Use of Slide In-Situ Hybridization to Determine PAX9 Gene Expression in *Moenkhausia Sanctaefilomenae*

Golibe Eze-Echesi  
*Illinois Wesleyan University*

Brian Walter, Faculty Advisor  
*Illinois Wesleyan University*

Follow this and additional works at: https://digitalcommons.iwu.edu/jwprc

Part of the Biology Commons

Eze-Echesi, Golibe and Walter, Faculty Advisor, Brian, "Use of Slide In-Situ Hybridization to Determine PAX9 Gene Expression in *Moenkhausia Sanctaefilomenae*" (2010). *John Wesley Powell Student Research Conference*. 8.  
https://digitalcommons.iwu.edu/jwprc/2010/posters2/8

This Event 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.
USE OF SLIDE IN-SITU HYBRIDIZATION TO DETERMINE $PAX9$ GENE EXPRESSION IN $Moenkhausia$ sanctaefilomenae

Golibe Eze-Echesi and Brian Walter*
Biology Department, Illinois Wesleyan University

$PAX9$ is a paired box transcription factor with essential roles in embryonic development of the skeleton, teeth, thymus and parathyroid regions of the embryo. Our lab has previously cloned $PAX9$ from the red eye tetra, $Moenkhausia$ sanctaefilomenae and expression analysis during early embryonic development demonstrated that $PAX9$ is expressed in the pharyngeal region of the craniofacial skeleton, vertebral somites and tail region. This project examines expression of $PAX9$ in larval fish using a technique known as slide in-situ hybridization. This technique allows for detection of $PAX9$ transcripts in older specimens, an outcome typically unattainable via whole mount in-situ techniques. $Collagen$ type II alpha 1 ($Col2a1$) was also examined as a control for this technique. Results showed that $Col2a1$ is expressed in the basioccipital cartilage and the chondocranium cartilage while $pax9$ is expressed in the tissues of the pancreas and liver of the embryo. The success of this slide in-situ technique allows for further examination of later development in fish while possibly using other genes as well.