Effect of the nutritional supplement β-hydroxy-β-methylbutyrate (HMB) on lean body mass and motility in Drosophila

Clare Martin and Stephanie Lequier

The gradual loss of skeletal muscle function with age is an inevitable process, which is often exacerbated in various pathological conditions. The dietary supplement HMB (β-hydroxy-β-methylbutyrate,) has been shown to ameliorate post-exercise muscle damage, enhancing muscle function in rodents and humans via increased protein synthesis or decreased protein degradation. We have recently demonstrated that HMB prolongs lifespan and preserves flight muscle function later in life in *Drosophila melanogaster*. Here, we determine if HMB affects muscle function in Drosophila larva by measuring crawling speed, and lean body mass by measuring total body weight, protein concentration (as a measure of muscle mass), and lipid concentration (as a measure of fat mass). Preliminary results indicate there is no difference in either crawling speed or total protein concentration between the control and the HMB-fed group suggesting that if HMB has an effect on protein synthesis, it is too small to be detected by our current assays.