ANNOUNCEMENT: Interested members of the University Community are invited to attend the Final Oral Examination for the Degree of Master of Science of

Katherine Blake

of the Department of Molecular and Cellular Biology on Thursday, January 28, 2016 at 9:00 a.m. in SSC 1511

Thesis Title: An Investigation of the Non-Redundant Functions of PABPC4 via Protein-protein Interactions and PABP-Depletion Studies

Examination Committee: Dr. A. Nassuth, Dept. of Molecular and Cellular Biology (Chair) Dr. J. Uniacke, Dept. of Molecular and Cellular Biology Dr. R. Mosser, Dept. of Molecular and Cellular Biology Dr. J. Vessey, Dept. of Molecular and Cellular Biology

ABSTRACT

Katherine Blake, B.Sc. (Hons.) Advisors: Dr. J. Uniacke and Dr. J. Bag

Poly(A) binding proteins are a group of RNA binding proteins with specific affinities towards the poly(A) tract of eukaryotic mRNAs. Although the cellular function of PABP1 in mRNA metabolism is well characterized, the function of other cytoplasmic PABPs is less understood. The aim of this research was to elucidate the cellular function of PABP4. We observed a modest reduction in protein synthesis in PABP4 depleted cells. Additionally, we investigated protein-protein interactions, finding that PABP1 and PABP4 interact with one another. We also found that while PABP4 binds to Paip1, it failed to bind Paip2. Consistent with this observation, PABP1 depletion results in the degradation of Paip2. However, PABP4 depletion had no effect on Paip2 expression. Studies were also conducted to examine PABP1 and PABP4 expression during hypoxia and recovery. Our results did not show any detectable changes in cellular abundance of both PABP1, and PABP4 during hypoxia or recovery.

CURRICULUM VITAE:

Katherine received her BSC in Molecular Biology and Genetics from the University of Guelph in 2013. She began her graduate program in the lab of Dr. J. Bag in May of 2013.