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Title: Understanding the role of Glucose Treatment in Axolotl Larvae Tail Regeneration, Understanding the Role of DNA methyl Transferases (DNMTs) in Vertebrate Limb Regeneration

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Axolotl Larvae Tail Regeneration

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Abstract: Hyperglycemia induces impairment in the caudal fin regeneration of Zebrafish and glucose immersion in Axolotl larvae leads to impairment in tail regeneration. Zebrafish caudal fin are of 2 types; short caudal fin (wild type) and long caudal fin (mutant). Regeneration rate differs in the short and long caudal fin and the trend reverses while treating both with Aza. Aza, 5-aza deoxycytidine is one of the DNMT inhibitor drugs that replace cytosine and trap the DNMT, inhibiting the DNA methylation process. DNMTs are the group of genes that helps in the methylation of DNA molecules for chromatin remodeling, in the regeneration process DNMTs regulate cell proliferation. The caudal fin of Zebrafish evolves into appendages in higher vertebrates, and in Axolotl limb regeneration shows the trend

of regeneration of Zebrafish caudal fin of Aza solution.

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