

FIG S2

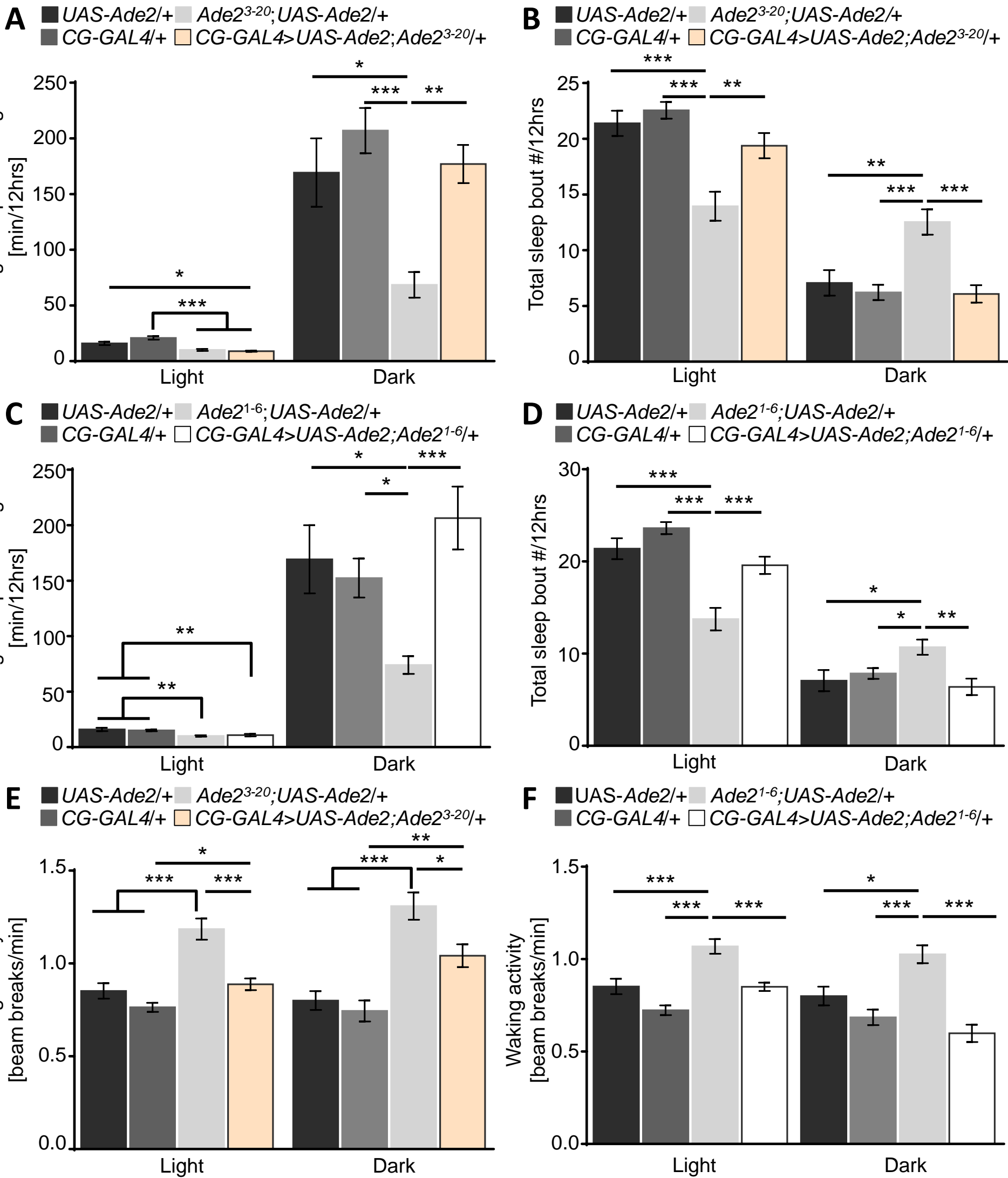


Figure S2. *Ade2* expression in the fat body partially rescues sleep loss

(A) Fat body rescue of *Ade2*³⁻²⁰ (*CG-GAL4*>*Ade2*³⁻²⁰; *UAS-Ade2*/+; pale orange; n=50) restores increase in average bout length during the nighttime (dark) compared to *Ade2*³⁻²⁰ mutant controls (*Ade2*³⁻²⁰; *UAS-Ade2*/+; grey; n=34, $p=0.008$), but not during daytime. Daytime average sleep bout length is significantly different between rescue and *CG-GAL4*/+ (dark grey; n=83, $p<0.0001$) or *UAS-Ade2*/+ (black; n=31, $p=0.017$) controls. Night average sleep bout length is reduced in *Ade2*³⁻²⁰; *UAS-Ade2*/+ compared to control flies *CG-GAL4*/+ ($p<0.0001$) or *UAS-Ade2*/+ ($p=0.036$). One-way ANOVA, Light, $F(3, 194)=17.76$; Dark, $F(3, 184)=6.865$. (B) *Ade2*³⁻²⁰ rescues total sleep bout during the light ($p=0.004$) and dark ($p<0.0001$) compared to *Ade2*³⁻²⁰; *UAS-Ade2*/+ mutants. Daytime total sleep bout differ significantly between *Ade2*³⁻²⁰; *UAS-Ade2*/+ mutants and control *UAS-Ade2*/+ and *CG-GAL4*/+ during light ($p<0.0001$) and dark ($p<0.0001$). One-way ANOVA, Light, $F(3, 194)=12.08$; Dark, $F(3, 195)=9.68$. (C) During nighttime (dark), *Ade2*¹⁻⁶ rescue (white, n=43) restores increase in average sleep bout length compared to *Ade2*¹⁻⁶ mutant controls (*Ade2*¹⁻⁶; *UAS-Ade2*/+; grey; n=39), but not during daytime. Daytime sleep bout length is significantly different between *UAS-Ade2*/+ (black, n=31, $p=0.0066$) and *CG-GAL4*/+ (dark grey, n=78, $p=0.0040$) and *Ade2*³⁻²⁰ rescue. One-way ANOVA, Light, $F(3, 187)=8.98$; Dark, $F(3, 188)=5.412$. (D) Total sleep bout is restored in *Ade2*¹⁻⁶ rescue flies during light ($p=0.0003$) and dark ($p=0.003$) compared to *Ade2*¹⁻⁶; *UAS-Ade2*/+ mutant controls. Daytime total sleep bout is significantly reduced between *UAS-Ade2*/+ and *CG-GAL4*/+ controls ($p<0.0001$) compared to *Ade2*¹⁻⁶ mutant controls, while nighttime sleep bout is increased in *Ade2*¹⁻⁶ mutant compared to controls ($p=0.95$). One-way ANOVA, Light, $F(3, 187)=21.41$; Dark, $F(3, 184)=4.50$. (E) Fat body rescue of *Ade2*³⁻²⁰ restores waking activity during daytime ($p<0.0001$) and nighttime ($p=0.044$) compared to *Ade2*³⁻²⁰; *UAS-Ade2*/+ mutant controls. Waking activity is significantly increased during light ($p<0.0001$) and dark ($p<0.0001$) in *Ade2*³⁻²⁰ mutant compared to *UAS-Ade2*/+ and *CG-GAL4*/+ controls. One-way ANOVA, Light, $F(3, 194)=23.79$; Dark, $F(3, 196)=14.34$. (F) Waking activity is rescued in *CG-GAL4*>*Ade2*¹⁻⁶; *UAS-Ade2*/+ during daytime ($p<0.0001$) and nighttime ($p<0.0001$) compared to *Ade2*¹⁻⁶; *UAS-Ade2*/+ mutant controls. *Ade2*¹⁻⁶ mutant control have increased waking activity during light ($p<0.0001$) and dark ($p=0.02$) compared to control flies. One-way ANOVA, Light, $F(3, 187)=21.47$; Dark, $F(3, 188)=13.23$. All columns are mean \pm SEM; * $p<0.05$; ** $p<0.01$; *** $p<0.001$.