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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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