# Role of miR-143 in Intestinal Tumorigenesis in the Apc Mutant Min Mouse

Pei, Alexander

Colorectal cancer is the third most commonly diagnosed cancer and the second leader in cancer related deaths. Actively researching genes that are not well understood such as miR-143 helps to develop new methods in treating colorectal cancer. The results of this experiment will shed light on whether or not miR-143 plays a role in tumor cell proliferation and if this gene is an attractive target for medicinal treatment. Site-specific deletion of gene miR-143 in an intestinal ApcMin/+ mutant mice from breeding Cre-transgenic mice with another mouse floxed at the miR-143 exon creates a miR-143 knockout mouse. miR-143 knockouts and miR-143 heterozygotes were raised under the same conditions. Colorectal tissue was collected and stained via indirect immunohistochemical staining using a Ki67 antibody to detect proliferating cells in colorectal tumor tissue. The data collected during this experiment supported the hypothesis that miR-143 has tumor-suppressing properties in colorectal cancer. Mice with a deletion in miR-143 had 16.64% more cell proliferation identified by the Ki67 antibody than the mice that still expressed the gene. The results from this experiment indicate that miR-143 plays a tumor-suppressing role in colorectal cancer.