INTRODUCTION
The gene I have used for my part of this experiment is VCPIP1. VCPIP1 stands for "similar to valosin-containing protein p97/p47 complex-interacting protein p135". I also going to look at the molecular evolution in the species.

HYPOTHESIS
In this experiment I investigated the similarities and differences between VCPIP1 and SVEP1. Also will the two genes give the same answer for the fish species?

METHODS
Throughout this experiment I used four main methods. They are:
- DNA Extraction: The first method I broke down a fish fin and extracted the DNA.
- PCR: During the second method I amplified a specific sequence from the DNA, which is adding a primer.
- Electrophoresis: Then for the third method, I ran the DNA through an Agarose Gel with a loading dye.
- DNA Sequencing: For this last method I performed, I ran the DNA and got a result of all the nucleotides in the strand.

GROUPS OF FISH
Salmon:
- Arctic Char
- Chinook Salmon
- Arctic Graying
- Arctic Cisco
Smelt:
- Rainbow Smelt
- Capelin
Pike:
- Alaska Blackfish
- Olympic Mudminnow
- Central Mudminnow
Out-group:
- Pacific Herring
- Gafftopsail Catfish
- Bluefin Stoneroller
- Sumatran Loach

We tested these groups to find the differences and to see if they are related.

RESULTS
For my first hypothesis: they did have the same results other than how 4 samples of VCPIP1 did not work, as I started out with 11. Also the results did show the relationship between the groups and how closely they are related to each other on their family trees. My results came back with a length of 0.131 and some mutations. The results also came back with Northern Pike being more related to the Central Mudminnow, and the Bluefin stoneroller My being more related to The Sumatran Loach.

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