Innervation of Axolotl Blastemas

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The Mexican axolotl (*A. mexicanum*) possesses a unique capability to regenerate limbs, a process critically dependent on nerve supply. Without proper innervation, limb regeneration fails, resulting in tissue regression and histolysis. This study aims to map nerve locations within a regenerating blastema and to characterize cell death in denervated limbs. Using immunohistochemistry (IHC) to stain for nerve markers, the experiment utilized beta-tubulin to successfully visualize locations of regenerated innervation. Once nerve regeneration was established, it was followed by attempts to determine specific types of nerves; staining for sympathetic and sensory nerves using Tyrosine Hydroxylase and HNK1 antibodies, respectively. Additionally, staining for Tyrosine Hydroxylase and HNK1 aims to indicate methods of tissue regression due to denervation. These findings contribute to the scientific understanding of the axolotl's nerve-dependent regeneration and encourage further investigation.