

Approved by the
Regents
May 21, 2015

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE
DEPARTMENT OF MOLECULAR AND INTEGRATIVE PHYSIOLOGY

Ernesto Bernal-Mizrachi, M.D., associate professor of internal medicine, with tenure, Department of Internal Medicine, and associate professor of molecular and integrative physiology, without tenure, Department of Molecular and Integrative Physiology, Medical School, is recommended for promotion to professor of internal medicine, with tenure, Department of Internal Medicine, and professor of molecular and integrative physiology, without tenure, Department of Molecular and Integrative Physiology, Medical School.

Academic Degrees:

M.D.	1989	Universidad del Valle, Cali, Colombia
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Professional Record:

2014-present	Associate Professor of Molecular and Integrative Physiology, University of Michigan
2009-present	Associate Professor of Internal Medicine, University of Michigan
2004-2009	Assistant Professor of Medicine, Washington University School of Medicine, St. Louis, MO
1999-2004	Instructor of Medicine, Washington University School of Medicine, St. Louis, MO

Summary of Evaluation:

Teaching: Dr. Bernal-Mizrachi plays a significant role in education at the University of Michigan. He teaches medical students, residents and endocrinology fellows in the outpatient clinic and staffs the fellows on the inpatient/consult service. In addition, Dr. Bernal-Mizrachi is highly involved in didactics giving grand rounds, noon conference at the Ann Arbor Veterans Administration Medical Center, and teaching research methods to post-doctoral fellows and graduate students rotating in the laboratory. He has also taught the M2 Endocrine Small Group course. He also serves as a research mentor to a vast number of students at all levels from high school students to junior faculty. In 2012, Dr. Bernal-Mizrachi became a faculty member for the Cellular and Molecular Biology (CMB) Graduate Program where he participates in the dissertation exam committees, attends CMB events and activities, and mentors a Ph.D. student. In addition, Dr. Bernal-Mizrachi provides mentoring to M.S. and Ph.D. graduate students in the Molecular and Integrative Physiology department, and helps teach in some of their courses.

Research: Dr. Bernal-Mizrachi has a distinguished research career, specializing in the exploration of pancreas development, mechanisms and disease. He currently holds two NIH R01 grants, is co-investigator on a third R01 and the principal investigator on a Juvenile Diabetes Research Foundation Grant. He has 54 peer-reviewed publications with 25 as first or senior

author in high-impact journals, four book chapters as first or senior author, and a patent. As a testament to his expertise, Dr. Bernal-Mizrachi serves on numerous study sections and reviews grants for multiple international agencies including the Juvenile Diabetes Research Foundation International, Medical Science Review Committee (MSRC), and Beta Cell Replacement and Regeneration Training Awards. Others agencies include Diabetes UK, Swiss National Science Foundation, and the Israel Science Foundation.

Recent and Significant Publications:

Elghazi L, Bernal-Mizrachi E: Akt and PTEN: beta-cell mass and pancreas plasticity. *Trends Endocrinol Metab* 20:243-251, 2009.

Elghazi L, Balcazar N, Blandino-Rosano M, Cras-Méneur C, Fatrai S, Gould AP, Chi MM, Moley KH, Bernal-Mizrachi E: Decreased IRS signaling impairs beta-cell cycle progression and survival in transgenic mice overexpressing S6K in beta-cells. *Diabetes* 59:2390-2399, 2010.

Blandino-Rosano M, Alejandro EU, Sathyamurthy A, Scheys JO, Gregg B, Chen AY, Rachdi L, Weiss A, Barker DJ, Gould AP, Elghazi L, Bernal-Mizrachi E: Enhanced beta cell proliferation in mice overexpressing a constitutively active form of Akt and one allele of p21Cip. *Diabetologia* 55:1380-1389, 2012.

Elghazi L, Gould AP, Weiss AJ, Barker DJ, Callaghan J, Opland D, Myers M, Cras-Méneur C, Bernal-Mizrachi E: Importance of β -Catenin in glucose and energy homeostasis. *Sci Rep* 2:693, 2012.

Alejandro EU, Gregg B, Wallen T, Kumusoglu D, Meister D, Chen A, Merrins MJ, Satin LS, Liu M, Arvan P, Bernal-Mizrachi E: Maternal diet-induced microRNAs and mTOR underlie β cell dysfunction in offspring. *Journal of Clinical Investigation* (2014 Sep 2. pii: 74237. doi: 10.1172/JCI74237).

Service: Dr. Bernal-Mizrachi's clinical responsibilities are at the Ann Arbor Veteran's Affairs Hospital where he staffs consults on the inpatient unit and sees patients in the outpatient endocrinology clinic. He uses his unique expertise in the molecular aspects of endocrinology and its implications for metabolic diseases to better help his patients. In addition to his clinical duties, Dr. Bernal-Mizrachi serves as the associate editor for the journal *Islets* and is an editorial board member for *Clinical Diabetes and Endocrinology*. He is on the organizing committee for The Steven Fajans Lectureship in Diabetes and has served as a member of the steering committee for the endocrinology fellowship program and the Michigan Comprehensive Diabetes Center steering committee.

External Reviewers:

Reviewer A: "Ernesto is an accomplished physician/scientist who has contributed significantly to our understanding of the regulation of pancreatic beta cell function. He has shown a remarkable continuity of interests, and has pioneered studies of tyrosine kinase signaling in insulin-producing cells. His publication record is excellent and the papers are well designed,

carefully executed, widely read and quoted. He has been consistently productive and his contributions are well considered in the community.”

Reviewer B: “I greatly admire the way in which he has moved into this highly competitive field and is determined to be a major player. Ernesto has a strong publication record and an enviable grant portfolio (at a very difficult time). He is very active in peer review, both manuscripts and grants and serves on numerous committees. Ernesto would be considered a star at my university. Indeed, I believe he surpasses any colleagues I have had...”

Reviewer C: “...he has a well-funded research program and he publishes regularly in the top diabetes journals... Dr. Bernal-Mizrachi is a talented physician-scientist [of his professional cohort] (of which there are few these days) who appears to be an important member of your Division. I would vote for his promotion if a member of your Division.”

Reviewer D: “Dr. Bernal Mizrachi is clearly a leader in the field of pancreatic beta cell growth and regeneration... His research is exciting, unlike some of the more descriptive studies that others in his field are pursuing. I would also add that he is an outstanding speaker, which together with his superb research has given him the highest recognition in the international beta cell research community... Dr. Bernal Mizrachi is a truly distinguished scholar, one of the very best scientists in diabetes research...”

Reviewer E: “Ernesto is, by any measure that we apply for promotion to Professor, most deserving for his exceptional contributions to the field... Ernesto’s early work on β cell transcription factors gave way to later, more seminal, work in the area of Akt signaling and mTOR regulation. This latter work was not only transformative from the standpoint of islet replication, but many years ahead of the rest of the islet-research field.”

Reviewer F: “Among his various achievements, he has clarified the importance of S6K activation in regulation of beta-cell cycle, cell size, and survival... These studies have contributed greatly to our understanding of the signaling pathway in the beta-cells in the adaptation to states of obesity and insulin resistance. ...He is now recognized internationally in the field of beta-cell biology, as judged not only from his publications, but also from the fact that he has been invited to many lectures and seminars by renowned universities and to prestigious symposia and conferences...”

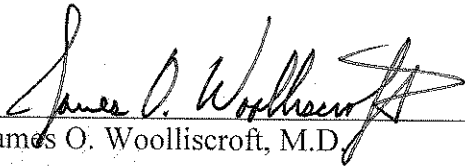
Reviewer G: “I believe that Dr. Bernal-Mizrachi [sic] work is of the highest quality, his papers have high scholarly standards and are novel and original. His excellent medical training, his ambition and ability to pick important and medically relevant problems and use state of the art technologies to address these questions make it likely that he will continue to be productive and make high quality scientific discoveries... I have no doubt that medical institutions of the highest international reputation would be proud to have him as a Professor in their department.”

Reviewer H: “It was clear to me from the beginning that Ernesto is a particularly talented diabetes researcher, whose science is driven by the clinical quest. In fact, Ernesto has a solid clinical training and continues to practice medicine in his specialty. His research has contributed to advance our knowledge of beta cell dysfunction in the pathogenesis of type 2 diabetes. In

particular, by generating both mutant mice and gene-manipulated beta cell lines, he has elucidated the role of insulin signalling [sic] in the regulation of beta cell replication and survival... Ernesto's contributions may therefore pave the way for the development of novel pharmaca better suited for diabetes therapy than insulin itself."

Summary of Recommendation:

Dr. Bernal-Mizrachi is an exceptional physician scientist who has made important contributions in his work on beta cell dysfunction in diabetes, and in teaching and service. His professional activities and scholarly work can be expected to have a significant impact on our institution and on his field of research well into the future. For these reasons, I enthusiastically recommend the promotion of Ernesto Bernal-Mizrachi, M.D. to professor of internal medicine, with tenure, Department of Internal Medicine, and professor of molecular and integrative physiology, without tenure, Department of Molecular and Integrative Physiology, Medical School.



James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine

May 2015