Mosquito transmitted diseases are one of the leading causes of death among millions of people around the world. The *Aedes aegypti* mosquito serve as the source of several vector-borne diseases for humans like Dengue virus (DENV), Chikungunya, Zika, and Yellow fever. [1] DENV virus specifically is responsible for about 300 million infections and deaths due to prolonged manifestations each year in countries throughout the tropics. [2] Mosquito-borne viruses are maintained in a continuous cycle between the vector and vertebrate animals. Once the virus is transmitted to the host through mosquito bites, it can replicate to an increased level of viremia in the blood circulation system for acquisition by other mosquitoes. The virus eventually infects the mosquito’s midgut epithelial cells and spread systematically through the hemocoel to the salivary glands and neural system; this is how the mosquito becomes infected with the virus. Now, the infected mosquito is prepared to transmit the virus to other hosts. [3] By understanding the vector’s midgut physiology against the immunity of such diseases, this will lead to a better understand the connection between the blood feeding behaviors of *Ae aegypti* mosquitoes and the relationship between infection and transmission potential. [4] The midgut serves as a physical barrier to protect against pathogens in order to maintain midgut homeostasis while feeding on blood. When blood from the host is present in the midgut, cell proliferation occurs to counteract the damage from pathogens. When exposed to different sources of blood, the *Ae.aegypti* will tend to be more selective in which blood type it will consume. Previous experiments have shown that the *Ae. Aegypti* mosquito will prefer human blood 97% of time while other hosts like cattle were mostly avoided. [5] This leads to wondering why the mosquito has such an innate behavior towards which blood it preference to feed on.