

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE

John Y. Kao, M.D., associate professor of internal medicine, with tenure, Department of Internal Medicine, Medical School, is recommended for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

M.D.	1996	University of Southern California, Los Angeles
B.S.	1992	University of California, Los Angeles

Professional Record:

2012-present	Associate Professor of Internal Medicine, University of Michigan
2005-2012	Assistant Professor of Internal Medicine, University of Michigan
2002-2005	Clinical Lecturer of Internal Medicine, University of Michigan

Summary of Evaluation:

Teaching: Dr. Kao has been extensively involved in educational activities for medical students, graduate students, residents, and clinical and postdoctoral fellows. In addition to providing clinical training for medical students, internal medicine residents, and gastroenterology fellows, he lectures annually to first year medical students in the Nutrition Curriculum, serves as a small group leader for second year medical students in the gastroenterology sequence, and provides didactic sessions for residents and fellows. Dr. Kao also provides extensive research mentoring to trainees at all levels for their research projects, and serves as a clinical mentor for trainees in the MICHR Post-doctoral Translational Scholar Program. He is the associate director for the GI Fellowship Training Program, the enrichment director for the University of Michigan Center for GI Research (UMCGR), and the chair of the GI Fellows Research Mentoring Committee. In these roles, Dr. Kao organizes research seminars, trainee workshops, and other educational events. Extramurally, he has provided numerous lectures to peers through CME courses and invited national and international presentations, including educational events organized by the Chinese Society of Gastroenterology.

Research: Dr. Kao's research is in the area of mucosal immunology, including the immunopathogenesis of H. pylori infection, mechanisms of H. pylori-induced chronic gastritis in the development of precancerous lesions, the impact of stress on the gut microbiota and disease, and the role of DUOX2 in mediating intestinal homeostasis. He has continuously been well-funded for his research, and is currently the co-principal investigator of an NIH R01 grant. Dr. Kao will focus in particular on the impact of DUOX deficiency in the host and the mechanism leading to intestinal disease on this grant. He is also a highly collaborative scientist, and serves as co-investigator on multiple projects. Dr. Kao has published more than 70 peer-reviewed articles, and has presented his work widely at national and international meetings. Recognition of his standing in the field is also evidenced by his peer-review service on numerous study sections, and service on the editorial boards of *Gut Microbes* and *JCI Insight*. In 2014, Dr. Kao was elected as a fellow of the American Society of Clinical Investigation.

Recent and Significant Publications:

El-Zaatari M, Bass AJ, Bowlby R, Zhang M, Syu LJ, Yang Y, Grasberger H, Shreiner A, Tan B, Bishu S, Leung WK, Todisco A, Kamada N, Cascalho M, Dlugosz AA, Kao JY: Indoleamine 2,3-

Dioxygenase 1, Increased in Human Gastric Pre-Neoplasia, Promotes Inflammation and Metaplasia in Mice and Is Associated With Type II Hypersensitivity/Autoimmunity. *Gastroenterology* 154(1):140-153, 2018.

Sun X, Zhang M, El-Zaatari M, Huffnagle GB, Kao JY: CCR2 mediates Helicobacter pylori-induced immune tolerance and contributes to mucosal homeostasis. *Helicobacter* 10.1111/hel.12366. Epub 2016.

Grasberger H, Gao J, Nagao-Kitamoto H, Kitamoto S, Zhang M, Kamada N, Eaton KA, El-Zaatari M, Shreiner AB, Merchant JL, Owyang C, Kao JY: Increased Expression of DUOX2 Is an Epithelial Response to Mucosal Dysbiosis Required for Immune Homeostasis in Mouse Intestine. *Gastroenterology* 149(7): 1849-1859, 2015.

El-Zaatari M, Chang YM, Zhang M, Franz M, Shreiner A, McDermott AJ, van der Sluijs KF, Lutter R, Grasberger H, Kamada N, Young VB, Huffnagle GB, Kao JY: Tryptophan Catabolism Restricts IFN- γ -Expressing Neutrophils and Clostridium Difficile Immunopathology. *J Immunol* 193(2): 807-816, 2014.

Sun Y, Zhang M, Chen CC, Gilliland M, Sun X, El-Zaatari M, Huffnagle GB, Young VB, Zhang J, Hong SC, Chang YM, Gumucio DL, Owyang C, Kao JY: Stress-induced corticotropin-releasing hormone-mediated NLRP6 inflammasome inhibition and transmissible enteritis in mice. *Gastroenterology* 144(7):1478-1487, 2013.

Service: Dr. Kao is very active in clinical care, and provides complex clinical management for patients with *H. pylori* infections. He is the co-founder of the Fecal Microbiota Transplantation Program for the management of recurrent *C. difficile* infection, and also started the University of Michigan Celiac Disease Program. In addition to his numerous roles on clinical and divisional committees, Dr. Kao served a three-year term as a member of the Medical School Advisory Committee on Appointments, Promotions, and Tenure. Nationally, he is an active member of the American Gastroenterological Association and currently serves as the chair of the Esophageal, Gastric and Duodenal Disorders Section of the American Gastroenterological Association Council.

External Reviewers:

Reviewer A: “[Dr. Kao]...is known at national and international levels for his work on Helicobacter pylori. He has published in our best journals including in *Gastroenterology* on multiple occasions related to this topic. He has created an entire niche at looking at how the immune system promotes gastric metaplasia that leads to Helicobacter pylori-associated cancer. His work, although focused on Helicobacter pylori, in reality is broader in significance...I am fully supportive of Dr. Kao’s promotion to Professor of Medicine. I believe that his teaching, scholarship and research, his service and his clinical acumen all justify this promotion.”

Reviewer B: “...Dr. Kao’s contributions are to be considered quite significant among the community of peer-scientists in the area of gastroenterology...Altogether, his scholarly contributions, professional service and international recognition as a leader in the field, are indicative of someone who would be considered positively for promotion at my current institution...[the] University of Michigan is fortunate to have Dr. John Kao as a faculty member. His contributions as a scholar, coupled with an impeccable professional reputation that reflect the quality of individual that he is, make him a source of praise and an asset to your faculty.”

Reviewer C: "...Dr. Kao has been eminently successful as an academician, has made outstanding contributions to the field of digestive disease research, and has established himself as an outstanding basic and translational researcher. John possesses all the important phenotypes for continued success in academics. Based on his level of scholarship, intelligence, love of teaching, and high level of motivation, I believe that he is a leader in the field of gastrointestinal mucosal immunology. Collectively, these accomplishments and qualities would result in a successful promotion to Professor with tenure at [my institution]...I support his application with the highest level of enthusiasm, and with no reservations."

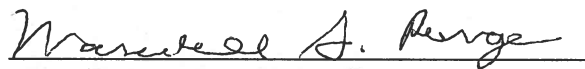
Reviewer D: "Dr. Kao has received NIH R03 and R01 funding for his studies elucidating mechanisms underlying *Helicobacter pylori*-induced regulatory T cell response, and has achieved international recognition as an expert in the immunopathogenesis of *H. pylori* infection...Dr. Kao is clearly a leader in his field...He has my strong support for this promotion at the University of Michigan."

Reviewer E: "...it is my opinion that Dr. John Kao is an outstanding candidate for promotion to Professor of Medicine at the University of Michigan. He is a national authority on intestinal mucosa immune function. He has made important contributions to the field and has been highly successful in obtaining sustained extramural grant funding for his research program. Importantly, he is a [sic] very active as an academic citizen both at the University of Michigan as well as nationally."

Reviewer F: "Dr. Kao has made major contributions to the scientific literature on a number of projects related to the physiology and pathophysiology of the GI tract. A main area of his research is on the pathogenesis of chronic gastritis, gastric metaplasia, and gastric cancer in [sic] as a consequence of infection by *Helicobacter pylori*...Dr. Kao's scholarly contribution exceeds that of his peer group in the same field...Dr. Kao has made major contributions to professional services...He has served on many committees both at the institutional of [sic] national levels, including several NIH study sections...Dr. Kao would have no trouble in attaining the rank of Professor with Tenure in my own institution...I give him my strongest recommendation without reservation."

Summary of Recommendation:

Dr. Kao is an outstanding scientist with a very strong national and international reputation for his expertise in the area of mucosal immunology. He has made extensive contributions both institutionally and extramurally to teaching and service. I am pleased to recommend John Y. Kao, M.D. for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, Medical School.



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

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