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## ESTABLISHING A GFP MARKER IN ZEBRAFISH TO STUDY THE LOCALIZATION OF TINAGL1

Helena Blackburn and Ellen LeMosy

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# Establishing a GFP Marker in Zebrafish to Study the Localization of Tinagl1

**Presenter:** Helena Blackburn (Poster Presentation)

**Authors:** Helena Blackburn<sup>1</sup> and Ellen LeMosy<sup>2</sup>

**Faculty Sponsor(s):** Ellen LeMosy, MD, PhD

**Department Affiliation:** <sup>1</sup>Biological Sciences, <sup>2</sup>Cellular Biology and Anatomy

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## ABSTRACT

Tinagl1 is a secreted protein found in the basement membrane under epithelial cells. The LeMosy Lab previously showed that tinagl1 knockdowns resulted in abnormal spinal development and heart orientation during zebrafish development. These data, together with changes in length of motile cilia, suggested that tinagl1 is involved in cilia function during development. The mechanism of this interaction is unknown, and it is unclear whether tinagl1 is only in basement membranes at the basal side of cells or if it also localizes to the apical side of cells where most cilia project. A deeper understanding of the localization of tinagl1 during development is a logical next step in understanding how this protein functions. Zebrafish provide an excellent model for studying this localization because they display strong phenotypic effects that can be easily imaged. The localization of tinagl1 will be tracked using a tinagl1-GFP fusion construct developed through PCR and insertion into a Tol2 transposon vector. This construct will be injected into early embryos together with transposase mRNA to create mosaic fish showing tinagl1-GFP in selected tissues. Successful germline integration of the tinagl1-GFP DNA will lead to the development of a transgenic line of zebrafish allowing imaging of tinagl1 localization during development.

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*Correspondence:* Helena Blackburn, Augusta University, 1120 15<sup>th</sup> St. Augusta, GA 30912, [hblackburn@augusta.edu](mailto:hblackburn@augusta.edu)