**Supplemental Figure 2: Co-expression of Oct4 and Sox32 specifically induces expression of the early endoderm sox17-GFP in non-endoderm cells.**

**(A)** Representative 20x confocal images showing varying numbers of ectopic sox17:GFP (marked by \*) following overexpression of Hsp:Oct4-P2A-mCherry-sox32. **(A’,A”)** Quantification of the number of embryos **(A’)** and muscle cells per embryo **(A”)** expressing ectopic sox17:GFP following overexpression of Hsp:Oct4-P2A-mCherry-sox32. Quantification based on observation with dissecting fluorescent microscope (n=3: mean +/-SEM). **(B-D”)** Co-expression of Oct4 and Sox32 is sufficient to induce sox17:GFP in non-endoderm cells arising from ectoderm or mesoderm lineages where sox17:GFP expression is not normally detected. At 48hpf, Z-focal plane showing that coexpression of Oct4 and sox32 (red) can induce sox17:GFP (green) in neural cells marked by the early, pan-neuronal marker elavl3/4 **(blue; arrow, B-B”)** andin keratinocytes marked by p63 **(blue; arrows, C-C”)** as well as in myosin stained myocytes **(blue; D-D”)**. Note that neural cells and keratinocytes arise from the ectoderm, and myocytes from the mesoderm lineage.