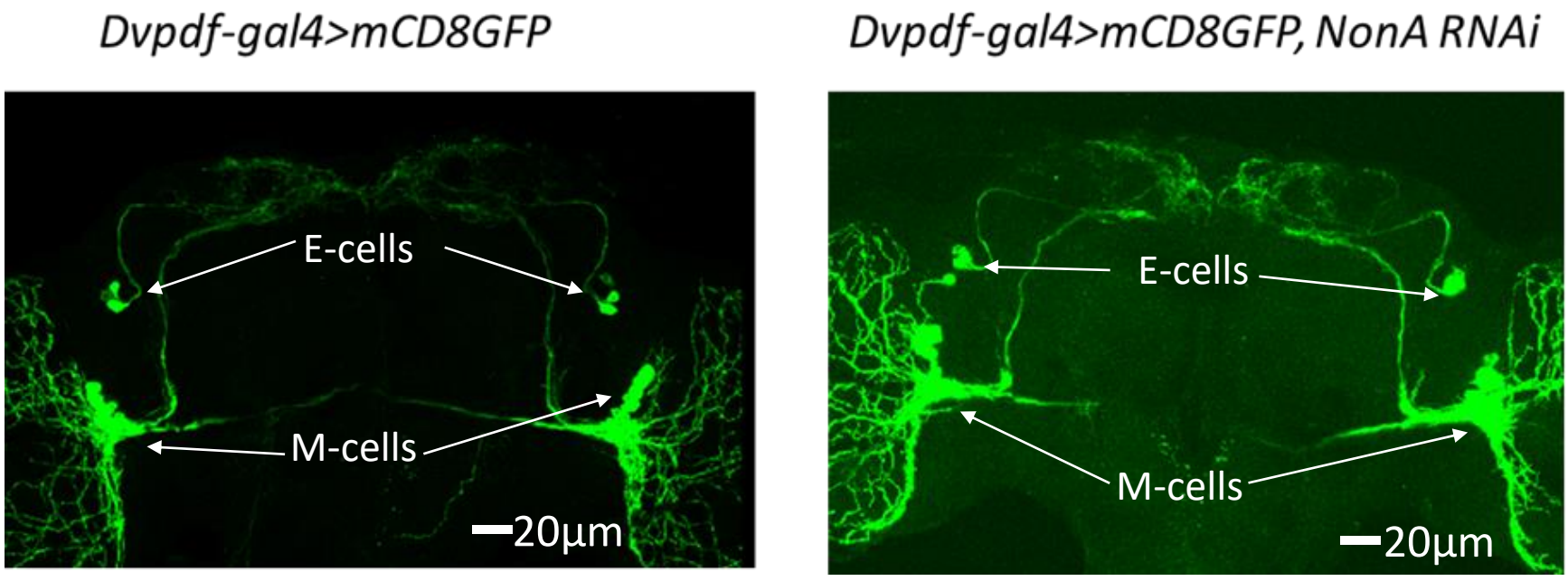
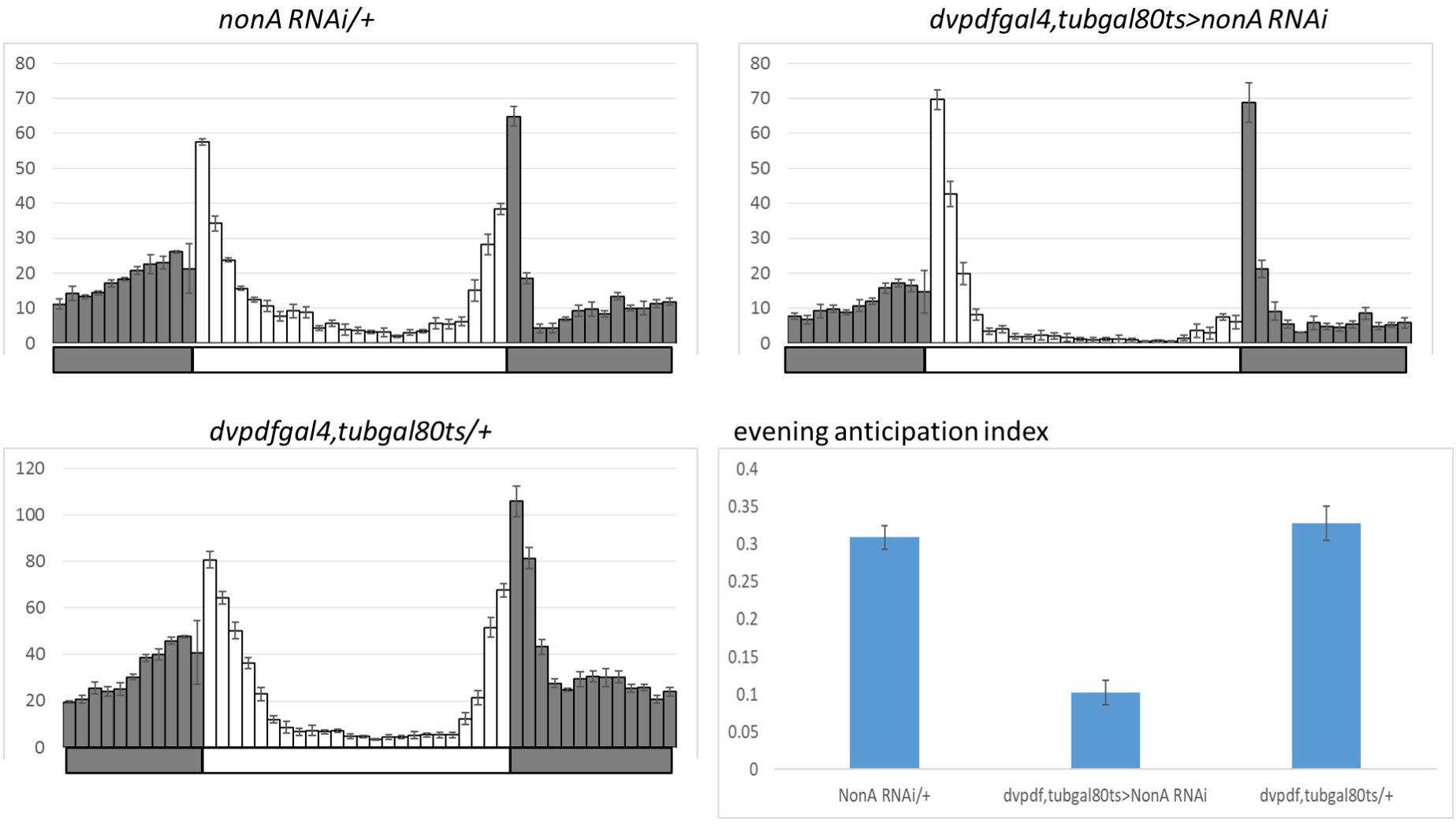
**Supplementary Figure 1.**



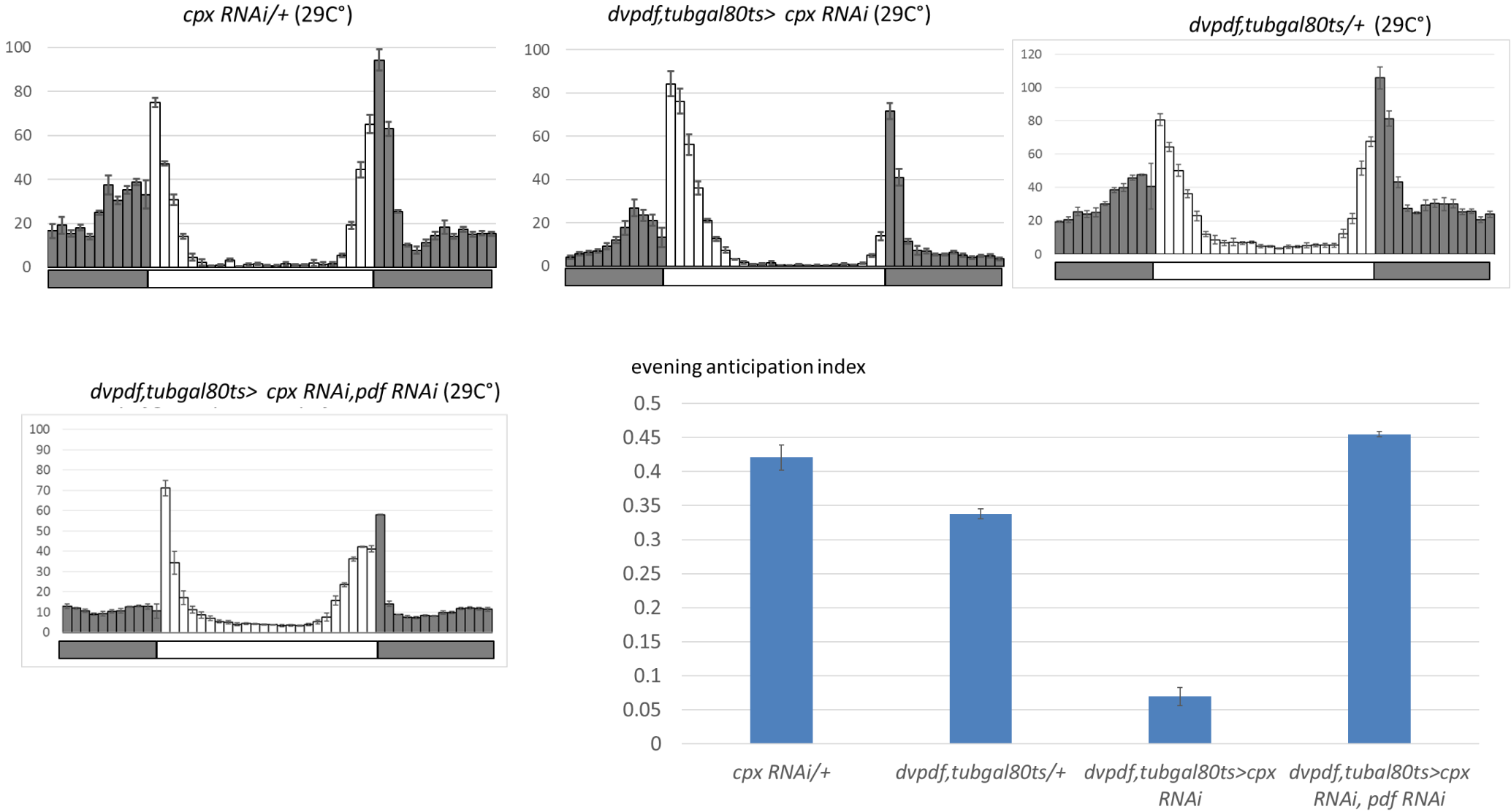

Both M- and E-cells are present in the *nonA* RNAi mutant and are labeled by GFP fluorescence. Compared to the driver control, the morphonology and projections of M- and E-cells are normal in the *dvpdf>nonA RNAi*. Scale bar: 20µm.

**Supplementary Figure 2.**



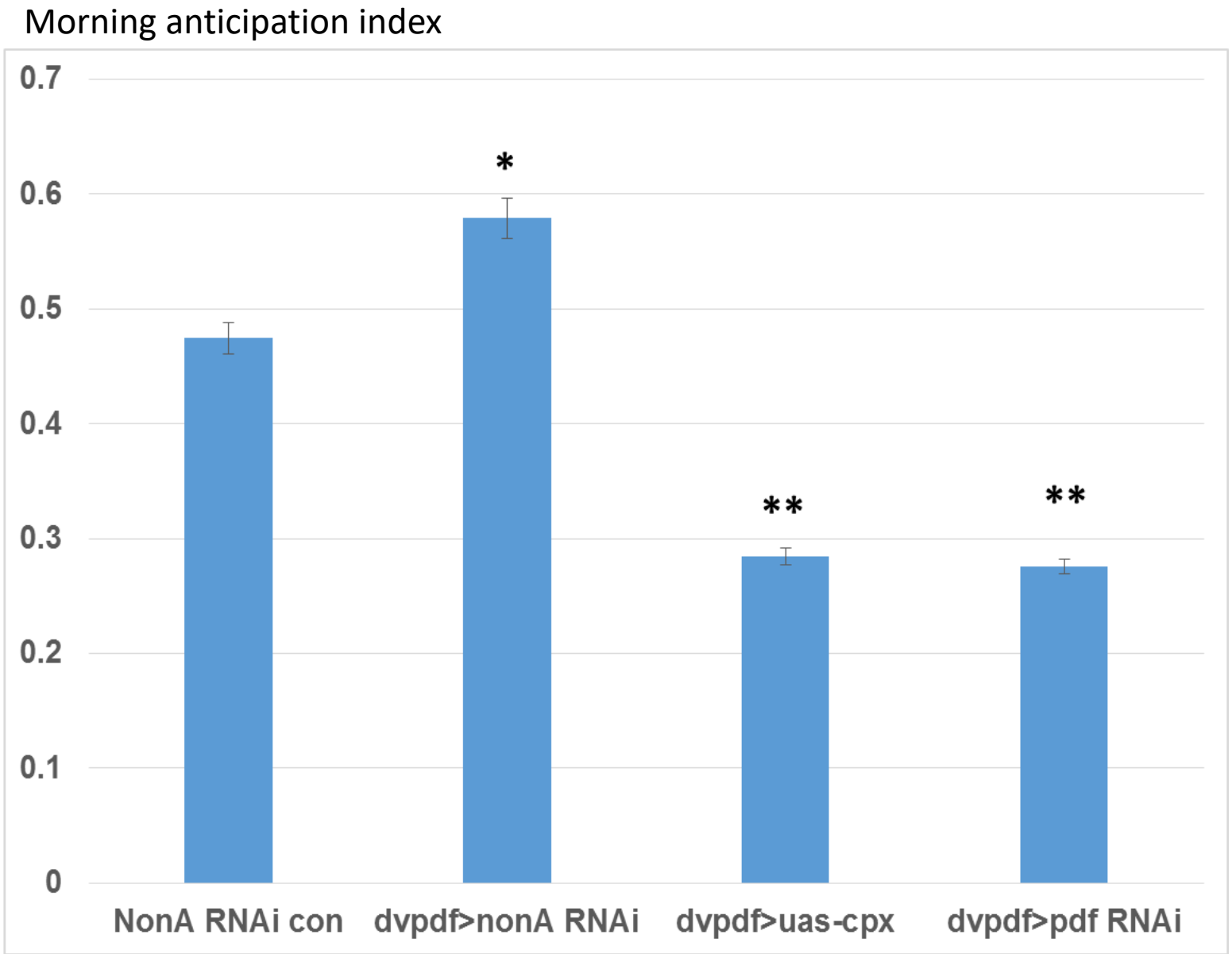

Adult specific knockdown of NonA by the *dvpdf-gal4*, *tubgal80ts* driver inhibits evening activity anticipation. The experiment and analysis were performed as Figure 2.

**Supplementary Figure 3**



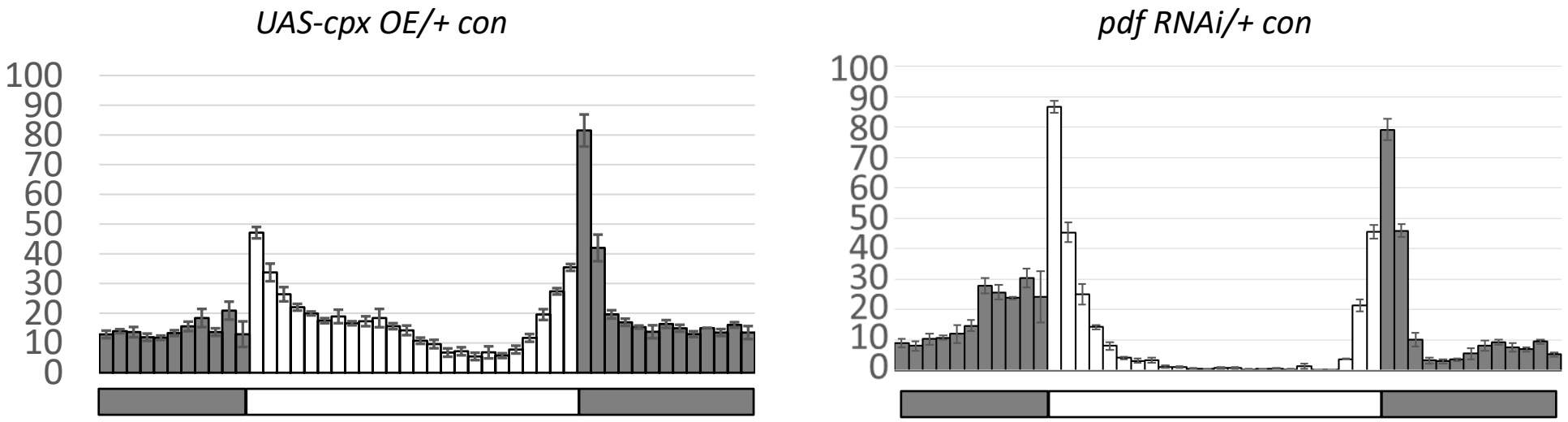

Adult specific knockdown of CPX by the *dvpdf-gal4, tubgal80ts* driver inhibits evening activity anticipation whereas PDF downregulation rescues this inhibition defect. The quantification of Suppl. Fig. 3. indicates that CPX downregulation in the adulthood only inhibits evening anticipation and PDF is required for this inhibition.

**Supplementary Figure 4.**



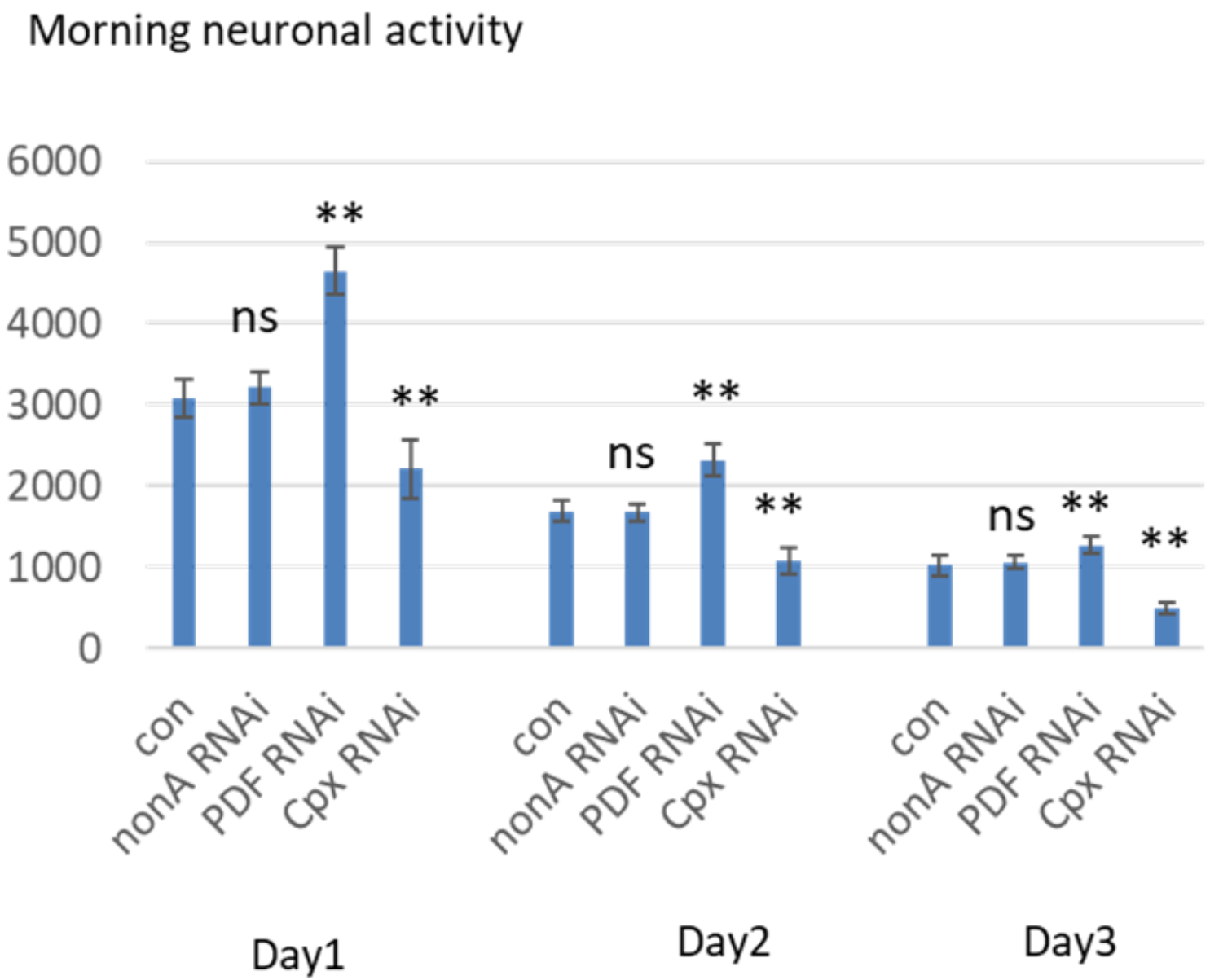

Morning anticipation is increased by *nonA* RNAi knockdown whereas *pdf* RNAi or *cpx* overexpression inhibits morning anticipation. *$p<0.01$, **$p<0.001$

**Supplementary Figure 5.**




The *UAS-cpx OE* or *pdf RNAi* control exhibits normal evening activity anticipation.

**Supplementary Figure 6.**




Morning neuronal activity in the *nonA RNAi* is comparable to the driver control whereas PDF downregulation increases morning neuronal activity and CPX downregulation reduces the activity.

**Supplementary Figure 1.** Both M- and E-cells are present in the *nonA* RNAi mutant and are labeled by GFP fluorescence. Compared to the driver control, the morphonology and projections of M- and E-cells are normal in the *dvpdf>nonA RNAi*. Scale bar: 20μm. Related to Figure 2.

**Supplementary Figure 2.** Adult specific knockdown of NonA by the *dvpdf-gal4, tubgal80ts* driver inhibits evening activity anticipation. The experiments and analysis were performed as Figure 2. Related to Figure 2.

**Supplementary Figure 3.** Adult specific knockdown of CPX by the *dvpdf-gal4, tubgal80ts* driver inhibits evening activity anticipation whereas PDF downregulation rescues this inhibition defect. Related to Figure 4.

**Supplementary Figure 4.** Morning anticipation is increased by *nonA* RNAi knockdown whereas *pdf* RNAi or *cpx* overexpression inhibits morning anticipation. *$p$<0.01, **$p$<0.001. Related to Figure 5.

**Supplementary Figure 5.** The *UAS-cpx OE* or *pdf RNAi* control exhibits normal evening activity anticipation. Related to Figure 5.

**Supplementary Figure 6.** Morning neuronal activity in the *nonA RNAi* is comparable to the driver control whereas PDF downregulation increases morning neuronal activity and CPX downregulation reduces the activity. Related to Figure 6.