

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

Ormond A. MacDougald, Ph.D., Associate Professor of Molecular and Integrative Physiology, with tenure, Department of Molecular and Integrative Physiology, and Associate Professor of Internal Medicine, without tenure, Department of Internal Medicine, Medical School, is recommended for promotion to Professor of Molecular and Integrative Physiology, with tenure, Department of Molecular and Integrative Physiology, and Professor of Internal Medicine, without tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

Ph.D.	1992	Michigan State University
M.S.	1988	Michigan State University
B.Sc.	1986	University of Guelph, Ontario

Professional Record:

2005-Present	Associate Professor of Internal Medicine, University of Michigan
2002-Present	Associate Professor of Molecular and Integrative Physiology, University of Michigan
1996-2002	Assistant Professor of Physiology, University of Michigan

Summary of Evaluation:

Teaching: Dr. MacDougald's primary teaching has been of graduate students in the classroom and the laboratory. He has presented 3-4 lectures annually on adipogenesis and obesity and, for the last two years, co-directed Physiology 555, Integrative Genomics. Last year 14 out of 19 students rated his lectures as excellent or fantastic. Dr. MacDougald has also served as a course coordinator for an Organogenesis module on adipose tissue, lectured for the last two years to PIBS (Program in Biomedical Sciences) students on Responsible Conduct of Research, and served as a faculty evaluator for a Cell and Molecular Biology graduate student seminar for the past four years. In the laboratory he has supervised 17 Ph.D. student research rotations, with eight continuing to carry out their thesis under his direction. He also has co-mentored seven graduate students, supervised four postdoctoral fellows and nine undergraduate students. He has served on the dissertation committees of 36 graduate students here as well as students in Denmark and Norway and on 19 preliminary examination committees. Dr. MacDougald is highly sought after as a mentor in large part because of his enthusiasm for science and for his interest in students. In regard to teaching professional students, he has taught aspects of metabolism, energy balance and growth to Dental and Pharmacy students for the past eight years where he presents 4-5 hours of lectures. His student teaching evaluations in this course were at, or slightly above, the course average.

Research: Dr. MacDougald's research has focused on adipocyte development and metabolism, an important area given the national epidemic of obesity. He has carried out a molecular analysis of transcription factors regulating adipogenesis which led to the discovery that Wnt signaling is a key endogenous inhibitory pathway that acts as a brake on fat cell development. His recent work

has shown that Wnts regulate the differentiation of osteoblasts and bone formation. This work has been carried out in both cell culture models and transgenic mice. He is clearly at the forefront of this field and has received over ten invitations per year for the last four years to present his work at national and international meetings. He has published 43 original peer reviewed papers and 14 reviews, chapters, and symposium proceedings, all in high quality journals. He has been successful at competing for peer-reviewed grant support and currently holds two NIH RO1 grants as well as other support from foundations and industry. He holds three patents and has consulted for five companies. His research has been recognized by his receiving the prestigious Bowditch Award from the American Physiological Society and the Dean's Research Award from the University of Michigan Medical School. He serves on the editorial boards of the *Journal of Biological Chemistry*, *Adipocytes*, and *Gene Therapy and Molecular Biology*. He has participated in grant reviews for the NIH and the American Diabetes Association and is on the International Advisory board for the Graduate School of Metabolism at the University of Southern Denmark.

Recent and Significant Publications:

Kang S, Bajnok L, Longo KA, Petersen RK, Hansen JB, Kristiansen K, MacDougald OA: Effects of Wnt signaling on brown adipocyte differentiation and metabolism mediated by PGC-1 α . *Mol and Cellular Biol* 25:1272-1282, 2005.

Bennett CN, Longo KA, Wright WS, Suva LJ, Lane TF, Hankenson KD and MacDougald OA: Regulation of osteoblastogenesis and bone mass by Wnt10b. *Proc Natl Acad Sci USA* 102: 3324-3329, 2005.

Gerin I, Dolinsky VW, Shackman JG, Kennedy RT, Chiang SH, Burant CF, Steffensen K, Gustafsson JA and MacDougald OA: LXR β is required for adipocyte growth, glucose homeostasis and β cell function in aged mice. *J Biol Chem* 280:23024-23031, 2005.

Longo KA, Wright WS, Kang S, Gerin I, Chiang SH, Lucas PC, Opp MR and OA MacDougald: Wnt10b inhibits development of white and brown adipose tissues. *J Biol Chem* 279:35503-35509, 2004.

Ross SE, Radomska HS, Schaufele F, Zhang P, Winnay JN, Bajnok L, Wright WS, Tenen DG and MacDougald OA: Phosphorylation of C/EBP α inhibits granulopoiesis. *Mol Cellular Biol* 24:675-686, 2004.

Service: Dr. MacDougald has carried a significant service load within the Medical School. In the Department of Molecular & Integrative Physiology he has served on the Graduate Affairs Committee, the Space Committee, the Chair's Advisory Committee, a Faculty Search Committee, and as Seminar Chair. In the Medical School he has served on the PIBS International Applicant Evaluation Committee and multiple planning committees for the Cell and Molecular Biology Ph.D. program. Dr. MacDougald also served on the Health System Strategic Planning Committee on Research and the Life Sciences Institute Cell Biology Task Force. He currently is active on the planning committee for the Medical School's Metabolomics Initiative.

External Reviews:

Reviewer A: "...Professor Ormond MacDougald is an exceptional scientist contributing scholarly work recognized world wide for its seminal quality. He is not merely 'filling in the

gaps' but leading the field, making new discoveries that set the stage for our understanding of the biology of fat and bone in human health and disease.”

Reviewer B: “I am convinced that Ormond’s level of adipocyte research is among the very best in the U.S....Ormond bears an unusual constellation of outstanding bench skills, remarkable intellectual insight, interest in a research problem with strong clinical relevance.”

Reviewer C: “...I am familiar with at least some of his work and think that it is both novel and of very high quality. Specifically, this is true for his observation regarding the role of the Wnt signaling pathway in both adipose tissue and bone biology.”

Reviewer D: “Not surprisingly, he has been in great demand as a speaker; in my opinion, no conference on transcriptional regulation of adipocyte function is worth its salt unless he is on the program.”

Reviewer E: “Ormond’s papers are always very well written, the experiments meticulously described and performed...In my view Ormond rank[s] among the top 1% in his research field.”

Reviewer F: “Scientifically, [Ormond] has made the unique contribution of drawing attention to the Wnt signaling pathway in the regulation of adipogenesis. In this important area of research [Ormond] and his lab in Michigan have been the undisputed leaders...”

Reviewer G: “...his work on Wnt signaling in inhibiting adipogenesis is not only an important finding but also is an original and novel contribution in the field of adipocyte differentiation.”

Summary of Recommendation:

Dr. Ormond MacDougald has carried out seminal research and is an acknowledged leading researcher in the field of adipocyte biology. He is also an outstanding teacher in the classroom and the laboratory and is making major contributions to several graduate programs. He is an important part of the research on obesity being carried out at Michigan. It gives me great satisfaction to recommend his promotion to Professor of Molecular and Integrative Physiology and Professor of Internal Medicine.



Allen S. Lichter, M.D., Dean
*Newman Family Professor
of Radiation Oncology*

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