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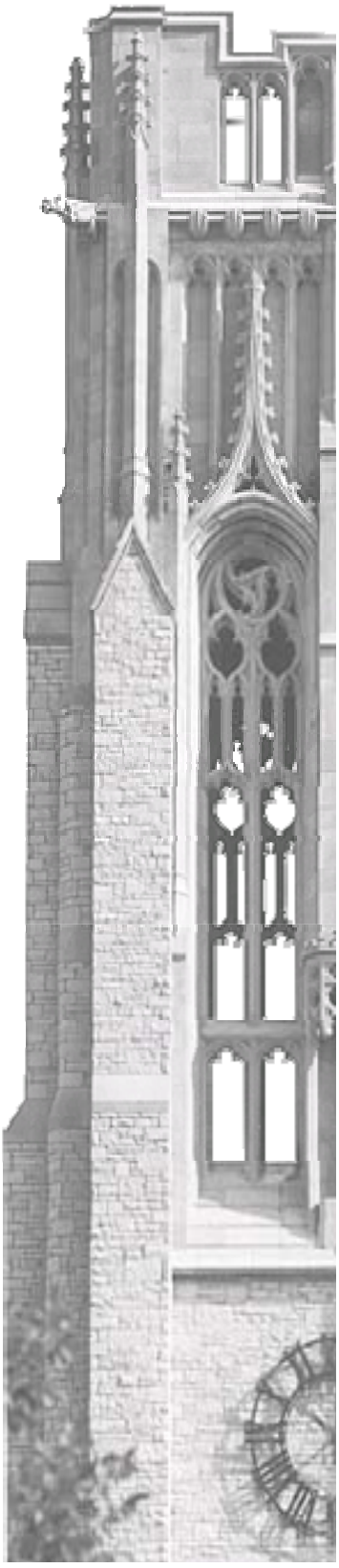
Cortisol ELISA for Fish



Endocrine activity in an extensive range of species, including fishes, can be significantly altered under stressful circumstances contributed by both natural and anthropogenic factors. Fishes subjected to various stressors exhibit primary stress responses similar to mammals, including the release of cortisol from interregnal tissue. Under chronic stress conditions such as environmental deterioration long term cortisol hypersecretion may occur. Specific physiological consequences of chronic stress include inhibition of innate immunity, growth, and reproduction. While glucocorticoids (GCs), and especially cortisol, have frequently been determined in plasma as an indicator of stress, blood sampling is itself invasive and stressful. Quantification of fecal GC metabolites has become a useful method for the noninvasive assessment of adrenocortical activity in temperamental, dangerous, or poorly accessible species. Therefore, a system has been developed for assessing adrenocortical activity by measuring adrenocorticoid metabolites in fecal samples from fish.

The University of Toledo is seeking a company interested in utilizing this system for assessing adrenocortical activity by using an enzyme-linked immunosorbant assay testing kit to detect the presence of GC metabolites in fecal samples from fish.

Applications:

1. Test for assessing adrenocortical activity in one or more fish in both aquaculture and natural settings

Advantages:

1. Fecal samples amortize hormone levels across time, eliminating the issue of potentially misleading acute hormonal spikes associated with sampling plasma
2. GCs are metabolized and excreted with both intact hormones and their metabolites present in feces
3. GC metabolites are excreted in relatively stable proportions, making measurement if free hormone a direct and reliable endpoint

This invention is patent pending

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