

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PATHOLOGY

Jean-Francois Rual, Ph.D., assistant professor of pathology, Department of Pathology, Medical School, is recommended for promotion to associate professor of pathology, with tenure, Department of Pathology, Medical School.

Academic Degrees:

Ph.D.	2005	University Notre Dame de la Paix, Namur, Belgium
M.S.	2001	University Notre Dame de la Paix, Namur, Belgium
M.S.	2000	Pasteur Institute and University of Nice Sophia-Antipolis, Paris and Nice, France
B.S.	1999	University of Nice Sophia-Antipolis, Nice, France

Professional Record:

2011 – present Assistant Professor of Pathology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Rual has extensive experience as an educator. He has mentored 16 undergraduate students, two fellows and four visiting scholars. He has served on two dissertation committees. Dr. Rual has instructing graduate students in Bioinformatics 551, the Cancer Research Summer Internship program, and in Cancer Biology 553. He serves on the Graduate Admissions Committee and is the chair of the selection committee for the Best Poster Award at the annual symposium and the Outstanding Research Award for the MCP graduate program.

Research: Dr. Rual's research has focused on cancer systems biology and the use of proteomic approaches to study cellular networks with particular emphasis in the MLL/HOXA9 axis as well as Hedgehog and the Notch signaling pathways. His lab has pioneered the role of L3MBTL3, a protein that acts as an essential repressor/regulator of cellular responses. Dr. Rual's laboratory research has identified L3MBTL3 polymorphisms is associated with the development of numerous cancers, including medulloblastoma, breast cancer, and leukemia, and has led research to identify the mechanisms of its involvement. This research has been very collaborative across multiple departments within the Medical School as it supports other endeavors, particularly through the establishment of a unique proteomic pipeline, and his protein interaction maps relate to physiological development and human disease. His research has made important impacts in the field. Dr. Rual has submitted grants for review and plans additional submissions in 2020, building on his current research, focusing on the role of L3MBTL3 in cancers. His research has been funded by the National Institutes of Health, the Department of Defense, and the Breast Cancer Alliance. He has published more than 35 peer-reviewed articles, and has been invited to present his research on 23 occasions regionally, nationally and internationally.

Recent and Significant Publications:

Yu L, Jearawiriyapaisarn N, Lee MP, Hosoya T, Wu Q, Myers G, Lim KC, Kurita R, Nakamura Y, Vojtek AB, Rual JF, Engel JD: BAP1 regulation of the key adaptor protein NCoR1 is critical for γ -globin gene repression. *Genes Dev* 32(23-24): 1537-1549, 2018.

Zhang H, Kuick R, Park SS, Peabody C, Yoon J, Fernández EC, Wang J, Thomas D, Viollet B, Inoki K, Camelo-Piragua S, Rual JF: Loss of AMPK α 2 Impairs Hedgehog-Driven Medulloblastoma Tumorigenesis. *Int J Mol Sci* 19(11): 3287, 2018.

Xu T, Park SS, Giaimo BD, Hall D, Ferrante F, Ho DM, Hori K, Anhezini L, Ertl I, Bartkuhn M, Zhang H, Milon E, Ha K, Conlon KP, Kuick R, Govindarajoo B, Zhang Y, Sun Y, Dou Y, Basrur V, ElenitobaJohnson KS, Nesvizhskii AI, Ceron J, Lee CY, Borggreffe T, Kovall RA, Rual JF: RBPJ/CBF1 interacts with L3MBTL3/MBT1 to promote repression of Notch signaling via histone demethylase KDM1A/LSD1. *EMBO J* 36(21): 3232-3249, 2017.

Xu T, Zhang H, Park SS, Venneti S, Kuick R, Ha K, Michael LE, Santi M, Uchida C, Uchida T, Srinivasan A, Olson JM, Dlugosz AA, Camelo-Piragua S, Rual JF: Loss of Pin1 Suppresses Hedgehog-Driven Medulloblastoma Tumorigenesis. *Neoplasia* 19(3): 216-225, 2017.

Guruharsha KG, Rual JF, Zhai B*, Mintseris J*, Vaidya P, Vaidya N, Beekman C, Wong C, Rhee DY, Cenaj O, McKillip E, Shah S, Stapleton M, Wan KH, Yu C, Parsa B, Carlson JW, Chen X, Kapadia B, VijayRaghavan K, Gygi SP, Celniker SE, Obar RA, Artavanis-Tsakonas S: A protein complex network of *Drosophila melanogaster*. *Cell* 147(3): 690-703, 2011.

Service: Dr. Rual is a member of numerous professional societies within his subspecialty. He has been a reviewer for the Medical Research Council, Methodology Research Fellowship Program and the Worldwide Cancer Research Grant Program in the United Kingdom. He is a member of the editorial boards for the *Frontiers in Oncology*, *Frontiers in Pediatrics*, *Biochimica et Biophysica Acta*, *PLOS One*, and *Cell*. Dr. Rual is a reviewer for 23 journals. Institutionally, he has been a reviewer for the Department of Cell and Developmental Biology IDEA Awards in Stem Cell Biology Program and a reviewer for the Michigan Institute for Clinical and Health Research pilot grant program.

External Reviewers:

Reviewer A: “He has continued to work in the molecular understanding of the Notch protein complexes. He described a new interactor for RBP gene repression, being this publication in EMBO j. [sic], his main achievement while independent researcher. I see from his publication list that he is also working in cancer, mainly medulloblastom. In summary, he is a promising [junior] scientist producing very interesting work.”

Reviewer B: “As documented by the high impact of his publications and the numerous invitations Dr. Rual receives to present his work he enjoys a very high standing in his research field. His unique expertise in proteomic approaches (as opposed to the more widely available genomic approaches) and their application to biomedical research questions put him in the top tier of his peer group...Dr. Rual is acting as an editorial board member at five journals (and has joined three boards in 2018 alone) and is regularly asked to perform *ad hoc* reviews for a large number of high impact factor journals. He was and is active in numerous review boards both international and within the University, teaches at the undergraduate and graduate levels and takes part in dissertation committees.”

Reviewer C: “His scholarship and research is of high quality, and he appears to have achieved national and to a degree international recognition in his area. This is supported by the significant number of national and international invited talks he has given, as well as his review activities for a range of journals as well as national and international funders. He has significant, sustained grant support for his laboratory, including serving as principal investigator on a RO1 award.”

Reviewer D: “Overall, Dr. Rual's written and scholarly contributions compare well in relation to others of comparable experience in his field. This is in terms of the quality of his work, quantity, and scholarly impact.”

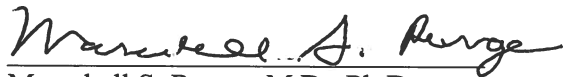
Reviewer E: “He has a remarkably strong record of service, including teaching and training, study sections, and volunteering. He is clearly well known internationally and nationally, having been invited to give many presentations and seminars. He has an outstanding track record of publications, federal and foundation funding.”

Reviewer F: “...Dr. Rual has contributed 38 publications, including in very prestigious journals such as *Nature* and *Cell*, and more recently in other high impact journals such as the *Embo Journal*, *International Journal of Molecular Sciences* and *Neoplasia*. The cumulative citation index of his publications is very high...Dr. Rual is outstanding, self-sustained through external funding and identifies him as a research leader in the field...In addition to his excellent scientific creativity Dr. Rual is a distinguished mentor and teacher.”

Reviewer G: “Dr. Rual has firmly established himself as an expert with international reputation in the area of systems biology and proteomics. As an independent investigator, he leveraged this expertise and applied it to advancing the field of cancer biology. ...Overall, I would characterize Dr. Rual's scholarly accomplishments as outstanding. With 38 research papers including milestone advances in the field of network biology, 1 [sic] book chapter, multiple grants including current R01, excellent service to the professional community as a reviewer and editor, and evidence of independence in the form of recent senior-author publications, Dr. Rual's portfolio is a complete package.”

Summary of Recommendations:

Dr. Rual has made significant contributions to the study of cancer systems biology, especially involving the use of proteomic approaches in his studies of cellular networks. His work has led to important publications revealing different activities of these networks and different functions of these proteins, especially in leukemias. I am pleased, therefore, to recommend Jean-Francois Rual, Ph.D. for promotion to associate professor of pathology, Department of Pathology, Medical School.



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

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