The Effect of Ethanol on Weakfish Mauthner Cell
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Throughout history alcohol has had many uses in the field of science, but the substance also has well-known negative effects when it is used over a long time period or overused. To evaluate alcohol’s powers, a model organism (the weakfish) was incorporated into the research because of its well-characterized neuronal physiology. Additionally, to evaluate the effect of ethanol on behavior, the fish will be tested in a plus maze that consists of four arms, two light (more stressful), and two dark (less stressful). Results showed that the fish exposed to 1% of ethanol spent less time in light (stress) habitats and displayed minimal activity. What is understood now is that ethanol is affecting a cellular mechanism within the fish. The next study focused on the C-start escape behavior induced by the Mauthner cell; a large neuron located within the medulla of amphibians. Since the escape action is controlled by this cell, studying the escapes will show how much of an impact ethanol had on the Mauthner cell. Lastly, fish in 1% ethanol were more likely to escape than control, but they escaped in the wrong direction most of the time. This research suggests that alcohol does impact the cellular activity of the Mauthner cell.