

# **THE ARSENAL**

Augusta University's Undergraduate Research Journal

ISSN 2380-5064 | The Arsenal is published by the Augusta University Libraries | <http://guides.augusta.edu/arsenal>

**Volume 4, Issue 1 (2021)**  
**Special Edition Issue**

## DEVELOPMENT OF TRANSPARENT TRANSGENIC ZEBRAFISH STRAIN TO STUDY NF-KB, ANNEXIN 5, AND THE MICROGLIA

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### **Citation**

Aikhionbare, K., Appiah, C., Wood, A., Ouellette, L., & Rajpurohit, S. (2021). Development of transparent transgenic zebrafish strain to study NF-KB, annexin 5, and the microglia. *The Arsenal: The Undergraduate Research Journal of Augusta University*, 4(1), 1. <http://doi.org/10.21633/issn.2380.5064/s.2021.04.01.01>



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# Development of Transparent Transgenic Zebrafish Strain to Study NF-KB, Annexin 5, and the Microglia

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## ABSTRACT

Glioblastoma is an aggressive brain cancer that attacks the central nervous system. The glioblastoma survival rate is five percent and an average of fifteen months after diagnosis despite the current treatments. New advanced treatment needs to be developed to increase the survival rates. A solution to this problem would be to study how glioblastoma works and stop the spread of this cancer. At the Transgenic Zebrafish Core Facility, mentored by Dr. Rajpurohit, we are developing a transgenic, transparent Zebrafish strain to study the morphology, function, and the developmental biology of the proteins NF-KB, the Annexin-5, brain resident macrophage, and the microglia in normal and diseased organisms. First, we will create this strain by cross breeding the Casper transparent mutant with transgenic strains. The Casper contributes to the study by integrating a transparent characteristic in adult zebrafish that allows for simpler visualization and observation of the transgenic strains. Then, we will screen and sort the transgenic progeny and use in vivo imaging to observe the morphology in the zebrafish larval population using the confocal and fluorescent microscopy to determine which fluorescent protein is being activated.

*Received: 02/15/2021 Accepted: 03/30/2021*

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