

SAMPLE ABSTRACT

INVESTIGATING THE ROLE OF NDRG1B ON SKIN AND REGULATING EYE AND SKIN DEVELOPMENT IN CATFISH EMBRYOS

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Skin development is a complex process that depends heavily on the interaction of specific genes. Brain development starts with neurulation, the formation of the neural tube from neuroectodermal cells during embryogenesis. In humans, impaired neurulation causes congenital birth defects such as spina bifida, where the neural tube cannot close properly due to mutations and environmental factors. Neural tube convergence is essential for bringing together the neural plate cells at the dorsomedial surface to close the neural tube. To study neurulation, I will use zebrafish whose external development and transparent embryos facilitate live imaging of early embryogenesis. In 24-hour post-fertilization (hpf) zebrafish, we have observed that the knockdown of N-Myc downstream-regulated gene 1b (ndrg1b) causes morphological brain and eye deficiencies. These abnormalities are like those of “glass onion” mutants in which the cell-cell adhesion molecule N-cadherin (N-cad) is disrupted.

Supported for this research was provided by the HHMI grant (52008090) and funding from the National Institute of Health/NICHHD (R21HD089476).