

The Connection Between Regenerative Features of Salamander Limbs and Mammalian Somatic Cells

Nandini Rao, Purdue School of Science; Deepali Jhamb, Science Student

The unique regenerative feature of urodele salamander limbs is their natural ability to dissolve tissue organization and re-program somatic cells to adult stem-like cells at the site of an amputation to create a blastema that self-organizes the missing limb parts. To understand this information, we used quantitative LC/MS/MS peptide separation to analyze temporal changes in proteins after amputation of axolotl hind limbs. The information from this study will be useful in devising chemical induction strategies to reprogram mammalian somatic cells or activate resident stem cells directly at the site of injury to regenerate damaged tissues and appendages.