Title:	Molecular basis behind the cross-talk between Polycomb Repressor Complex 2 (PRC2) and Histone deacetylases (Hdacs) during Zebrafish Retina Regeneration
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Abstract:	Diseased or damaged human retina fails to restore its lost vision despite considerable efforts and significant therapeutic advances. On the other hand, Zebrafish, a teleost fish, is an excellent model to study the molecular mechanisms of regeneration in tissues like retina because it demonstrates a robust regenerative response following injury. Müller glia responds to retinal injury and disease by changing their morphology, biochemistry, and physiology3. Further, they undergo a reprogramming event that enables regeneration. This requires changes in gene and protein expression. So, to identify the molecular players that confer regenerative capacities to non-regenerative species is the key relevance. Studies in various types of cancers have revealed that there is a collaboration between epigenetic modifiers like PRC2 and Hdacs. Here, in my work, we have explored the functional links of epigenetic modifiers like Ezh2 and Hdacs during retina regeneration. We have found that both Ezh2 and Hdacs affect the expression levels of each other during retina regeneration in zebrafish. Some regeneration associated genes like mmp9, notch1a, insm1a, ascl1a, her4.1 were also found to be regulated by the combined blockade of Ezh2 and Hdacs. Earlier reports have also shown that EZH2 and HDACs-mediated epigenetic modifications contribute to constitutive activation of Wnt/b-catenin signaling which is significantly associated with abnormal cell growth. So, here we also investigated the effect of combinational blockades of Ezh2 and Hdacs on MGPCs proliferation mediated through Wnt/ β-catenin signaling pathway during zebrafish retina regeneration.
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