John Wesley Powell Student Research Conference 2009, 20th Annual JWP Conference

Apr 18th, 2:35 PM - 3:35 PM

Pax9 Gene Expression in *Moenkhausia sanctaefilomenae*

Ashley Shah  
*Illinois Wesleyan University*

Brian Walter, Faculty Advisor  
*Illinois Wesleyan University*

Follow this and additional works at: [https://digitalcommons.iwu.edu/jwprc](https://digitalcommons.iwu.edu/jwprc)


This is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.  
©Copyright is owned by the author of this document.
**PAX9 GENE EXPRESSION IN MOENKHAUSIA SANCTAEFILOMENAE**

Ashley Shah and Brian Walter*
Biology Department, Illinois Wesleyan University

The *Pax* family of genes function as transcription factors, playing an essential role during development, such as migration of neural crest and differentiation of tissues (Lang et al, 2006). *Pax9* is a part of the *Pax* family and is critical in embryonic development in vertebrates, specifically in the cartilages and bones of the vertebrae and craniofacial skeleton (Peters et al, 2008). Our research investigates the expression of *Pax9* in the red-eye tetra, *Moenkhausia sanctaeofilomenae*. *Pax9* was first amplified via reverse transcriptase – polymerase chain reaction and subsequently cloned. *Pax9* was then developed into a probe for in situ hybridization in order to view gene expression. Our results have shown that *Pax9* is expressed in the pharyngeal arches, trunk sclerotome, and tail in different development stages of the tetra. Studying expression of the *Pax9* gene provides insight to the specific embryonic development of tetras and allows for further studies such as a detailed, comparative analysis of the skeletogenic genes involved in fish development.