

Focus on Faculty #12

Josie Ursini-Siegel



[Dr. Josie Ursini-Siegel](#) is an Assistant Professor in the Department of Oncology at McGill University and an investigator at the Lady Davis Institute for Medical Research (LDI). She trained in leading laboratories in Canada and the United States and has worked with highly respected researchers with demonstrated expertise in their fields. Dr. Ursini-Siegel received her M.Sc. and Ph.D. degrees from McMaster University (Hamilton, Ontario) in the laboratories of Dr. David Andrews and Dr. Peter Whyte, respectively. Her graduate training gave her an appreciation for the importance of understanding the molecular mechanisms that contribute to cancer development. During her postdoctoral training, she acquired the necessary expertise in animal model studies, and in combination with her background in molecular biology, pursued research studies to mechanistically determine how molecular alterations at the cellular level influence all stages of the tumorigenic program. In this regard, she pursued two postdoctoral fellowships. The first was in the laboratory of Dr. Selina Chen-Kiang at the Weill Medical College of Cornell University where she investigated how deregulation of the cell cycle and apoptotic machinery contribute to multiple myeloma. She then went on to pursue a second postdoc with Dr. William Muller at McGill University, a leader in the development of breast cancer transgenic mouse models. In his laboratory, she studied how aberrant receptor tyrosine kinase signaling in mammary epithelial cells promotes breast cancer development, which remains at the core of her research program.

Dr. Ursini-Siegel has been directing her own research program since 2010. It is aimed at defining how tyrosine kinases integrate mitogenic and oxidative stress stimuli to influence tumour cell autonomous processes that support uncontrolled breast cancer growth and contribute to the development of an angiogenic and immunosuppressive microenvironment. Within this context, her laboratory focuses on the specific role of an adaptor protein called ShcA, in these processes. Her research program integrates in vitro studies, breast cancer mouse model systems and validation

of research findings in clinical material. Her laboratory has been funded from various granting agencies including the Canada Foundation for Innovation (CFI), Canadian Institutes of Health Research (CIHR), Canadian Cancer Society Research Institute (CCSRI), Cancer Research Society (CRS), Susan G. Komen Foundation and Génome Québec. Dr. Ursini-Siegel is also the recipient of a CIHR New Investigator Salary Support Award.

During her career, Dr. Ursini-Siegel has published in leading scientific journals including Immunity, EMBO Journal, Cancer Research, PNAS, Oncogene and Nature Reviews Cancer. She is fortunate to work directly with a dynamic and talented group of colleagues at the Lady Davis Institute and Goodman Cancer Research Centre who are leaders in each of their respective fields. These interactions give her great personal satisfaction and have allowed her to continuously elevate her research program. During her personal time, Dr. Ursini-Siegel enjoys spending time with her husband, Dr. Peter Siegel, and children, Matthew and Adam Siegel, who remind her of what is truly most important in life.

We asked Dr. Ursini-Siegel to list a few of her articles whose work she is particularly proud of or enjoyed the most. This is what she provided:

Josie Ursini-Siegel, Babette Schade, Robert D. Cardiff and William J. Muller. 2007. Insights from transgenic mouse models of ErbB2-induced breast cancer. **Nature Reviews Cancer**. 7: 389-397.

Josie Ursini-Siegel, Sean Cory, Dongmei Zuo, W. Rod Hardy, Elton Rexhepaj, Sonya Lam, Babette Schade, Karin Jirstrom, Eva Bjur, Ciriaco A. Piccirillo, David DeNardo, Lisa M. Coussens, Donal J. Brennan, William M. Gallagher, Morag Park, Tony Pawson, Michael Hallett and William J. Muller. 2010. Receptor tyrosine kinase signaling in breast cancer cells inhibits the adaptive immune response to favor a pro-tumourigenic state. **Cancer Research**, 70: 7776-7787.

Ryuhjin Ahn, Valerie Sabourin, Sean Cory, Gordana Maric, Young K. Im, W. Rod Hardy, Hong Zhao, Morag Park, Michael Hallett, Peter M. Siegel, Tony Pawson and **Josie Ursini-Siegel**. 2013 The ShcA PTB Domain Functions as a Biological Sensor of Phospho-tyrosine Signaling during Breast Cancer Progression. **Cancer Research**, 73: 4521-32.