

Dissecting Malaria Vector-Pathogen Interactions Using *Drosophila-Plasmodium* Genetic System

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Malaria is a devastating public health menace, killing over one million people every year and infecting about half a billion. The malaria parasite, *Plasmodium*, has an intricate lifecycle in both its vertebrate and insect hosts. We previously showed that the protozoan *Plasmodium gallinaceum*, a close relative of the human malaria parasite *Plasmodium falciparum*, can develop in the fruit fly *Drosophila melanogaster*. To dissect this insect-parasite relationship and to learn about factors governing an insect's ability to act as a disease vector, we carried out a genetic screen in *Drosophila* to identify mutations affecting these processes. We screened for mutations that affect a fly's ability to support the growth of *Plasmodium gallinaceum* by infecting flies with parasites and then using real time reverse transcription PCR to determine the parasite load in each strain. Here we focus on one of the mutants we identified in which we can observe more *Plasmodium* growth than in the wild type strain. We determined the mutated gene encodes a putative cell-adhesion/recognition receptor protein. We will discuss about some predicted functions of this gene product in relation to *Plasmodium* growth in insect vector.