

UVM Undergraduate Research Conference Abstract

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### Quantification of Myosin Associated Proteins in Transgenic *Drosophila*

#### Abstract

Flightin (insect flight muscle) and cardiac Myosin binding protein-C (cMyBP-C) (vertebrate heart) are proteins that bind to the coiled-coil region of Myosin and are integral to sarcomere structure and stability of their respective muscle tissues. Both proteins have been shown to contribute to thick filament stiffness and length. To determine if cMyBP-C and flightin are functional homologs, we created transgenic *Drosophila* lines that express full length cMyBP-C in the presence ( $fln^+$ ;  $cMyBP-C^+$ ) or absence ( $fln^0$ ;  $cMyBP-C^+$ ) of Flightin in the flight muscles. Thick filaments from  $fln^+$ ;  $cMyBP-C^+$  flies are significantly stiffer than thick filaments from control flies. We are conducting quantitative protein gel electrophoresis analysis to determine if the increased in stiffness is due to high levels of cMyBP-C expression in the IFM.