

Coordinated metabolic transitions during *Drosophila* embryogenesis and the onset of aerobic glycolysis

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DOI: 10.1534/g3.114.010652

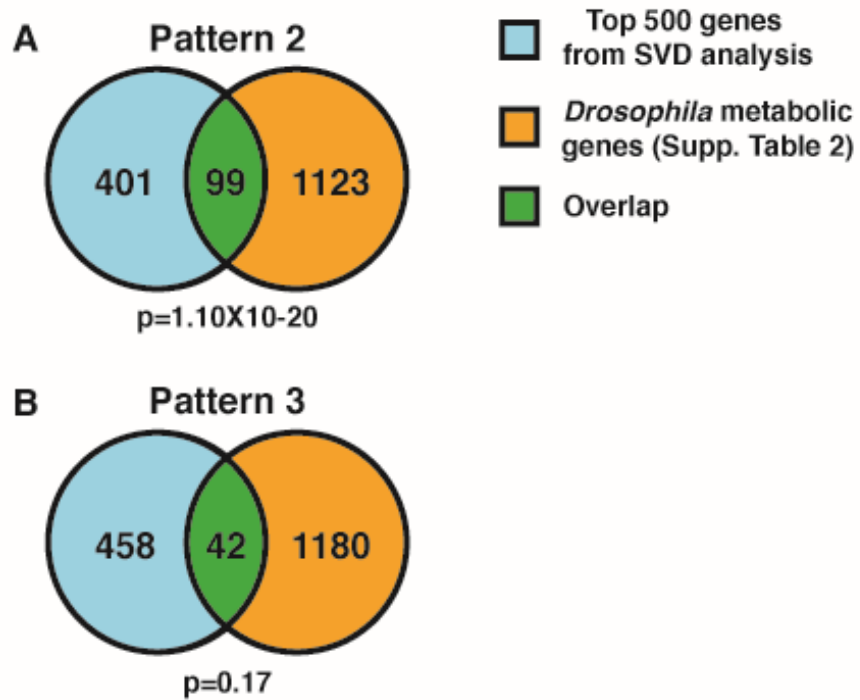


Figure S1 Metabolic genes present in SVD patterns. The top 500 genes associated with SVD patterns 2 and 3 were analyzed for the presence of known metabolic genes (Supplemental Table 2). (A) Pattern 2 exhibits a significant enrichment of metabolic genes, but (B) Pattern 3 does not. p value calculated using hypergeometric distribution.

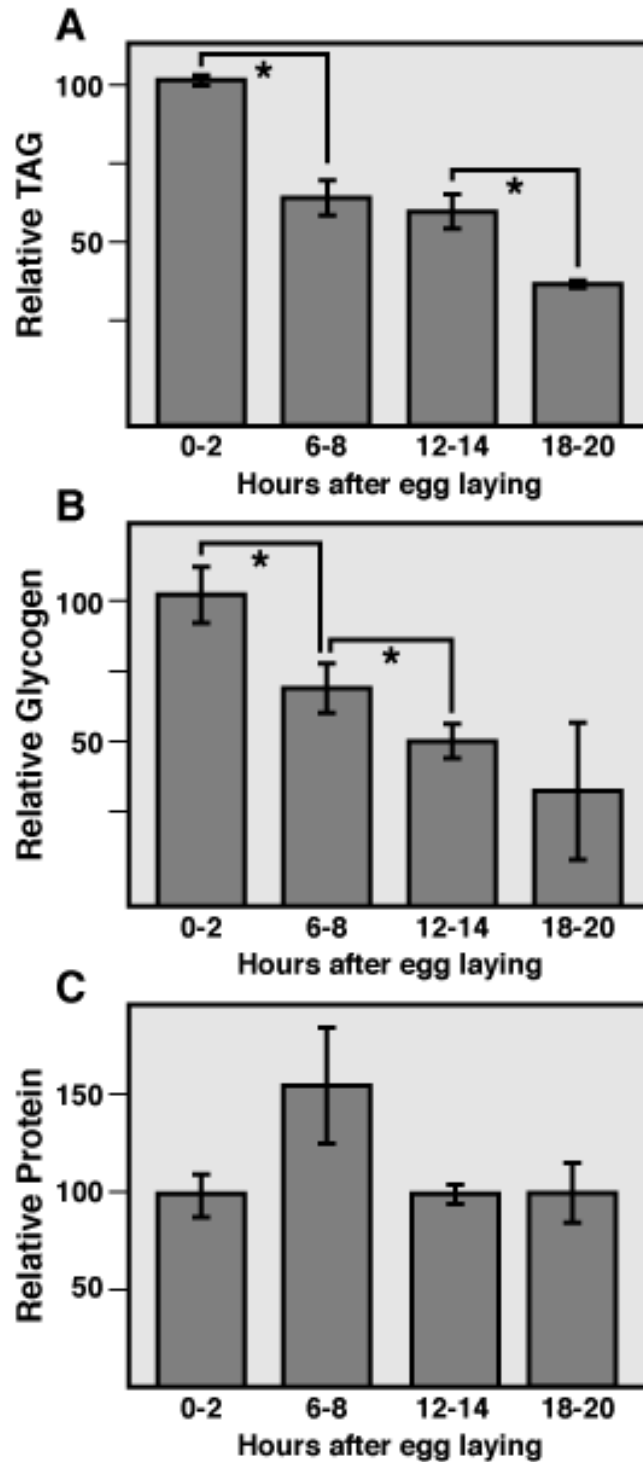


Figure S2 Stored lipids and carbohydrates are depleted during w^{1118} embryogenesis. (A) Triacylglycerol (TAG), (B) glycogen, and (C) soluble protein levels were measured at four-hour intervals during the course of embryogenesis. Both TAG and glycogen levels significantly decrease as development progresses, while protein levels moderately increase during this time (* indicates that $p < 0.002$, Student's T-test). Each bar represents $n=6$ samples containing 300 staged and hand-sorted w^{1118} embryos. Error bars represent \pm SEM.

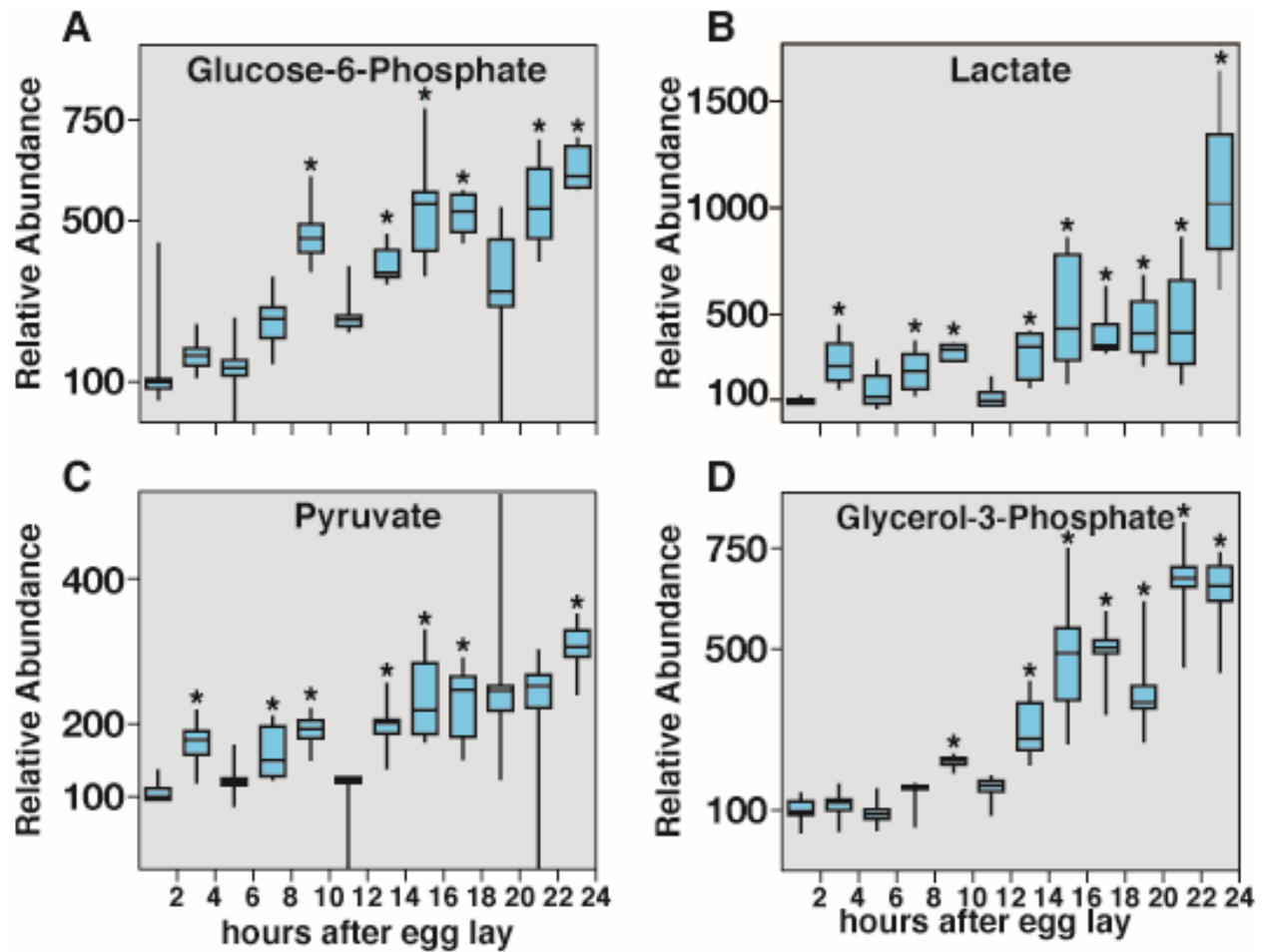


Figure S3 Maternal diet affects glycolysis in *Canton-S* embryos. Small molecule GC/MS was used to analyze the relative abundance of metabolites in embryos from mothers raised on semi-defined medium. The increased sugar concentration in the maternal diet correlates with increasing levels of (A) glucose-6-phosphate and (B) lactate during embryogenesis. (C) Pyruvate levels exhibited a modest increase during the time course. Meanwhile, similar to the *w¹¹⁸* experiments, (D) glycerol-3-phosphate levels increase at a constant rate. * indicates that $p < 0.01$ compared with 0-2 hr timepoint; Student's T-test. All data are graphically represented as described in legend for Figure 4.

File S1

Supplemental Methods

File S1 is available for download as a .zip file at <http://www.g3journal.org/lookup/suppl/doi:10.1534/g3.114.010652/-/DC1>

Tables S1-S8

Available for download as Excel files at <http://www.g3journal.org/lookup/suppl/doi:10.1534/g3.114.010652/-/DC1>

Table S1 SVD analysis of the ModENCODE embryonic RNAseq timecourse

Table S2 List of *Drosophila* metabolic genes

Table S3 Metabolic genes represented by SVD pattern 2

Table S4 GO categories correlated with SVD pattern 3

Table S5 Metabolic genes correlated with SVD pattern 3

Table S6 Metabolomic analysis of *w¹¹¹⁸* embryogenesis, yeast and molasses agar as food source (raw values)

Table S7 Metabolomic analysis of *Canton-S* embryogenesis, Experiment 1, yeast and molasses agar as food source (raw values)

Table S8 Metabolomic analysis of *Canton-S* embryogenesis, Experiment 2, semi-defined media as a food source (raw values)