APPENDIX B

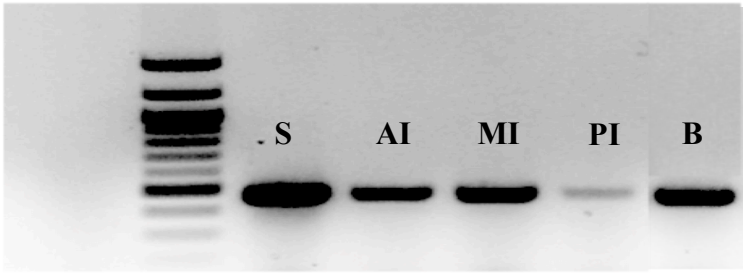

Figure 1. *nis* expression in red drum (*Sciaenops ocellatus*) in sub-pharyngeal (**SP**), anterior intestine (**AI**), medial intestine (**MI**), posterior intestine (**PI**), and brain (**B**).

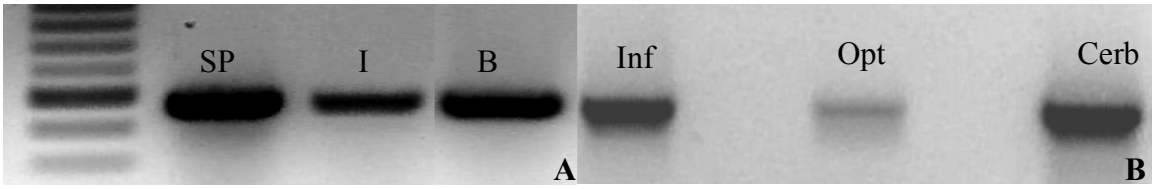

Figure 2. RT-PCR identification of *nis* expression in **A)** Subpharyngeal (**SP**), intestine (**I**), brain (**B**) and **B)** Inferior lobe (**Inf**), optic lobe (**Opt**), and cerebellum (**Cerb**) of red drum.

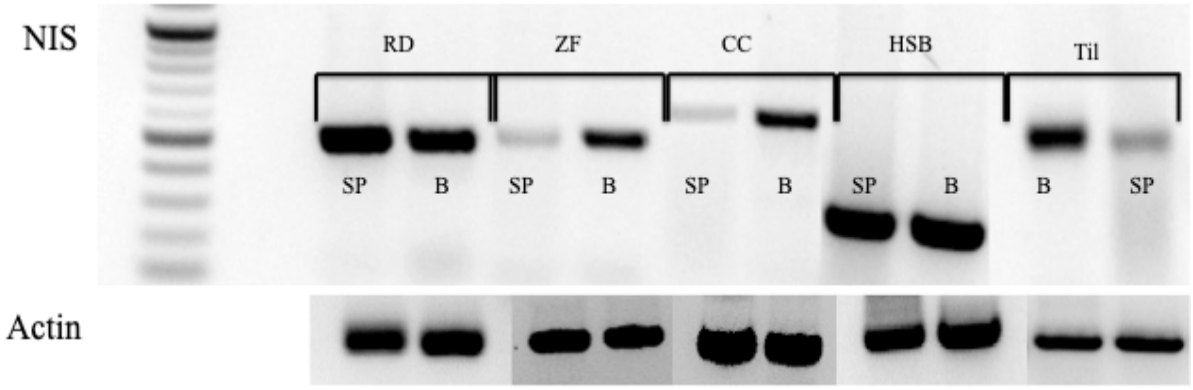

Figure 3. RT-PCR results showing *nis* is expressed in the brains (**B**) and sub-pharyngeal regions (**SP**) of red drum (**RD**), zebrafish (**ZF**), channel catfish (**CC**), hybrid-striped bass (**HSB**), and tilapia (**Til**).

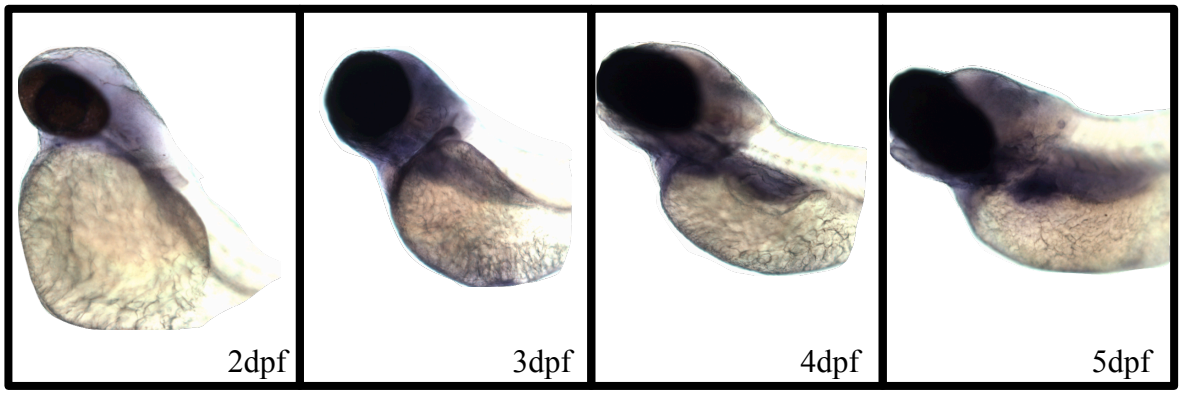

Figure 4. *nis* expression from 2-5 days post-fertilization (dpf) in zebrafish. Expression in the CNS is broadly distributed, and present in the anterior digestive tract

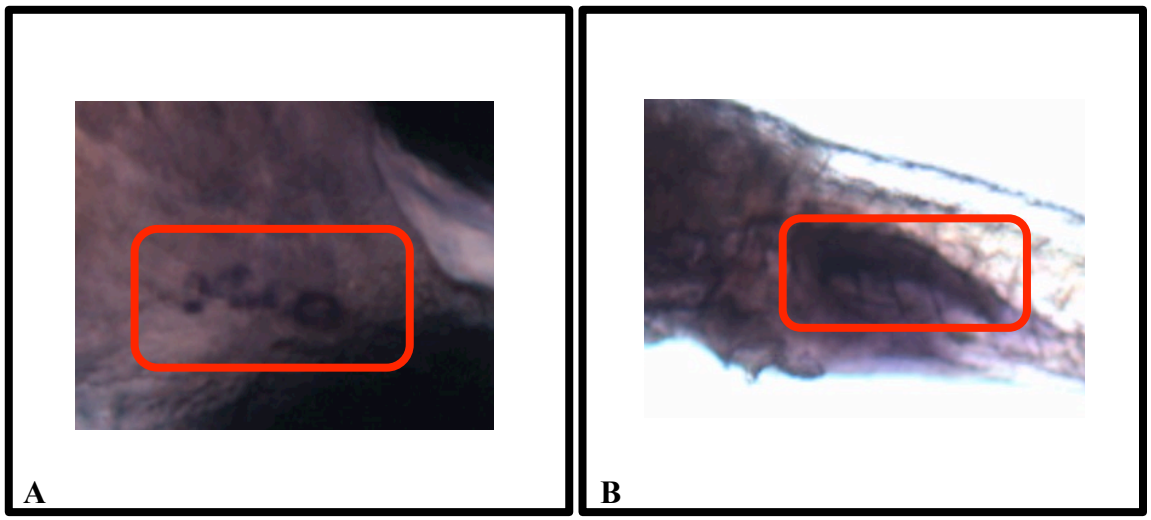

Figure 5. *nis* expression in zebrafish in **A)** whole embryo at 6 days post fertilization (dpf), showing punctate localized subpharyngeal staining of clustered thyroid follicles, and **B)** staining along the developing digestive tract, both at higher magnification.

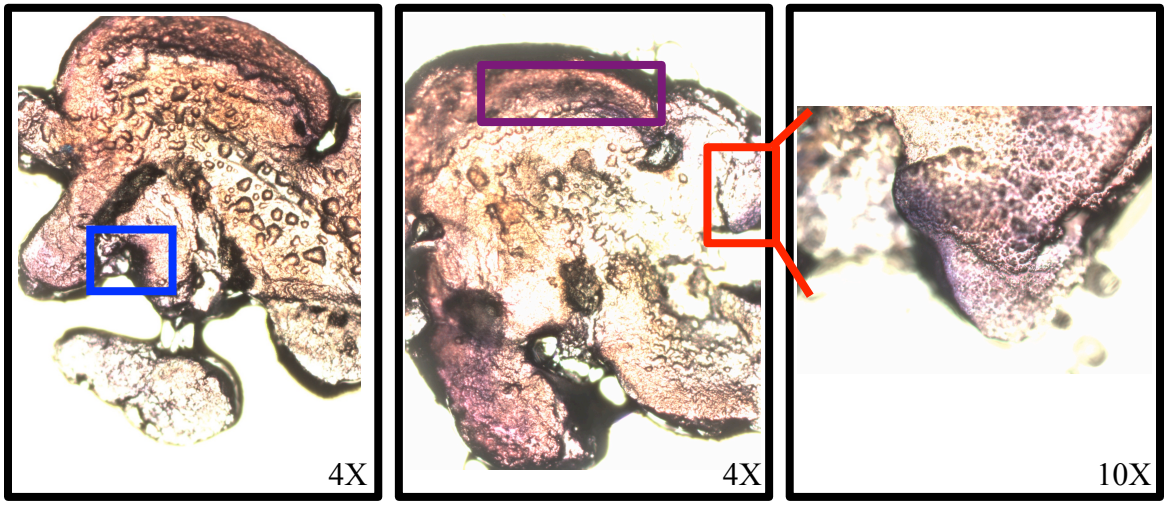

Figure 6. Mid-sagittal sections of adult zebrafish brains showing nis expression in the hypothalamus (**blue**), optic tectum (**purple**), and cerebellum (**red**).

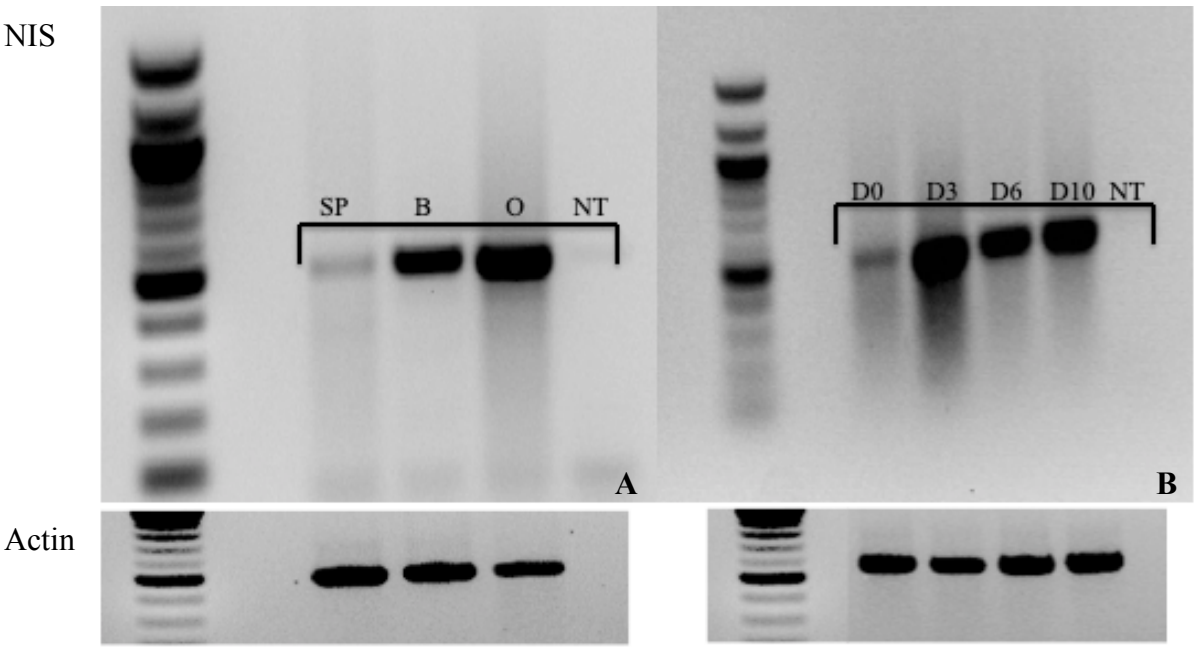

Figure 7. RT-PCR results showing **A)** *nis* expression in subpharyngeal (**SP**), brain (**B**), and ovarian (**O**) tissue in zebrafish. No template control (**NT**). **B)** *nis* expression increases in ovarian tissue from days 0 – 10 (**D0-D10**) post-spawning.

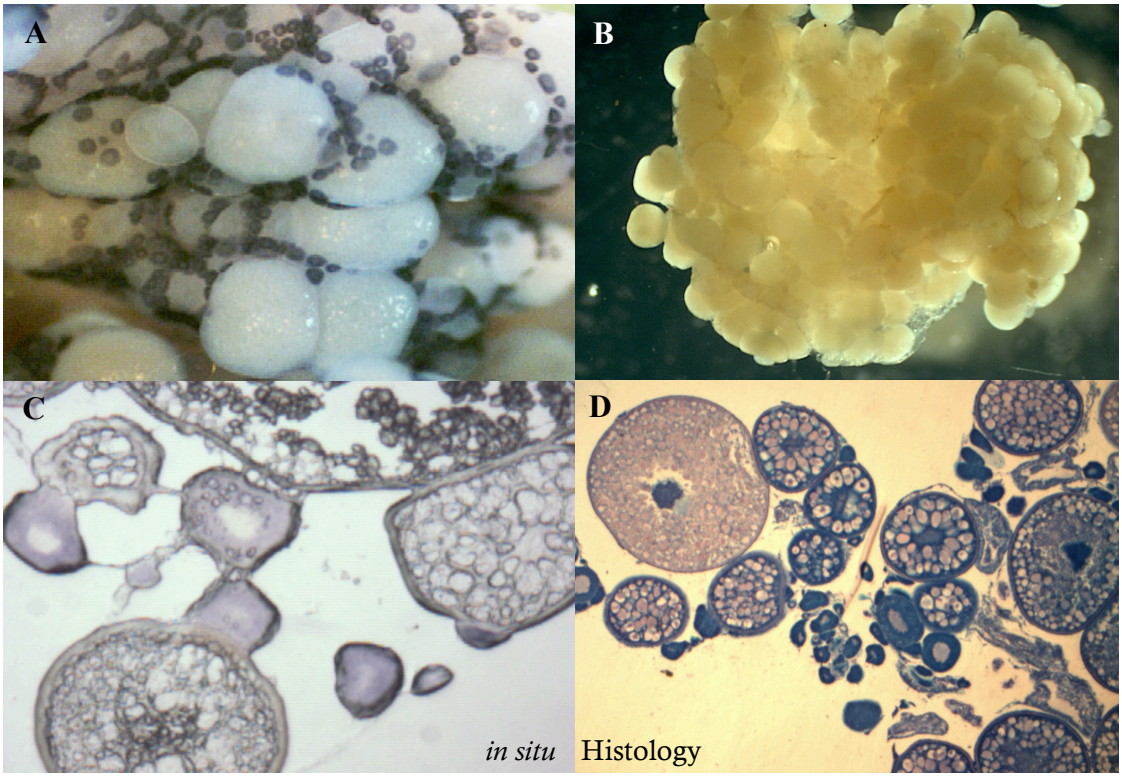

Figure 8. *in situ* staining of whole ovaries from gravid zebrafish. **A)** Shows almost exclusive staining in early staged follicles (primary growth to pre-vitellogenic) as opposed to **B)** the negative control, using only buffer and no probe. Microtome sectioning in panel **C)** shows more accurately that staining for NIS localizes in primary growth to pre-vitellogenic follicles in the ooplasm, and **D)** morphological confirmation via histological staining.