Title:	Exploring the role of hippo signaling pahway during zabrafish retina regeneration
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Abstract:	Unlike mammals, zebrafish can regenerate most of its organs, such as the heart, brain, fin, and retina. In this study, we used zebrafish as our model organism. Müller glial cells are known to be the first responders to retinal insult. These cells de-differentiate, re-enter the cell cycle, and proliferate to regenerate the damaged site. Many studies have shown the role of various molecular signaling pathways during retina regeneration, such as Wnt signaling and tgf-beta signaling. But the exact mechanism of retina regeneration is far from being illustrated completely. The hippo signaling pathway has been shown to play a crucial role in organogenesis and cell cycle entry. Also, it has been shown to regulate the Müller glia reprogramming in the mammalian retina. But its role in zebrafish retina regeneration stills remains unexplored. In this study, we explore the role of the Hippo signaling pathway components such as Yes-associated protein 1 (Yap1), the Lats, and the Teads. We show that yap1 mRNA is expressed in the proliferating Müller glial cells and inhibition of Yap-Tead interaction reduces their proliferation. In contrast, no decrease is observed in proliferation upon late knockdown of yap1, implying its crucial role in the early stages of regeneration. We have generated various mutant clones of these pathway components along with Yap-Tead activity reporter transgenic zebrafish line to serve as tools to further study their role and interactions with regeneration-associated genes.
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