

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PATHOLOGY
DEPARTMENT OF UROLOGY

Scott A. Tomlins, M.D., Ph.D., assistant professor of pathology, Department of Pathology, and assistant professor of urology, Department of Urology, Medical School, is recommended for promotion to associate professor of pathology, with tenure, Department of Pathology, and associate professor of urology, without tenure, Department of Urology, Medical School.

Academic Degrees:

M.D.	2009	University of Michigan
Ph.D.	2007	University of Michigan
B.A.	2001	Willamette University

Professional Record:

2012-present	Assistant Professor of Pathology, University of Michigan
2012-present	Assistant Professor of Urology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Tomlins has participated in teaching on multiple levels, including didactic, research and mentoring of students' careers. Dr. Tomlins' didactic contributions have been primarily in lectures for residents as well as in seminar series for trainees. His role as a mentor has already been quite extensive with multiple undergraduate, graduate, and post-graduate fellows that have participated in research. He has also participated on multiple dissertation committees for graduate students. Finally, Dr. Tomlins participates extensively in clinical teaching of residents and fellows as an important portion of his role on the diagnostic genitourinary pathology service.

Research: Dr. Tomlins' research has focused on using high-throughput techniques to characterize the cancer genome and transcriptome to understand cancer biology and identify clinically relevant biomarkers and therapeutic targets. His most important contribution has been discovering and characterizing Tmprss2:ETS gene fusions in prostate cancer. Dr. Tomlins has led the translation of ETS gene fusions into diagnostic, early detection and molecular subtyping biomarkers and initiated studies characterizing additional basic prostate cancer molecular subtypes. More recently, Dr. Tomlins has focused on comprehensive characterization of the cancer genome through next generation sequencing (NGS), including the first comprehensive exome sequencing based study of lethal castration resistant prostate cancer. His lab has developed, validated and applied multiple targeted NGS approaches compatible with routine formalin fixed paraffin embedded (FFPE) tissue samples. These approaches have profiled numerous cancer types in addition to prostate, including bladder, breast (phyllodes tumors), penile, ovarian, adrenocortical and lymphomas. Ongoing efforts aim to translate these findings to potential biomarkers, predictive and prognostic signatures and therapeutic targets. The impact of the research from Dr. Tomlins' lab and collaborators is demonstrated not only by the impact of his publications, but also by the number of invited presentations that he has given over the past several years. His research success is exemplified in his

consistent and extensive extramural funding. Together, these represent an incredible trajectory that identifies an outstanding faculty member and researcher.

Recent and Significant Publications:

Tomlins SA[^], Day JR, Lonigro RJ, Hovelson DH, Siddiqui J, Kunju LP, Dunn RL, Meyer S, Hodge P, Groskopf J, Wei JT, Chinnaiyan AM[^] ([^]corresponding author): Urine TMPRSS2:ERG plus PCA3 for individualized prostate cancer risk assessment. *Eur Urol* 15: 397-398, 2015.

Nishimoto K*, Tomlins SA*, Kuick R, Cani AK, Giordano TJ, Hovelson DH, Liu CJ, Sanjanwala AR, Edwards MA, Gomez-Sanchez CE, Nanba K, Rainey WE (*equal authorship): Aldosterone-stimulating somatic gene mutations are common in normal adrenal glands. *Proc Natl Acad Sci U S A*. 112: E4591-4599, 2015.

Tomlins SA[^], Alshalalfa M, Davicioni E, Erho N, Yousefi K, Zhao S, Haddad Z, Den RB, Dicker AP, Trock BJ, DeMarzo AM, Ross AE, Schaeffer EM, Klein EA, Magi-Galluzzi C, Karnes RJ, Jenkins RB, Feng FY[^] ([^]corresponding authors): Characterization of 1577 primary prostate cancers reveals novel biological and clinicopathologic insights into molecular subtypes. *Eur Urol - Cover Article* 68:555-567, 2015.

Cani AK, Hovelson DH, McDaniel AS, Sadis S, Haller MJ, Yadati V, Amin AM, Bratley J, Bandla S, Williams PD, Rhodes K, Liu CJ, Quist MJ, Rhodes DR, Grasso CS, Kler CG, Tomlins SA: Next-gen sequencing exposes frequent MED12 mutations and actionable therapeutic targets in phyllodes tumors. *Mol Cancer Res - Cover Article* 13: 613-619, 2015.

McDaniel AS, Hovelson DH, Cani AK, Liu CJ, Zhai Y, Zhang Y, Weizer AZ, Mehra R, Feng FY, Alva AS, Morgan TM, Montgomery JS, Siddiqui J, Sadis S, Bandla S, Williams PD, Cho KR, Rhodes DR, Tomlins SA: Genomic profiling of penile squamous cell carcinoma reveals new opportunities for targeted therapy. *Cancer Res* 75:5219-5227, 2015.

Service: Dr. Tomlins has participated widely nationally and internationally on review committees, top tier journal reviews, and on editorial boards. Locally, Dr. Tomlins has been involved in departmental review committees, admission committees, clinical competency committees, and departmental search committees. These activities have been quite extensive and demonstrate a commitment to the department, University of Michigan, and colleagues. In addition to being an internationally recognized translational researcher, Dr. Tomlins is on the diagnostic GU service for several months a year, where he handles in house and consultation subspecialty cases. He is regarded as a superb diagnostician and excellent teacher over the multiheaded microscope.

External Reviewers:

Reviewer A: "...Dr. Tomlins' work has been highly translational, with the goal of reducing early discoveries made by him and his team to clinical practice. This is another area where Dr. Tomlins really stands out. Not only does he have the fundamental scientific understanding and innovative thinking to make discoveries of landmark importance, but his medical training and practice has provided him the tools to move these discoveries into the clinic....He has outstanding leadership and team-building skills that make departments and institutions stronger. The Department of Pathology at the University of Michigan has a real gem in Dr. Tomlins and can bank on him continuing on his well-established track of high impact work."

Reviewer B: “Dr. Tomlins is extraordinarily well regarded as a highly impactful scientist, a diagnostic pathologist in genitourinary disease, and a thought leader in the field of prostate cancer... Dr. Tomlins is a leader in the field of prostate cancer, both in our understanding of disease biology and in the development of novel tests to better diagnose and stratify patients with this disease. Several of his major contributions to the field include definition of key elements of prostate cancer genomics and transcriptomics that has revolutionized the field.”

Reviewer C: “Dr. Tomlins’ [sic] has a strong teaching record in pathology, with many lectures to pathology residents and fellows and students, as well as national and international invited lectures. His service on many thesis committees is particularly impressive, and shows his dedication to the success of the graduate students’ careers.”

Reviewer D: “Dr. Tomlins has demonstrated independent scholarship in his successful pursuit of peer-reviewed funding, in numerous well-attended national presentations, in visits to major academic centers, and as a reviewer for grant proposals and papers... In each setting, he has demonstrated a mastery of genitourinary pathology research that supports academic advancement to Associate Professor at any major School of Medicine throughout the country.”

Reviewer E: “Dr. Tomlins[’] body of scholarly work includes several seminal studies that have made the most significant impact on our molecular understanding of prostate cancer. His most important contribution has been discovering and characterizing TMPRSS2:ETS gene fusions in prostate cancer. This is arguably one of the most impactful discovery [sic] in the field that triggered many subsequent studies addressing the prognosis and the biologic role of these fusions in prostate carcinoma.”

Summary of Recommendation:

Dr. Tomlins is an outstanding researcher and clinician with many years of expertise in molecular pathology of cancer and biomarker discovery. His already extremely outstanding career not only entails top tier scholarship in cancer research, but also includes outstanding mentorship, teaching and service to the University of Michigan and research community. Dr. Tomlins’ publication record has had amazing impact and helped to shape the field of molecular cancer pathology that will lead to the identification of new diagnostic criteria in the field as well as potential new directions for development of therapeutics for novel targets. His trajectory is outstanding and will surely continue to identify new paradigms on the cutting edge of discovery. I am pleased to recommend Scott A. Tomlins, M.D., Ph.D. for promotion to associate professor of pathology, with tenure, Department of Pathology, and associate professor of urology, without tenure, Department of Urology, Medical School.



Marschall S. Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, Medical School

May 2017