

Focus on Faculty #55

Wilson Miller



[Wilson H. Miller Jr.](#) is the Distinguished James McGill Professor in the Departments of Oncology and Medicine at McGill University. He is Associate Director of the Lady Davis Institute, Deputy Director of the Segal Cancer Center, and Clinical Lead of the Rossy Cancer Network.

Dr. Miller was born in Kansas and received his B.A from Princeton University, followed by the combined PhD-MD program at The Rockefeller University and Cornell University Medical College in New York City. Before moving to Montreal and McGill University, he held a faculty appointment in the Department of Medicine at Cornell and at the Memorial Sloan-Kettering Cancer Center in New York. Dr. Miller's laboratory at the Lady Davis Institute investigates molecular mechanisms underlying leukemia, breast cancer and melanoma, with a focus on the development of novel and targeted immunological therapies. He has received a number of research awards throughout his career, including the Medical Research Council of Canada Scientist Award and the FRSQ Chercheur National Award. Dr. Miller is a well-known speaker at national and international meetings and sits on peer review panels for the National Institutes of Health (US), the Canadian Institute of Health Research, the Ontario Cancer Research Network, and the Leukemia Lymphoma Society.

Dr. Miller's laboratory uses several approaches to understand the mechanisms of action and development of novel anti-cancer therapies. Current projects include the development of novel therapeutics for breast cancer and melanoma, with a focus on new pathways regulating protein synthesis, modification and degradation, as well as the role of these pathways in modifying the tumor immune microenvironment. In his role as Director of Phase 1 studies at McGill, he has had a leading role in the development of immunology.

As Clinical Lead of the Rossy Cancer Network — a partnership dedicated to integrating and improving quality of care in the McGill University-affiliated hospitals — Dr. Miller spearheaded the implementation of a multi-hospital disease site program and promoted collaboration on clinical trials throughout the network.

Outside the work environment, Dr. Miller is an avid squash player and enjoys reading (especially science fiction) and traveling.

Dr. Miller is especially proud of his many students who have launched successful academic careers of their own. Some important articles resulting from their research with Dr. Miller include:

Mann KK, Padovani AMS, Guo Qi, Colosimo AL, Lee HY, Kurie JM, **Miller WH Jr.** Arsenic trioxide inhibits nuclear receptor function via JNK-mediated RXR phosphorylation. *J Clin Invest*, 115: 2924 - 2933, 2005.

Esfahani K, **Miller WH Jr.** Reversal of Autoimmune Toxicity and Loss of Tumor Response by Interleukin-17 Blockade. *The New England Journal of Medicine*, 376(20)1989-1991, 2017.

Jamal R, Lapointe R, Cocolakis E, Thébault P, Kazemi S, Friedmann JE, Dionne J, Cailhier JF, Bélanger K, Ayoub JP, Le H, Lambert C, El-Hajjar J, van Kempen LC, Spatz A, and **Miller WH Jr.** Peripheral and Local Immune Signatures Identified in a Phase II trial of Ipilimumab with Carboplatin/Paclitaxel in Unresectable Stage III or Stage IV Melanoma. *Journal for Immunotherapy of Cancer*, 5:83, 2017.

Zhan Y, Guo J, Yang W, Goncalves C, Rzymiski T, Dreas A, Żyłkiewicz E, Mikulski M, Brzózka K, Golas A, Kong Y, Ma M, Huang F, Huor B, Qianyu G, Wurzba SD, Torres J, Cai Y, Topisirovic I, Su J, Bijian K, Alaoui-Jamali MA, Huang S, Journe F, Ghanem G, **Miller WH Jr.**, del Rincón SV. MNK1/2 inhibition limits oncogenicity and metastasis of *KIT*-mutant melanoma. *Journal of Clinical Investigation*, 12(11):4179-4192, 2017

Esfahani K, Al-Aubodah TA, Thebault P, Lapointe R, Hudson M, Johnson N, Baran D, Buhlaiga N, Takano T, Cailhier JF, Piccirillo C and **Miller WH Jr.** Targeting the mTOR pathway uncouples the efficacy and toxicity of PD-1 blockade in renal transplantation. *Nature Communications*. In Press, 2019.