

Comparison of Proteins and Genes Sequences among Different Species to Highlight Similarity

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Some amphibians have the unique abilities of regeneration which is lost in humans and other mammals. Investigations from previous research show that the mechanism of the amphibian ability to regenerate is not fully understood. The central purpose of our investigation is to address our hypothesis which says that high level of EV15 is essential to delay entry of axolotl limb cells into M phase until they are fully dedifferentiated, and that the loss of regeneration capacity in developing *Xenopus* limbs is due to loss of the capacity to enforce this delay. As part of this project, my major goal is to compare two or more protein sequences with the purpose of highlighting homology region among the different species sequences. This study is helpful because it helps compare unknown species sequence such as axolotl against other known proteins to determine high homology region. The proteins I will align are YAP, Yorkie, P53, MST1/2, LAT1/2, and SAV1. The tool I plan to use for the sequence comparison is ClustalW2 software. The results from the sequence comparison will be used to assign primers or antibody of genes and proteins, which will then be used to investigate the unique abilities of amphibian regeneration.

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