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Mohammad Zaidi Date

**Decreased Proviral DNA Loads and Changes in Innate Immune System-Related Transcription Factor Expression in Simian Immunodeficiency Virus-Infected Rhesus Macaques after Blocking the Gut-Homing Integrin**

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**Decreased Proviral DNA Loads and Changes in Innate Immune System-Related Transcription Factor Expression in Simian Immunodeficiency Virus-Infected Rhesus Macaques after Blocking the  Gut-Homing Integrin**

**By**

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**Advisor: Dr. Aftab A. Ansari, PhD**

**An abstract of**

**A thesis submitted to the Faculty of the James T. Laney School of Graduate Studies of Emory University in partial fulfillment of the requirements for the degree of Bachelor of Science/Master of Science in Biology**

**2011**

**Abstract**

**Decreased Proviral DNA Loads and Changes in Innate Immune System-Related Transcription Factor Expression in Simian Immunodeficiency Virus-Infected Rhesus Macaques after Blocking the  Gut-Homing Integrin**

**By Mohammad Yahya Zaidi**

**Administration of a novel recombinant rhesus monoclonal antibody (mAb) with specificity to the  gut-homing integrin prior to and 28 days after infection with the Simian Immunodeficiency Virus (SIV) resulted in a significant decrease in colorectal and jejunal proviral DNA loads of anti- treated rhesus macaques compared to control SIV-infected rhesus macaques. The anti-monoclonal antibody administration also affected innate immune system-related transcription factor expression, with significant changes in expression of the transcription factors related to Th17 cell activity and Regulatory T cell activity (Tregs) compared to the control SIV-infected rhesus macaques. Changes in innate immune system-related plasma cytokine levels were also seen in the anti- mAb treated monkeys compared to the control SIV-infected rhesus macaques. The inhibition of MIP-3 synthesis by gut tissues complemented other data collected in the lab which suggested that the anti- mAb blocks trafficking of CD4+ T cells as well as inhibits the mobilization of other innate immune system cell lineages to the gut, thereby protecting the gut tissue and modulating acute SIV infection.**

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**Acknowledgments**

**This thesis would not have been possible without the continuous assistance and encouragement from my advisor, Dr. Aftab Ansari. I am truly indebted to the opportunity he has given me to participate in his research.**

**My entire educational career thus far would not have been possible without the unwavering support from my mother, Navida Fatima Zaidi, my father, Raza Hussain Zaidi, and my two sisters, Auj and Ailya Zaidi.**

**And lastly, to all my friends who never let me stop smiling, especially Ali Irfan Rae and Ilma Zejnelovic: Thank You.**

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