

CHROMATIN ARCHITECTURE ABERRATIONS IN PROSTATE CANCER AND LEUKEMIA

by

James Hawley

A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy

Graduate Department of Medical Biophysics
University of Toronto

© Copyright 2021 by James Hawley

Chromatin architecture aberrations in prostate cancer and leukemia

James Hawley

Doctor of Philosophy

Graduate Department of Medical Biophysics

University of Toronto

2021

Abstract

Abstract text goes here. Maximum 350 words for doctoral or 150 words for master's thesis excluding title. Do not include graphs, charts, tables, or illustrations in the abstract. Uses style "Abstract text" (double spaced).

Acknowledgments

As with all things, there are many people to thank for all of the support and guidance along the way. First and foremost, I would like to thank my fiancée, Alison McNeil, for being a steadfast and supportive partner for all of my endeavours for many years. I would like to thank my parents, Rick and Corrine Hawley, for always supporting me and encouraging my academic pursuits. I would also like to thank my brother, Stephen Hawley, as well as Matt Smart, Ryan Kearns, Radmila Kovac, and Dr. Kathleen Houlahan, for being friends who I always competed with intellectually and helped pushed me to be better.

I would like to thank my supervisor, Dr. Mathieu Lupien, for his encouragement, his guidance, and the freedom he granted me to pursue nearly any academic project of my own choosing. I would like to thank all of the members of my lab I encountered during my tenure: Christopher Arlidge, Bansri Patel, Tina Keshavarzian, Shalini Bahl, Jocelyn Chen, Dr. Giacomo Grillo, Dr. Sarina Cameron, Dr. med Kira Korienko, Ankita Nand, Dr. Stanley Zhou, Dr. Seyed Ali Madani Tonekaboni, Dr. Parisa Mazrooei, Ingrid Kao, Dr. Kinjal Desai, Dr. Qin Wu, Dr. Nergiz Artun Dogan, Dr. Bettina Nadorp, Dr. Aditi Qamra, Dr. Genevieve Deblois, Dr. Paul Guilhamon, Dr. Alexander Murison, Dr. Ken Kron, Dr. Swneke Bailey, Dr. Samah El Ghamrasni, Dr. Elias Orouji, Julie Relatado, Natalia Mukhina, Neda Shokraneh, Romy van Vliet, Aude Gerbaud, Felicia Tran, and Tahmid Mehdi. I would like to thank my Supervisory Committee members Dr. John Dick and Dr. Michael Hoffman for their feedback and guidance over the years, as well as my collaborators: Dr. Helena Boutzen, Dr. Laura Garcia Prat, Dr. Rashim Pal Singh, Dr. Ayesh Seneviratne, Dr. Mingjing Xu, Dr. Rupert Hugh-White, Dr. Theodorus van der Kwast, Dr. Michael Fraser, Dr. Paul Boutros, and Dr. Robert Bristow. I would like to thank members of the Princess Margaret Genomics Centre for their dedicated work, including Nicholas Khuu, Iulia Cirlan, Julissa Tsao, Zhibin Liu, Natalie Stickle, and Carl Virtanen.

Finally, to all the patients whose samples I have have collected and analyzed, I would like to thank them and their families for their sacrifices and willingness to participate in the scientific process. We still live in a world with cancer, but I can only hope that my work here helps us arrive at a world without it.

Contents

List of Tables

List of Figures