

## **Description of Additional Files:**

**Supplementary Data File 1-16:** RNA-seq comparisons

**Supplementary Data File 1:** Differentially expressed genes between E56 and P1 ovaries

**Supplementary Data File 2:** Differentially expressed genes between P1 and P8 ovaries.

**Supplementary Data File 3:** Differentially expressed genes between P8 and P28 ovaries.

**Supplementary Data File 4:** Differentially expressed genes between P28 and P90 ovaries.

**Supplementary Data File 5:** GSEA pathways that are downregulated between E56 and P1 ovaries.

**Supplementary Data File 6:** GSEA pathways that are upregulated between E56 and P1 ovaries.

**Supplementary Data File 7:** GSEA pathways that are downregulated between P1 and P8 ovaries.

**Supplementary Data File 8:** GSEA pathways that are upregulated between P1 and P8 ovaries.

**Supplementary Data File 9:** GSEA pathways that are downregulated between P8 and P28 ovaries.

**Supplementary Data File 10:** GSEA pathways that are upregulated between P8 and P28 ovaries.

**Supplementary Data File 11:** GSEA pathways that are downregulated between P28 and P90 ovaries.

**Supplementary Data File 12:** GSEA pathways that are upregulated between P28 and P90 ovaries.

**Supplementary Data File 13:** Differentially expressed time-series genes.

**Supplementary Data File 14:** GSEA pathways that are upregulated across time-series genes.

**Supplementary Data File 15:** GSEA pathways that are downregulated across time-series genes.

**Supplementary Data File 16:** Quality control metrics for RNA sequencing data

**Supplementary Data File 17:** Antibodies used

**Supplementary Data File 18:** Primers used

**Supplementary Data File 19:** Cell counts for each marker and time analyzed