

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF SURGERY

Laura A. Kresty, Ph.D., associate professor of surgery, without tenure, Department of Surgery, Medical School, is recommended for the granting of tenure to be held with her title of associate professor of surgery, Department of Surgery, Medical School.

Academic Degrees:

Ph.D.	2000	The Ohio State University
M.S.	1995	The Ohio State University
B.S.	1987	The Ohio State University

Professional Record:

2017 - Present	Associate Professor of Surgery, University of Michigan
2013 - 2017	Associate Professor of Internal Medicine, Pharmacology and Toxicology, Medical College of Wisconsin
2008 - 2013	Assistant Professor of Epidemiology and Public Health, University of Miami
2007 - 2008	Assistant Professor of Human Nutrition, The Ohio State University
2003 - 2007	Assistant Professor of Internal Medicine, The Ohio State University
1992 - 2000	Senior Research Associate, The Ohio State University
1989 - 1992	Research Associate, the Ohio State University
1987 - 1989	Life Science Technician III, Battelle Memorial Institute

Teaching: As a faculty member at multiple academic medical centers, Dr. Kresty has demonstrated significant dedication to education. Her classroom instruction has included undergraduate, graduate and professional students in areas related to cancer biology, cancer epidemiology, molecular biology, nutrition and scientific methodology. She has served as a thesis advisor and dissertation committee member for numerous undergraduate and graduate students. In addition to research mentorship, Dr. Kresty actively contributes to graduate student education via the graduate program in biomedical sciences, the cancer biology graduate program and to medical student education in the scientific trunk and through her role as a research advisory committee member for the Department of Surgery.

Research: Dr. Kresty's research addresses developing strategies for targeting aerodigestive tract lesions that are considered precursors to developing carcinoma. Her work investigates pharmacologic as well as food-derived bioactive constituents as potential agents for delivery to patients at high risk for developing esophageal adenocarcinoma or lung cancer. Her group has sought to screen potential pharmaceutical agents or candidate food constituents and to identify relevant mechanisms of action using standard molecular biology techniques coupled with a battery of high-throughput omics-platforms. Dr. Kresty has recently shown that proanthocyanidins derived from cranberry (C-PAC) induce esophageal cancer cell death by autophagy and that loss of a specific mediator of autophagy, Beclin-1, is linked to esophageal adenocarcinoma stage and grade. In addition, her research has reported that a mitochondrial targeted repurposed drug, Mito-Lonidamine, inhibits lung cancer progression and metastasis via autophagic cell death in KRAS mutant lung cancer models. Thus, her work has strong translational potential. Dr. Kresty has been well-funded through the National Institutes

of Health, and institutional grants. She has published more than 50 peer-reviewed articles, and has been invited to present her research on 41 occasions regionally, nationally and internationally.

Recent and Significant Publications:

Kresty LA, Fromkes JJ, Frankel WL, Hammond CD, Seeram NP, Baird ME, Stoner GD: A phase 1 pilot study evaluating the beneficial effects of black raspberries in patients with Barrett's esophagus. *Oncotarget*, 2016.

Weh K, Howell AB, and Kresty LA: Expression, modulation and clinical correlates of the autophagy protein beclin-1 in esophageal adenocarcinoma. *Molecular Carcinogenesis* 55 (11):1876-1885, 2016.

Ferrer-Torres D, Nancarrow DJ, Steinberg H, Wang Z, Kuick R, Weh KM, Mills RE, Ray D, Ray P, Lin J, Chang AC, Reddy RM, Orringer MB, Canto MI, Shaheen NJ, Kresty LA, Chak A, Wang TD, Rubenstein JH, Beer DG: Constitutively Higher Level of GSTT2 in Esophageal Tissues From African Americans Protects Cells Against DNA Damage. *Gastroenterology* 156(5):1404-1415, 2019.

Cheng G, Zhang Q, Pan J, Lee Y, Ouari O, Hady M, Zielonka M, Myers CR, Zielonka J, Weh K, Chang AC, Cchen G, Kresty L, Kalyanaraman B, and You M: Targeting Isonidamine to mitochondria mitigates lung tumorigenesis and brain metastasis. *Nat Commun* 10(1):2205, 2019.

Chen X, Mao R, Su W, Yang X, Geng Q, Guo C, Wang Z, Wang J, Kresty LA, Beer DG, Chang AC, Chen G: Circular RNA *circHIPK3* modulates autophagy via *MIR124-3p*-STAT3-PRKAA/AMPK α signaling in STK11 mutant lung cancer. *Autophagy*. Jun 28:1-13, 2019.

Service: Dr. Kresty has been an outstanding citizen as indicated by her active participation on a number of committees at the national and regional levels. She is a standing member for the NIH Cancer Prevention Study Section (CPSS), and has provided ad hoc study section peer review for the NIH since 2009. She has contributed to international grant review panels, including the Cancer Research United Kingdom and the Health Research Board of Ireland. Dr. Kresty has editorial responsibilities for *Molecular Carcinogenesis*, *Journal of Clinical Investigation-Insight* and *Clinical Nutrition* and provides ad hoc manuscript peer review for a number of impactful journals. Institutionally, she is a member of the Review Board for the Medicine Cancer-2 Board, and the Research Advisory Committee in the Department of Surgery.

External Reviewers:

Reviewer A: "Overall, Dr. Kresty's research program is generating significant new information regarding esophageal and lung cancer mechanisms and chemoprevention/treatment strategies. She is highly regarded in these areas because of her significant research contributions...In my opinion, Dr. Kresty is a tremendous asset to the research program in your department and brings considerable energy and expertise in both preclinical and clinical studies related to esophageal, lung and potentially other cancers."

Reviewer B: "In comparison to her peers in the field of chemoprevention, I would rank her in the top 10%. She has demonstrated a track record of regular funding, and has secured new funding since starting her position at the University of Michigan...Dr. Kresty is conducting translational research utilizing patient samples where she interacts with clinical colleagues, and has maintained her regular teaching and service commitments to grant review committees and scientific journals. Dr. Kresty has shown a particularly high level of commitment to NIH study section service, which requires a great deal of effort and time commitment...given her accomplishments to date, and her continued upward

trajectory since arriving at University of Michigan, Dr. Kresty is a faculty member who would meet the rank of a tenured Associate Professor at my current institution.”

Reviewer C: “There are a relatively small number of individuals in this field, and we exist generally nowadays as members of collaborative groups in cancer prevention sections of NCI designated cancer centers... in 2001 Dr. Kresty performed a high impact study with hypothesis driven biomarkers in esophageal carcinogenesis utilizing lyophilized berries. This was published in Cancer Research and represents exactly the type of study that can be translated to a clinical setting, which it was. More specifically, it contained a useful intervention and pragmatic biomarkers that can be used for clinical studies, which it eventually did. More recently, her work with Autophagy, especially with the Beclin 1 biomarker, can be amplified into biomarker studies in several cancers, not just the index carcinoma she studied (lung).”

Reviewer D: “...Dr. Kresty has all of the essential elements required for this appointment, ranging from teaching, research and service. I have evaluated numerous faculty members for tenure and promotion during my career. Dr. Kresty has all of the qualities required for the position of a tenured Associate Professor. She has an exceptional teaching record, her extramural funding record is outstanding, and her service record is remarkable. I think it is important to note, that I have voted against promotion and tenure on a number of occasions, but when considering Dr. Kresty’s package, I can find no major weaknesses.”

Reviewer E: “Currently, she is the PI on 3 active grants, which in itself is a major achievement in this tough funding environment. Her credentials are equally strong in terms of teaching and service activities...Dr. Kresty has demonstrated exceptional productivity for all these years with continuous grant funding and excellent scientific output. Having served on departmental APT committee for over a decade, I can say with full confidence that her credentials are strong enough to get a similar position with tenure at my institution.”

Summary of Recommendations:

Dr. Kresty is a nationally renowned translational scientist whose work has focused on the rigorous study of pharmacologically-active natural compounds, on the treatment of esophageal adenocarcinoma and its precursor lesion, Barrett’s esophagus. She is widely acclaimed internationally for her work in carcinogenesis and chemoprevention and she has demonstrated her strong commitment to education and research mentorship. I am pleased, therefore, to recommend Laura A. Kresty, Ph.D. for the granting of tenure to be held with her title of associate professor of surgery, Department of Surgery, Medical School.



Marshall S. Runge, M.D., Ph.D.
Executive Vice President of Medical Affairs
Dean, Medical School

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