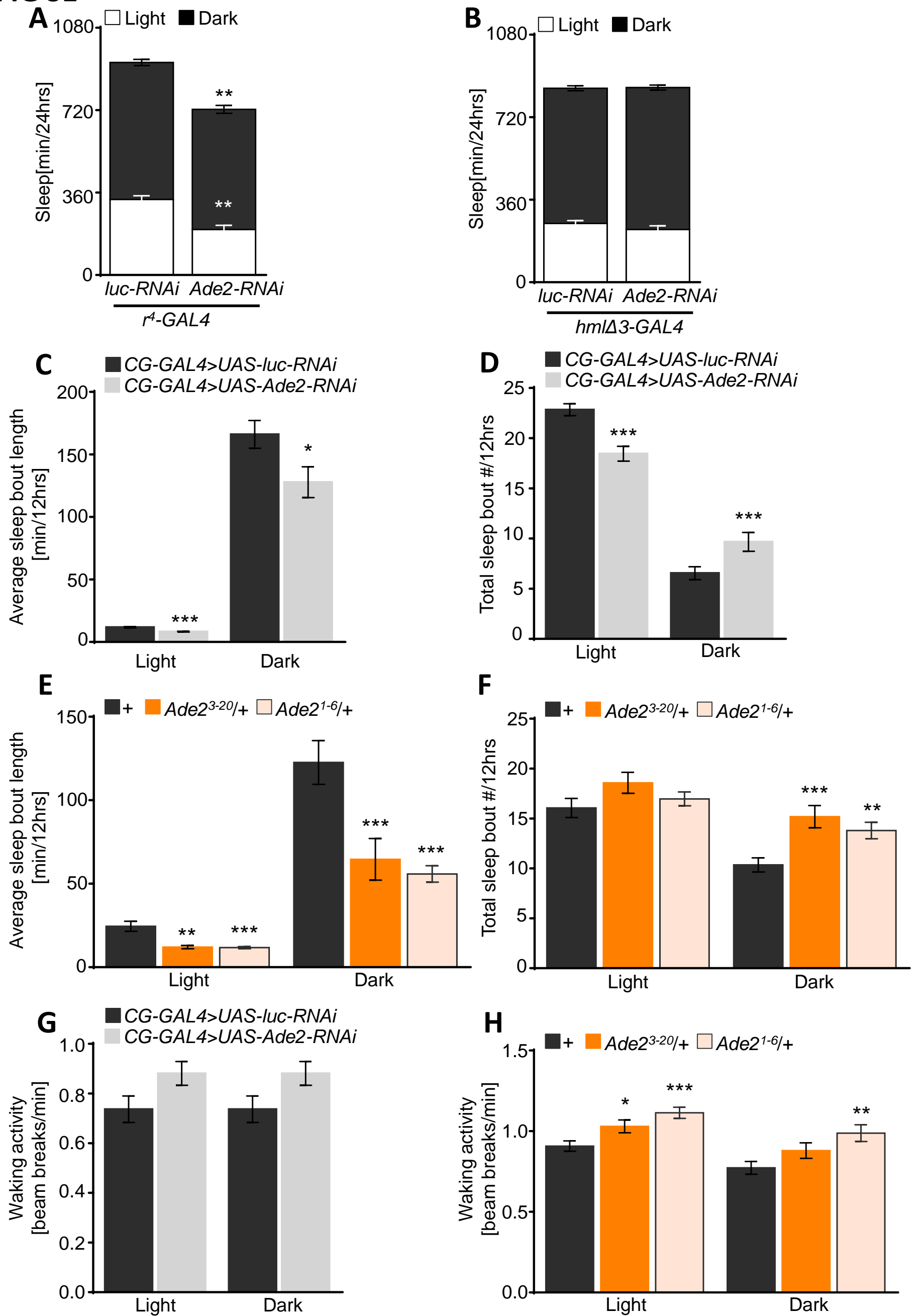# FIG S1

Figure S1. *Ade2* **function in the fat body to promote sleep**

(**A**) Knock down of *Ade2* using the fat body specific driver, *r4-GAL4*, (*r4-GAL4>UAS-Ade2-RNAi*; n=45) results in a significant reduction in sleep during daytime (white; $p=0.0021$, $t=3.19$) and nighttime (black; $p=0.003$, $t=3.04$) compared to control flies (*CG-GAL4>UAS*-luc-*RNAi*; n=29). Unpaired t-test. (**B**) No differences were observed in day and night sleep when knocking down *Ade2-RNAi* in hemocytes (*hmlΔ3-GAL4*, n=31) compared to control flies (n=36, $p=0.2$, $t=1.28$). Unpaired t-test (**C**) Average bout length is significantly reduced duing daytime (light; $p<0.0001$, $t=5.27$) and nighttime (dark, $p=0.022$, $t=2.30$) in *Ade2-RNAi* (n=87) flies (grey) compared to control (*CG-GAL4>UAS*-luc-*RNAi*; black; n=115)**.** Unpaired t-test. (**D**) Knock down of *Ade2* in the fat body (grey) reduced total sleep bout during dayttime ($p<0.001$, $t=4.67$) compared to control (black), while there is a significant increase during nighttime ($p=0.005$, $t=2.83$). Unpaired t-test. (**E**) *Ade2*$^{3-20}$/+ (orange; n=61) and *Ade2*$^{1-6}$/+ mutants (pale orange; n=85) reduced average bout length during daytime ($p<0.0001$ for all groups) and nighttime ($p=0.0019$ and $p<0.0001$) compared to w^{1118} control (black; n=111). One-way ANOVA, Light, $F_{(2, 265)}=11.70$; Dark, $F_{(2, 254)}=11.38$. (**F**) Total sleep bout during nighttime is significantly increased in *Ade2*$^{3-20}$/+ (orange; $p=0.0004$) and *Ade2*$^{1-6}$/+ mutants (pale orange; $p=0.0074$) compared to w^{1118} control (black). One-way ANOVA, $F_{(2, 265)}=8.79$. (**G**) Waking activity does not differ between control flies (*CG-GAL4>UAS*-luc-*RNAi*; black) and *Ade2* knock down in the fat body (grey) during daytime ($p=0.49$, $t=0.68$) and nighttime ($p=0.05$, $t=1.94$). Unpaired t-test. (**H**) *Ade2*$^{1-6}$/+ mutants have increased waking activity compared to control flies (w^{1118}) during daytime ($p<0.0001$) and nighttime ($p=0.0018$), while *Ade2*$^{3-20}$/+ mutants have increased waking activity only during daytime ($p=0.047$). One-way ANOVA; Light, $F_{(2, 265)}=9.92$; Dark, $F_{(2,265)}=6.03$. All columns are mean $\pm$ SEM; *$p<0.05$; **$p<0.01$; ***$p<0.001$.