Characterization of *rasl11b* and *dcdc2b* in Zebrafish Eye Development

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Abstract:

Semaphorin ligands and their plexin receptors are critical molecules in guidance of neurons and developing vasculature. In zebrafish, when Sema6A and PlexinA2 were knocked down using antisense morpholino technology surprisingly lack cell adhesion in the developing eye. We performed a microarray analysis of Sema6A and PlexinA2 morphants, to identify genes with increased or decreased expression when compared to control animals. From this screen, we identified 58 genes with significant changes in gene expression levels. The aim of the proposed research is to 1) validate the change in expression of two of these genes, *ras-like, family 11, member B* (*rasl11b*) and *doublecortin domain containing 2b* (*dcdc2b*), by observing the mRNA expression of these two genes in situ in control and morphant embryos, and 2) determine the function of these two genes by antisense morpholino knockdown. We hope to identify a potential function for these candidate genes in early eye development.