsylvania
B.S.E.	1981	University of Pennsylvania

Professional Record:

2000-Present	Associate Professor of Pathology, University of Michigan
1994-2000	Assistant Professor of Pathology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Dressler has made many significant contributions to the teaching activities of the Department of Pathology. For the last several years, he has given three hours of lecture to first-year medical students as part of the renal and endocrine organ system sequences, and these lectures focus on important topics including the embryologic development of the kidney, renal disease, and sex determination. He has essentially no resident teaching. His major teaching activities involve graduate students and postdoctoral fellows. For the last six years he has been the Course Director for Pathology 582, a required seminar course for graduate students that focuses on fostering critical thinking and oral presentation skills. Dr. Dressler was involved in both the conception and implementation of this course, and he also contributes thirty-six hours of direct teaching effort in addition to administrating this course. He also lectures in Pathology 581, a required course for graduate students which also frequently includes students from other graduate programs and he has taught several other courses associated with the Cell and Developmental Biology graduate program. He is also an excellent laboratory trainer, giving opportunities to graduate students within the Pathology and Cell and Molecular Biology graduate programs. He has served on the thesis committee of thirteen students and has been the primary mentor for two. Usually two students rotate through his laboratory annually, and five postdoctoral fellows have been trained under his supervision in the past six years, and many of these students and fellows appear as authors on high-quality manuscripts. Dr. Dressler has also been a member of several departmental and Medical School committees that are critical for graduate student training, including the Admissions Committee for the Joint Graduate Program in Biomedical Sciences, the Department of Pathology Graduate Preliminary Examination Committee, and he has been a coordinator for the Cell and Molecular Biology Preliminary Exam Committee. Overall, his evaluations indicated that he is a very good educator, highly valued for his contributions to the educational programs of the Department of Pathology.

Research: Dr. Dressler's research has focused on the area of the molecular genetic basis of embryonic development, especially kidney organogenesis. In fact, many consider him to be perhaps the preeminent renal developmental biologist in the world. The basic theme throughout much of his work is that embryonic regulatory genes can determine the initiation, progression, and severity of human disease. He has identified key genes in pathways in the normal and abnormal kidney, including the transcription factor Pax2 gene which is a critical regulator of kidney and urinary tract development and renal disease. He discovered the KCP gene belonging to the TGF β and defined its role as a potentiator of renal fibrosis, and more recently he has made significant discoveries on the epigenetic regulation of Pax2 gene expression involving controlled histone methotransferases which established new pathways for understanding how kidney development is regulated. He has become internationally renowned for his work, and has been extraordinarily successful in obtaining external funding. Currently he is the principal investigator of three RO1 grants and one R21 grant, and he is a collaborator and co-investigator on two other RO1 grants. Since his promotion to Associate Professor, he has had numerous invitations to present his work at national and international symposia including an international workshop on developmental methodology, the German Society for Nephrology Annual Meeting, the Banbury Conference on Epithelial and Endothelial Tube Morphogenesis in Cold Spring Harbor, the Max Planck Institute for Biophysical Chemistry, the Keystone Meeting on Cell Signaling in Development, and a course on genetics and renal disease in Italy. He was invited to deliver the prestigious Plenary Lecture for the American Society of Nephrology Annual Meeting in 2006. He has thirteen publications during this period in outstanding journals including *Development*, *Journal of Biological Chemistry*, *Developmental Biology*, *Oncogene*, *Molecular and Cell Biology*, *EMBO Journal*, and *Nature Medicine*.

Recent and Significant Publications:

Lin J, Patel SR, Wang M, Dressler GR: The cysteine rich domain protein KCP suppresses TGF- β /Activin signaling in renal epithelia. *Mol Cell Biol* 26:4577-4585, 2006.

Kim D, Dressler GR: Nephrogenic factors promote differentiation of mouse embryonic stem cells into renal epithelia. *J Am Soc Nephrol* 16:3527-3534, 2005.

Lin J, Patel SR, Cheng X, Cho EA, Levitan I, Ullenbruch M, Phan SH, Park JM, Dressler GR: Kielin/Chordin-like protein (KCP), a novel enhancer of BMP signaling attenuates renal fibrotic disease. *Nature Medicine* 11:387-393, 2005.

Cai Y, Brophy P, Levitan I, Stefano S, Dressler GR: Groucho suppresses Pax2 transactivation by inhibition of JNK mediated phosphorylation. *EMBO J* 22:5522-5529, 2003.

Brophy PD, Ostrom L, Lang KM, Dressler GR: Regulation of Ureteric Bud Outgrowth by Pax2 Dependent Activation of the Glial Derived Neutrophic Factor Gene. *Development* 128:4747-4756, 2001.

Service: Dr. Dressler has been involved in significant service activities within the University of Michigan, and at the national level. In addition to the service as Co-Director of the Center for Organogenesis at Michigan, he is a member of the Basic Science Committee of the American Society of Nephrology, a reviewer for a number of important journals including *Development*, *Cell*, *Science*, and *PNAS*, and he is on the editorial review board of the *American Journal of Physiology* and a member of the editorial board of *Developmental Dynamics*. He is constantly sought after to be a member of special panels or advisory boards or site visits for the NIH and the NIDDK. All of these attest to his reputation in the field, not just as an outstanding scientist, but as an effective organizer and administrator.

External Review:

Reviewer A: “His work has been outstanding and creative with a focus on an exciting array of cutting-edge science. He has made important contributions to the transcriptional control of nephrogenesis, particularly as it relates to early developmental genes....I would rank Dr. Dressler in the top one percent of research scientists who are working today in this discipline in nephrology.”

Reviewer B: “Dr. Dressler is one of a few true leaders in the field of kidney development worldwide, this leadership has been recognized by his consistently strong track record in receiving external research funding for his work. In addition, he is much in demand to write reviews and book chapters in his field. He is also asked to give many invited lectures and seminars worldwide.”

Reviewer C: “Greg directs one of the leading research programs in transcriptional regulation and kidney development. He is the world’s foremost authority on the transcription factor Pax2 and its role in kidney development.”

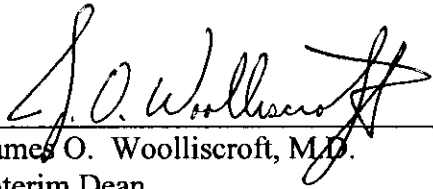
Reviewer D: “His work has made him one of the premier molecular biologists focusing on the kidney. This year he has been distinguished with a plenary lecture at the annual meeting of the American Society of Nephrology, a most deserved reward.”

Reviewer E: “This work (his studies of embryogenesis and the transcription factors involved) has established Greg as one of the leading figures in renal developmental biology....When I think of the scientists who focused on renal development over the past decade, and have made the most extensive and important contributions, Greg is among the top handful of people that come to mind.”

Reviewer F: “Dr. Dressler is well known and very highly regarded within the developmental biology and nephrology communities....Dr. Dressler also possesses strong credentials in the areas of national service and teaching....He has trained several graduate students and postdoctoral fellows, several of whom have moved into faculty positions or other research positions.”

Summary of Recommendation:

Dr. Gregory Dressler has made spectacular contributions in the field of renal development and its relationship to kidney diseases, including the studies of genetic regulation of various transcription factors. He is recognized as one of the most productive and creative people in this field in the world. He has had consistent funding from external sources, and his contributions have been recognized by his appointment to numerous study sections for the NIH and the NIDDK, and as a reviewer and member of editorial boards of prestigious journals. He has also had numerous national and international invitations to present his work. He is an effective and superb educator for students at the graduate level. I am pleased, therefore, to recommend Dr. Dressler for promotion to Professor of Pathology.



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

May 2007