
THE EFFECTS OF CHRONIC CORTISOL EXPOSURE ON THE INNATE IMMUNE RESPONSE OF LARVAL *DANIO RERIO* (POSTER)

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Chronic stress is known to cause a variety of health complications linked to a dysregulated immune response, which could be an outcome of chronically elevated stress signaling mediated by the glucocorticoid steroid hormone cortisol. Previous research has shown that zebrafish embryos treated with cortisol for the first 5 days of development matured into pro-inflammatory adults with atypical regulation of immune-related genes (Hartig et al., 10.1242/bio.020065, 2016). The purpose of this study was to determine how chronic exposure to cortisol affects the innate immune response in larval zebrafish. To that end, the migration of neutrophils and macrophages were monitored following tail fin amputation. Results from this study provide evidence that cortisol-treated larvae had an increased number of macrophages near the amputation site, while the number of neutrophils was not significantly affected by cortisol exposure. These results suggest that chronically elevated glucocorticoid signaling specifically up-regulates the macrophage response to injury.