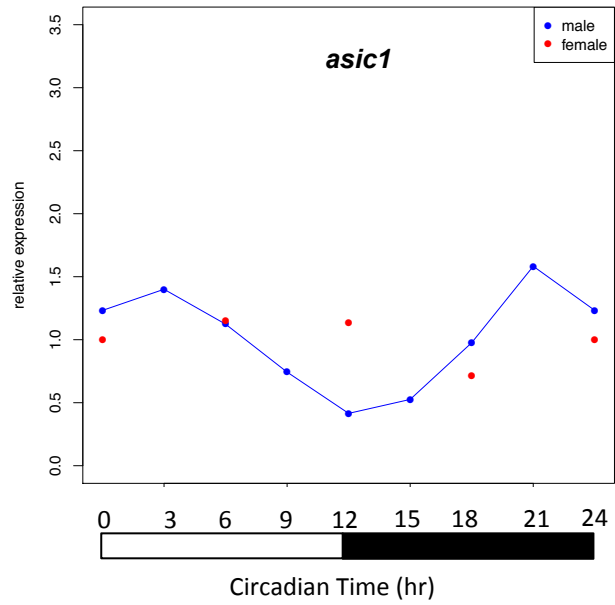
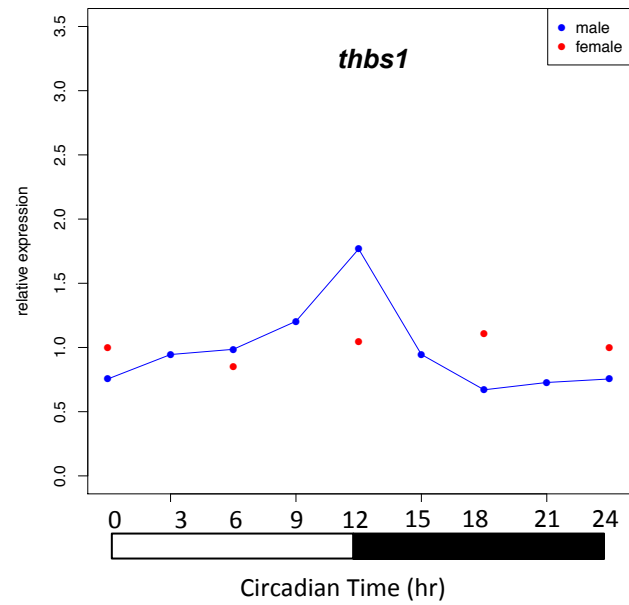


Supplement Figure 1

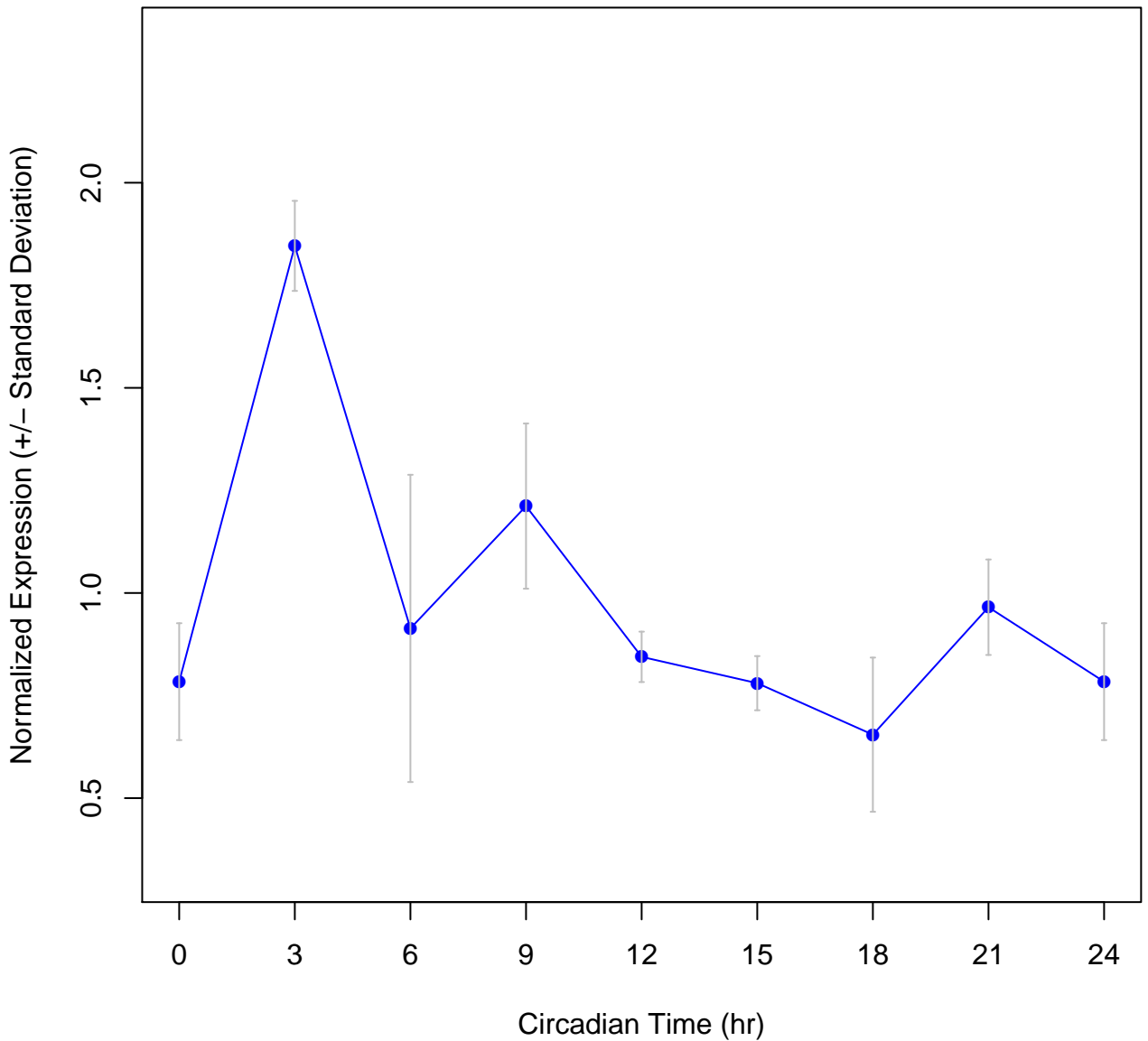
(a)



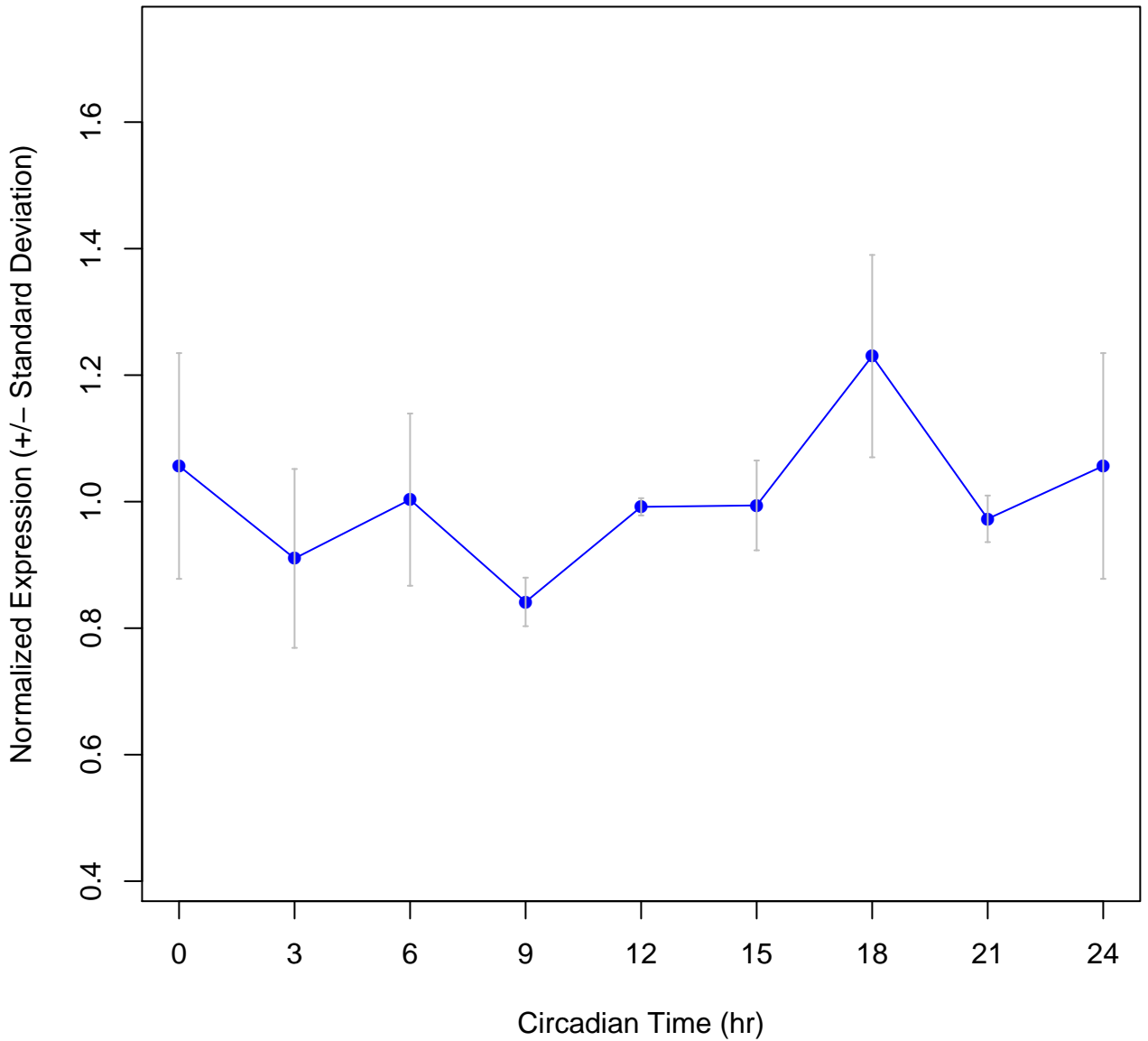
(b)



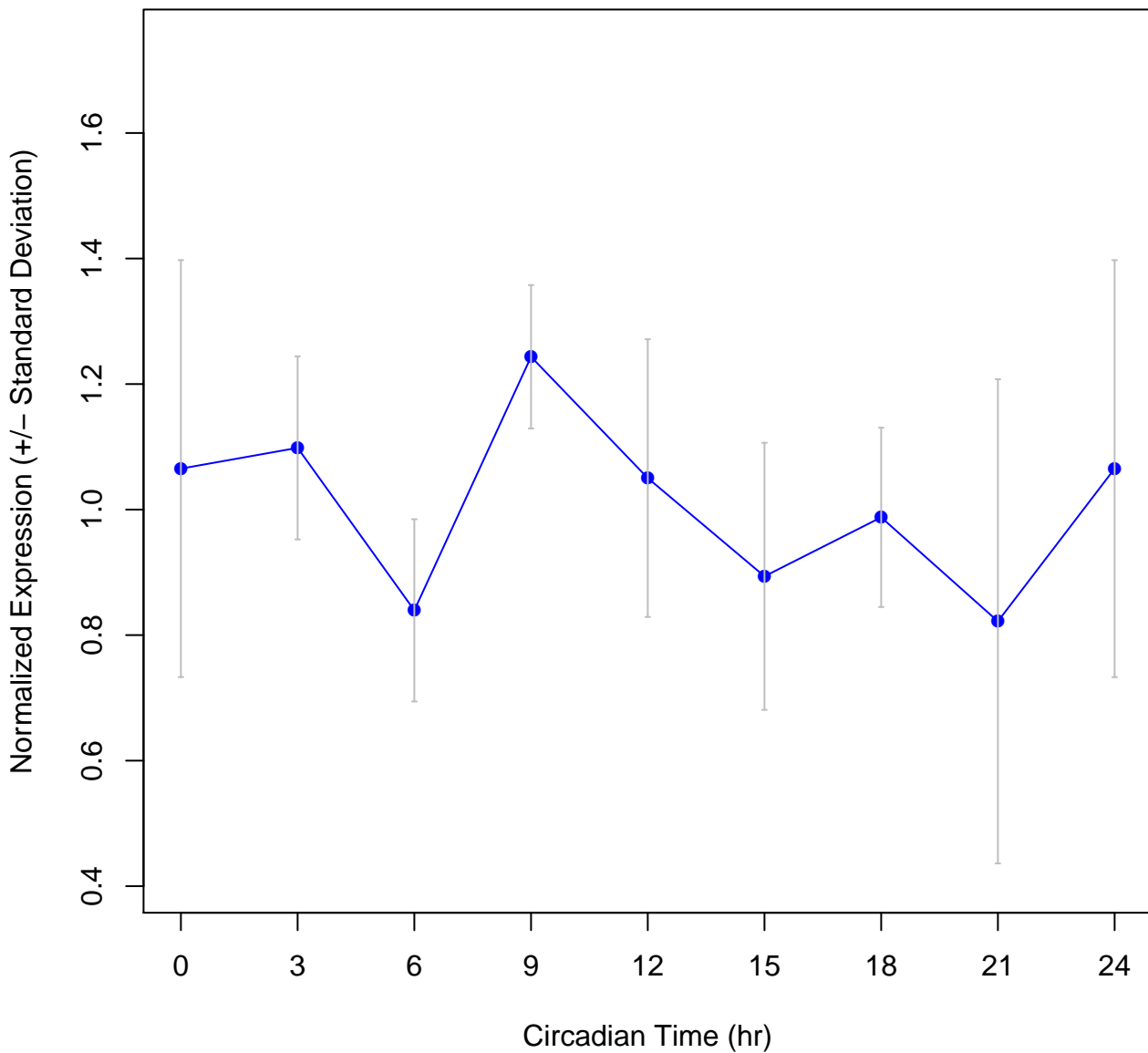
### Supplement Figure 3 6-4 photolyase



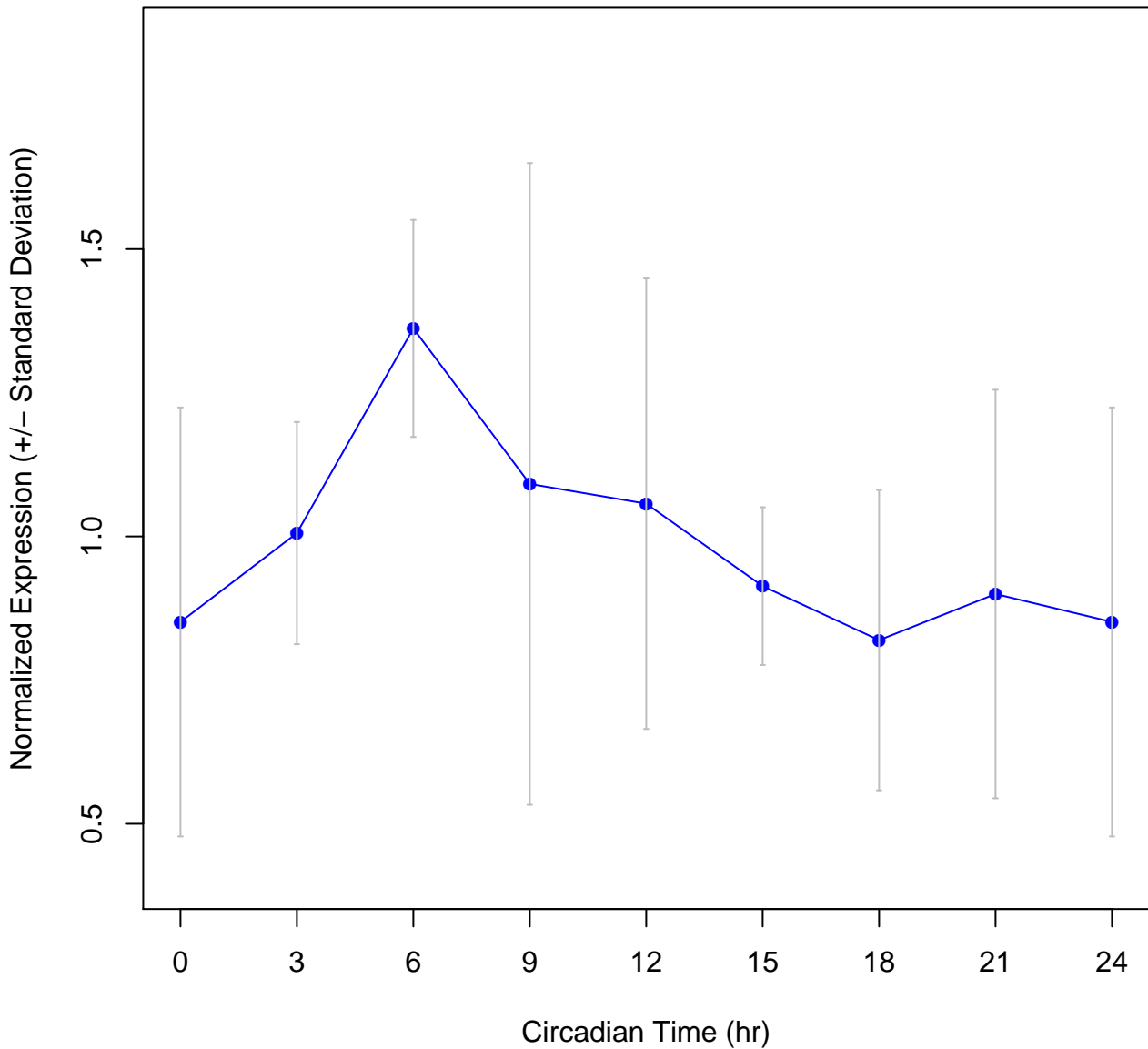
Supplement Figure 3 a2ml1



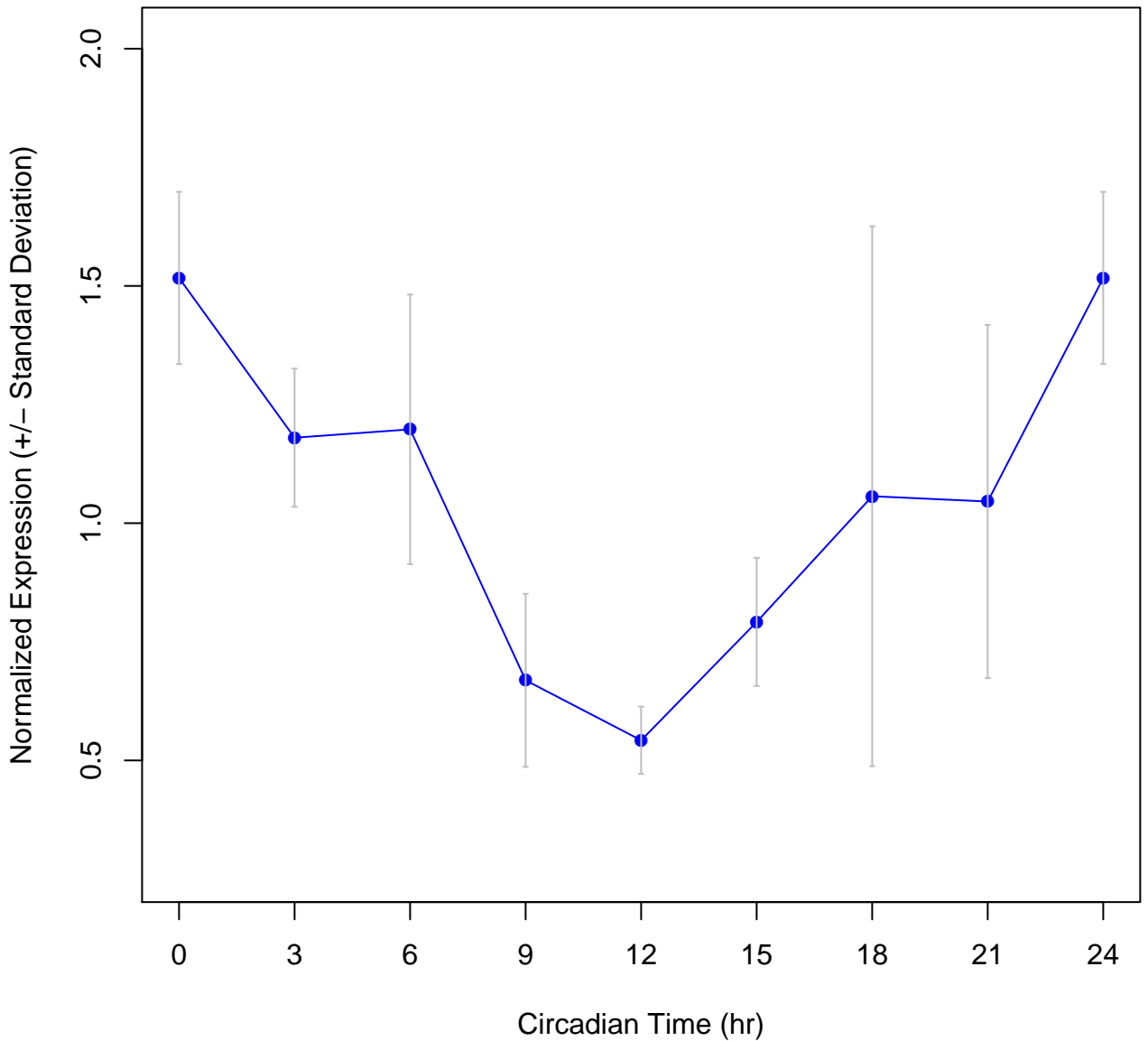
**Supplement Figure 3 adamts2**



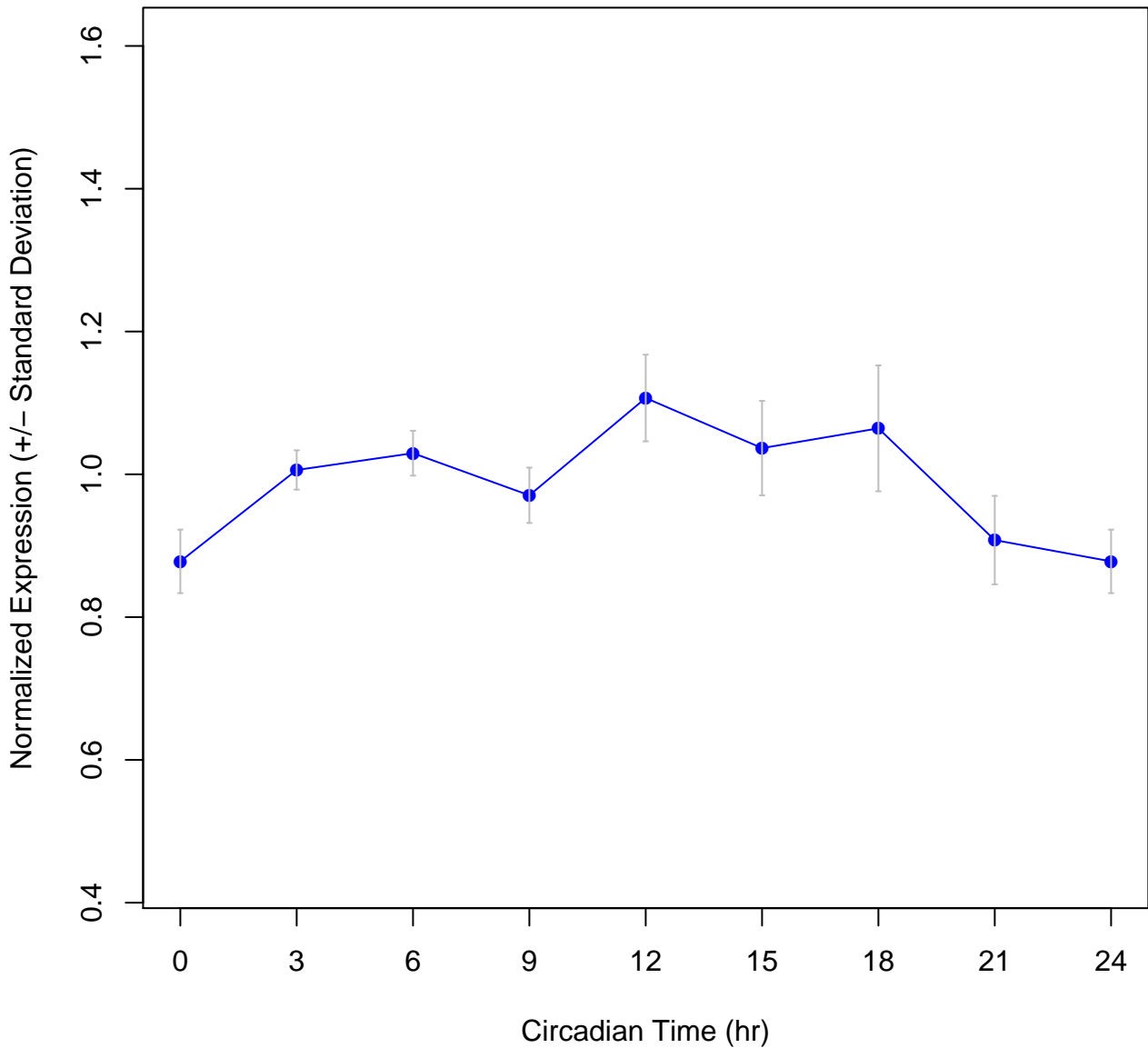
Supplement Figure 3 adcy2



Supplement Figure 3 adrb2

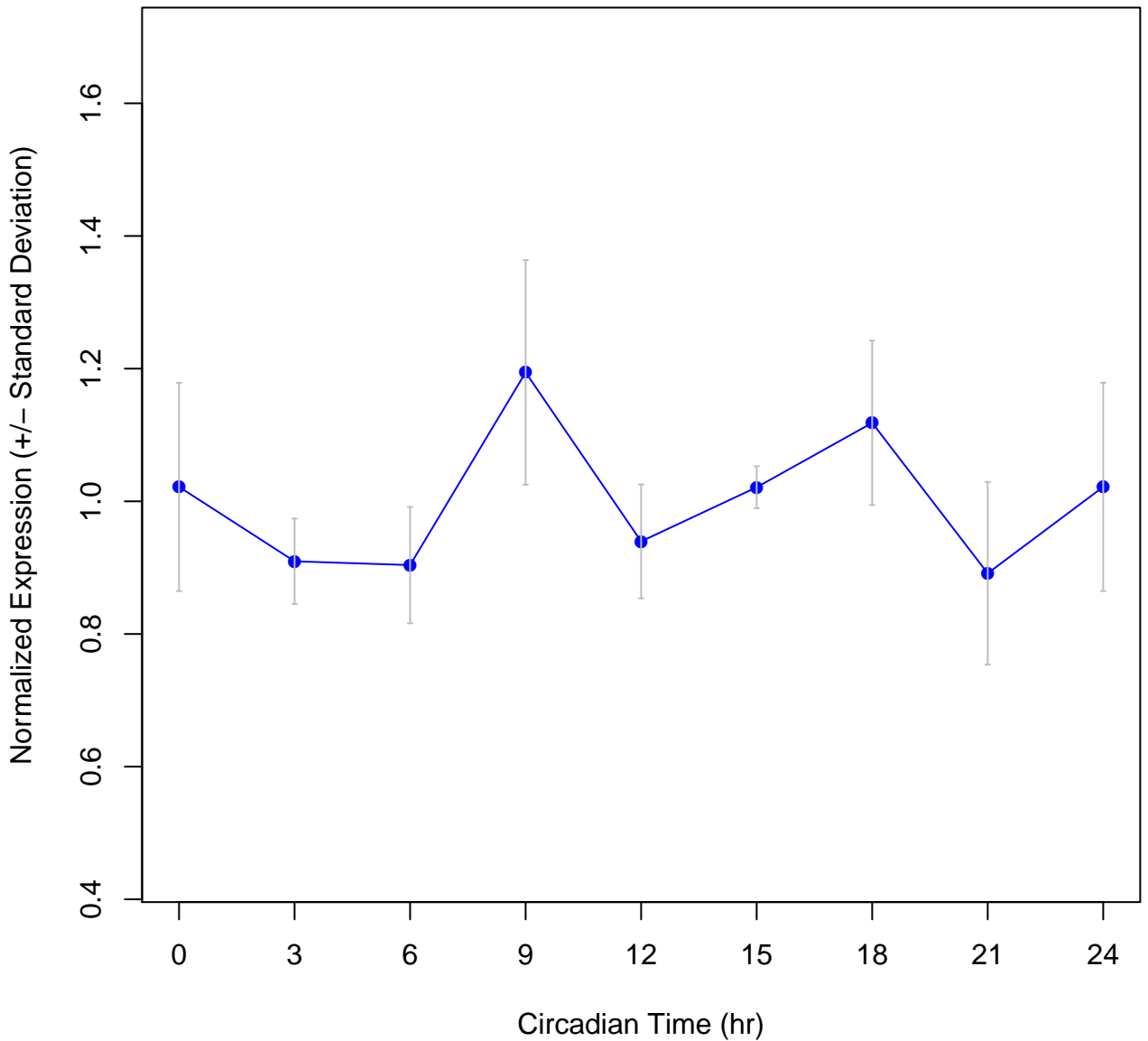


**Supplement Figure 3 akt1**

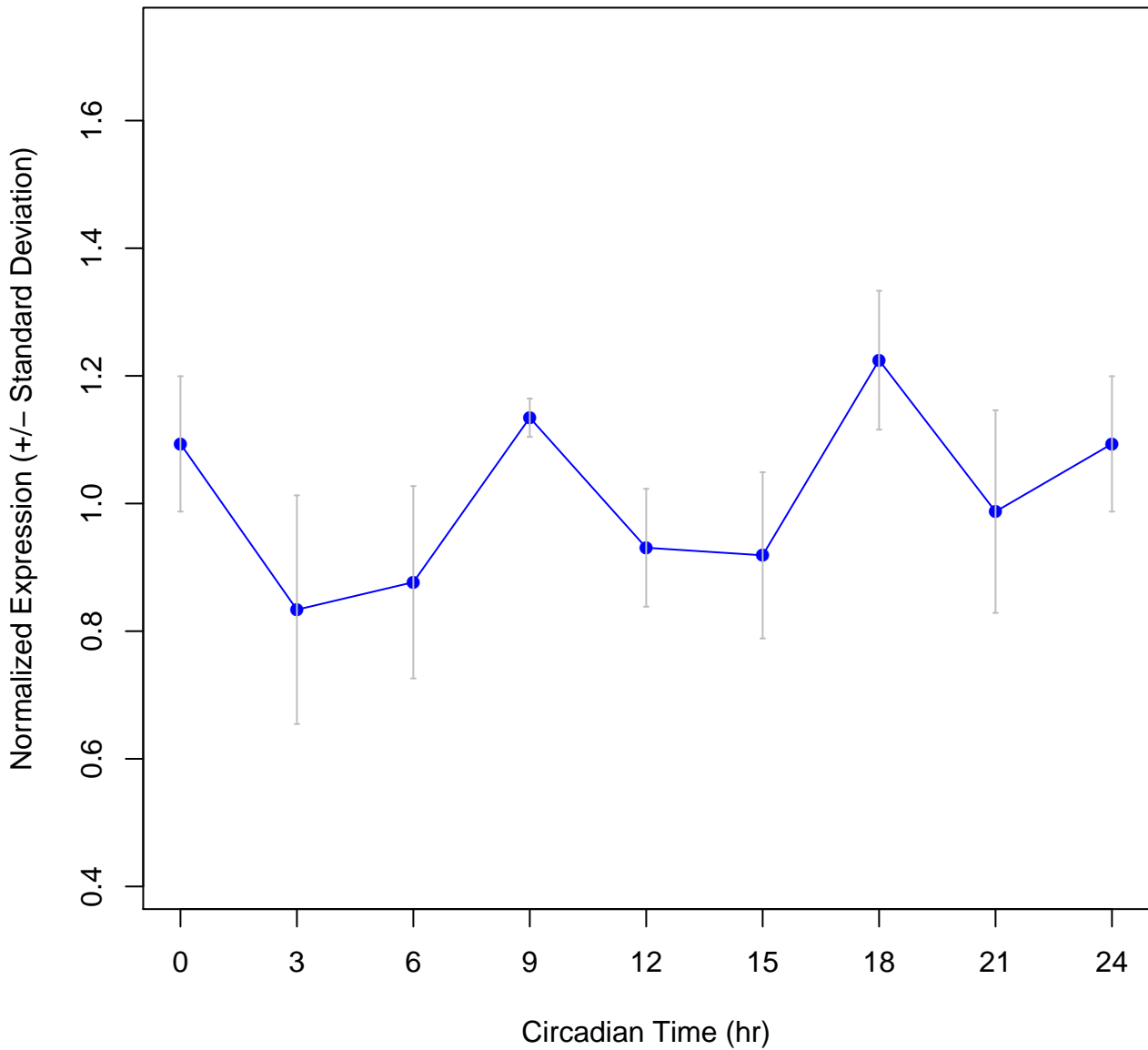




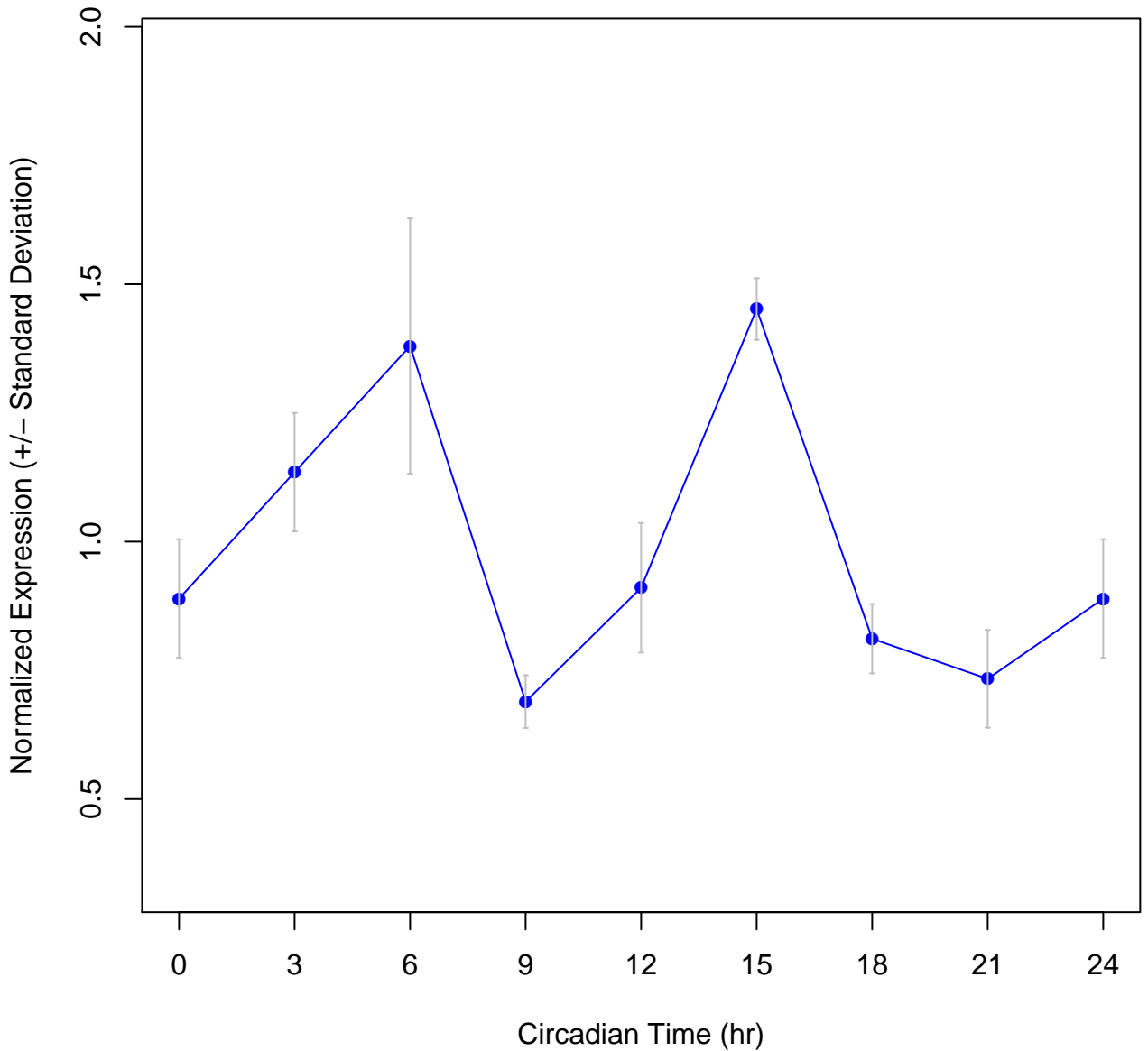
**Supplement Figure 3 akt2**



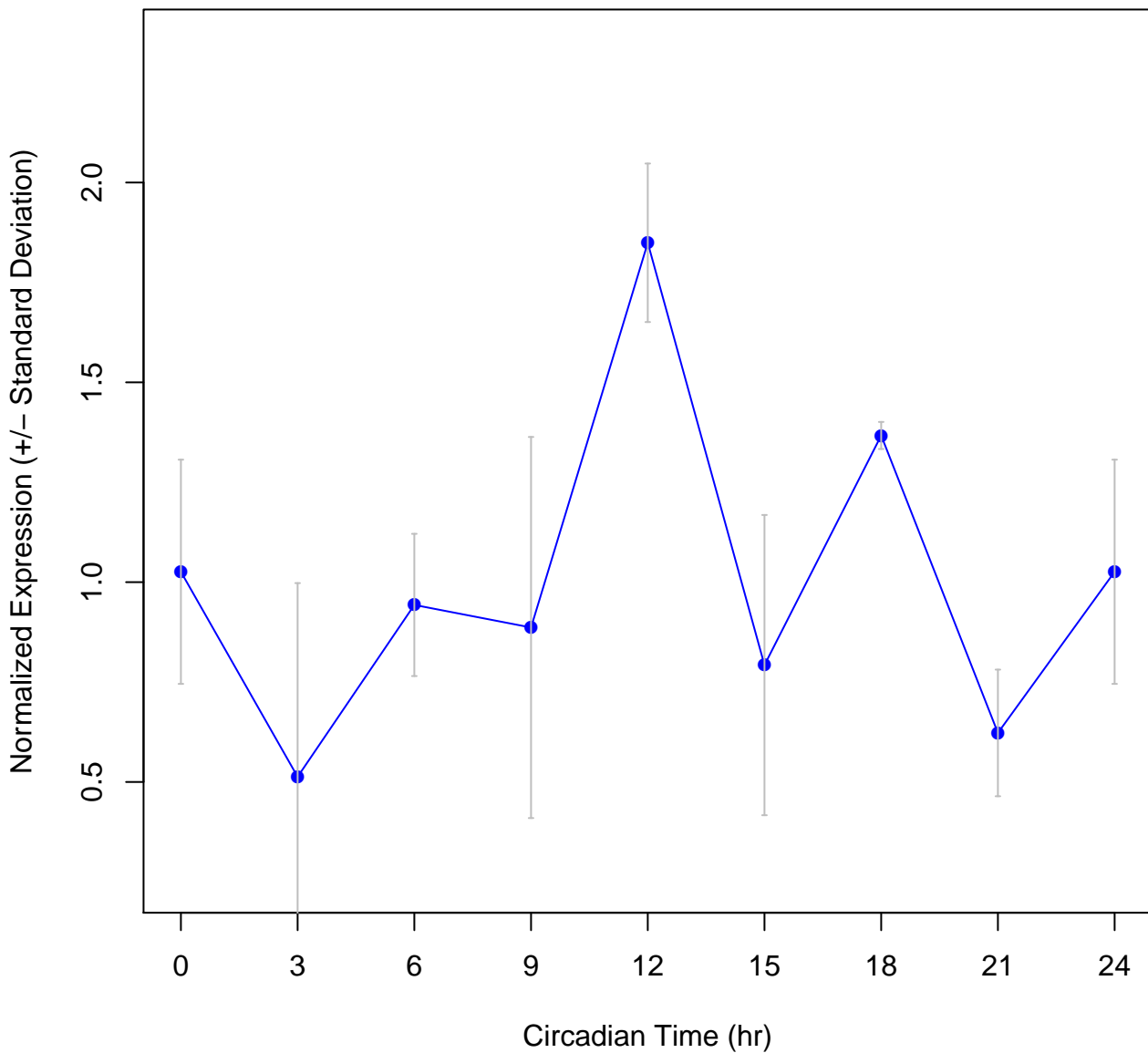
Supplement Figure 3 akt3



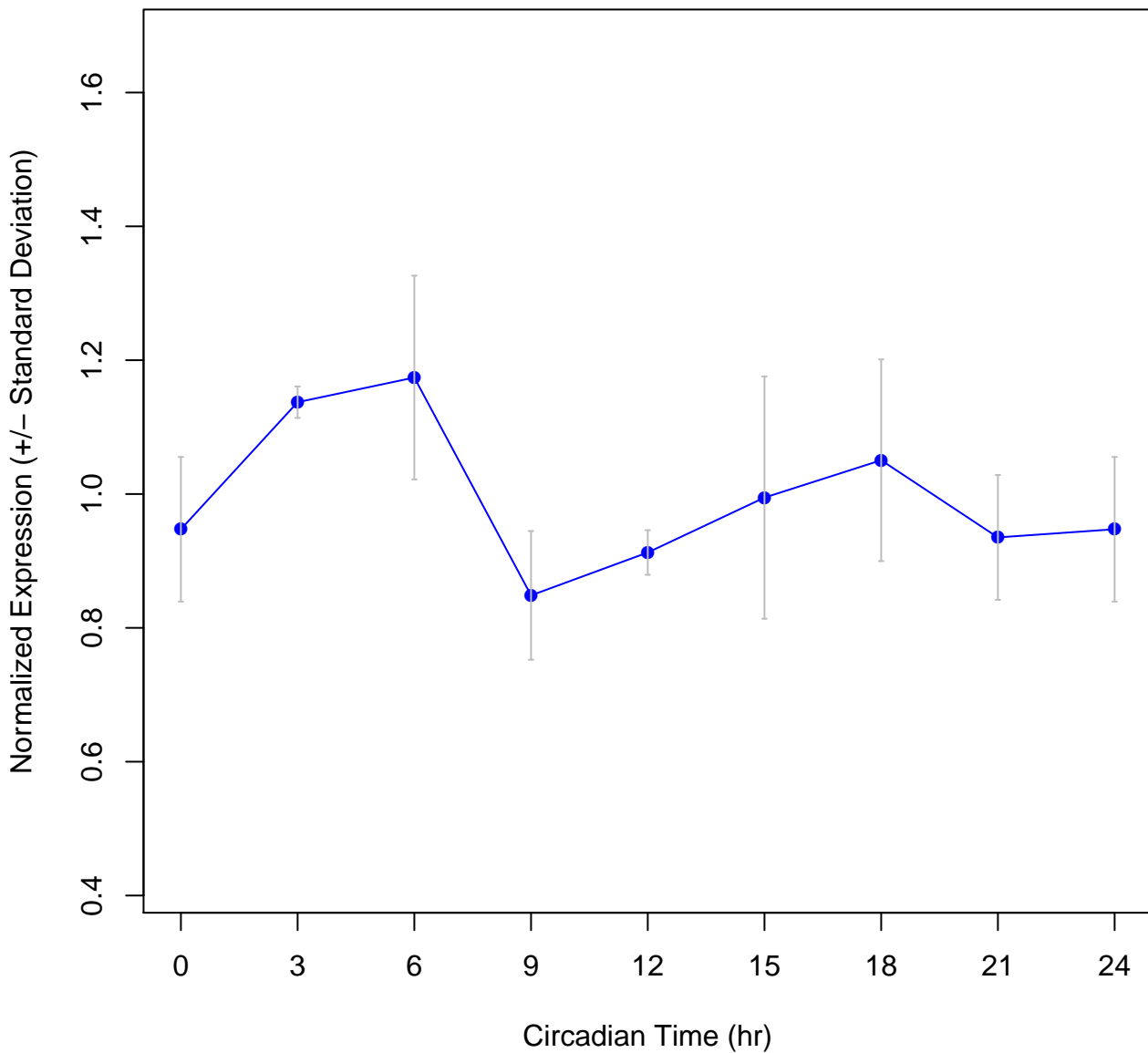
**Supplement Figure 3 apex2**



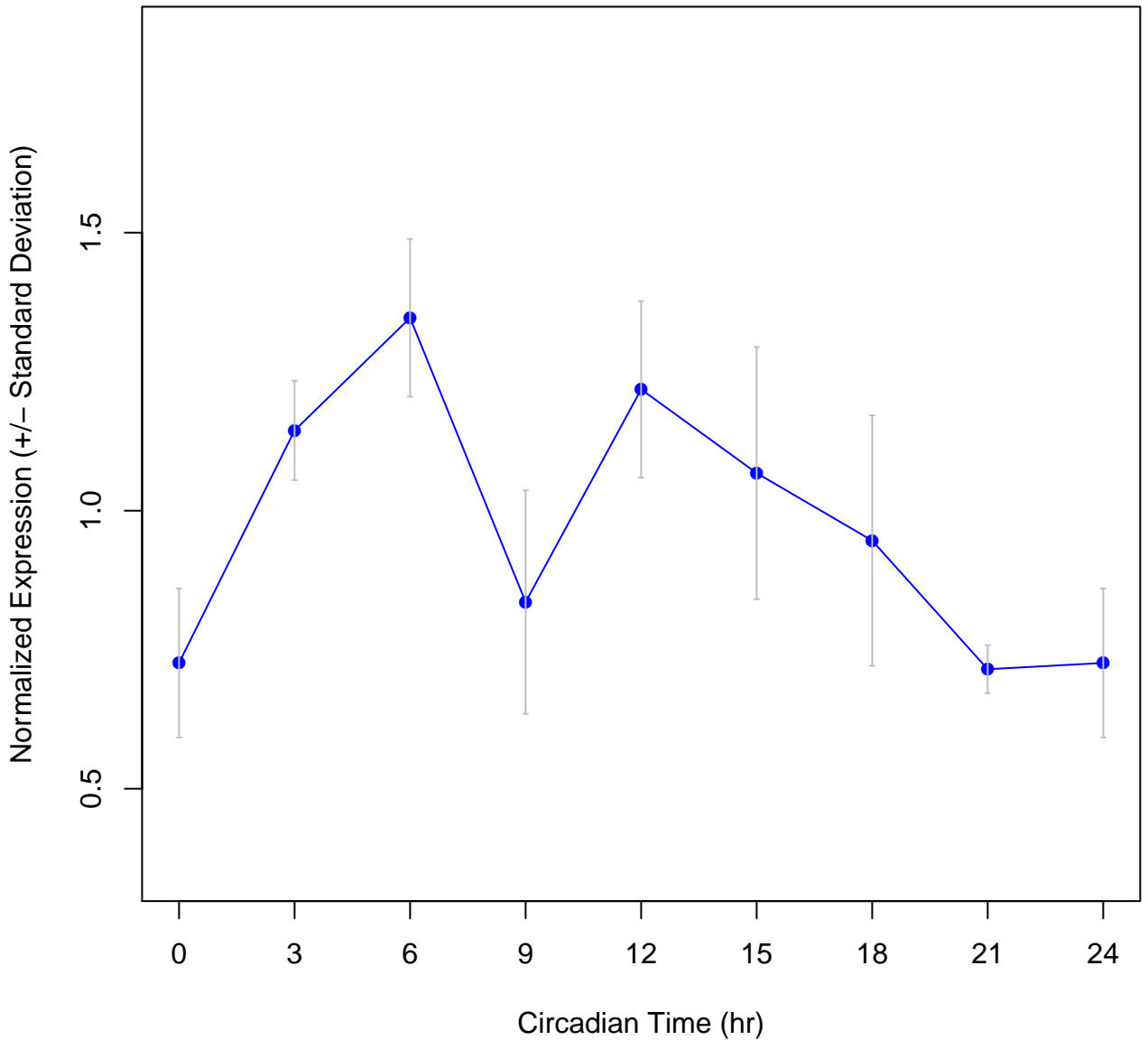
**Supplement Figure 3 arhgap19**



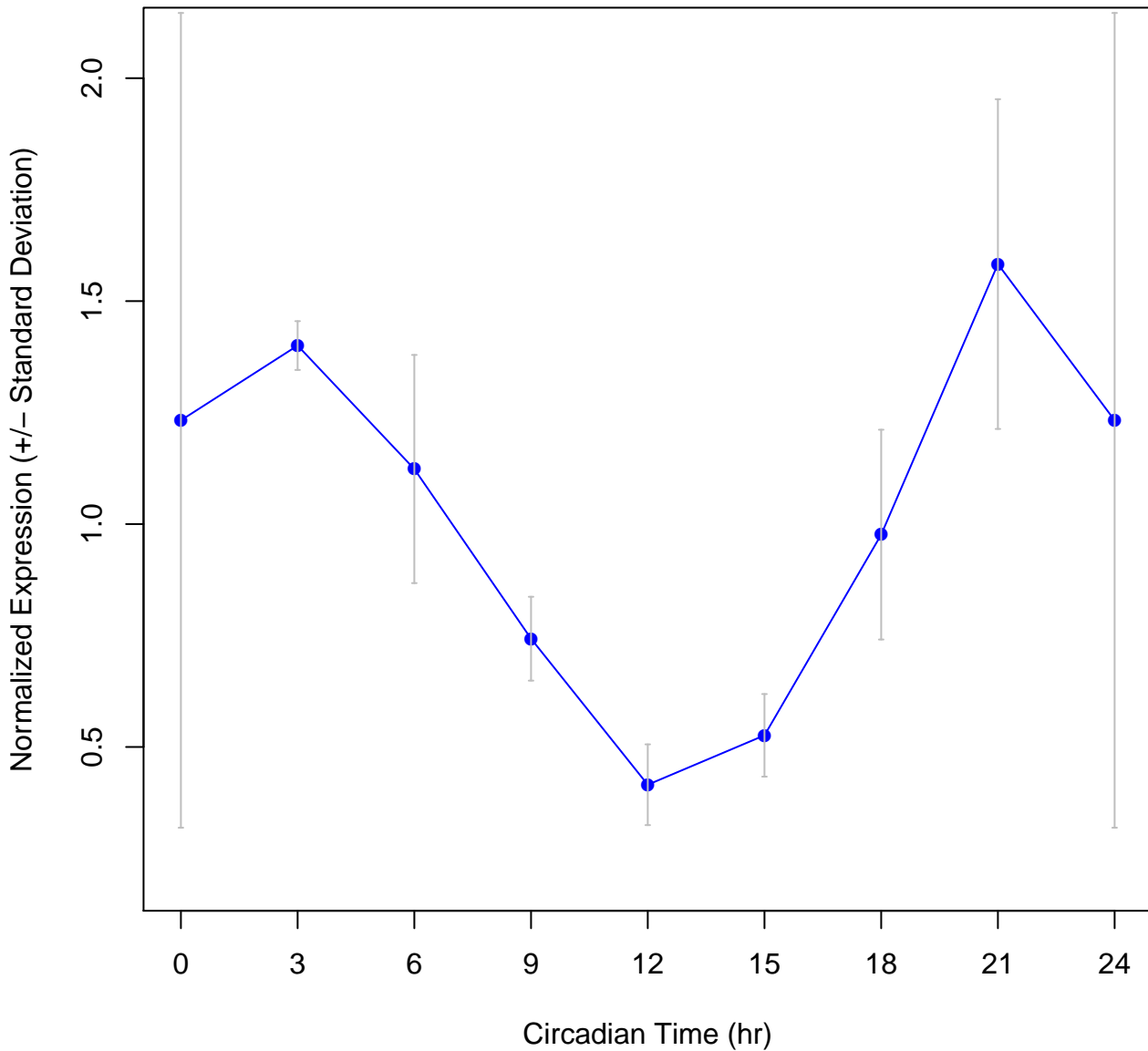
Supplement Figure 3 arid1a



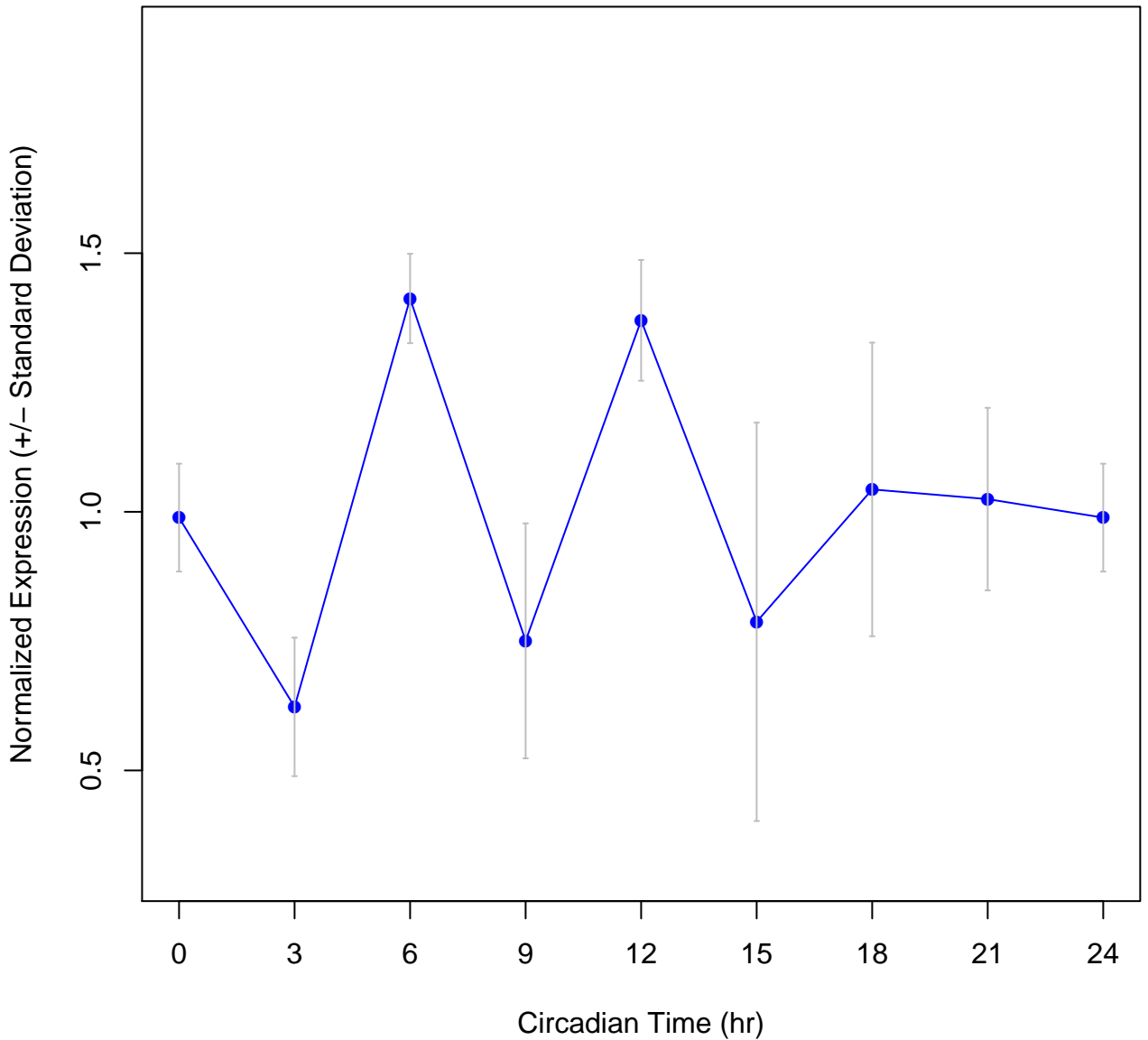
**Supplement Figure 3 ash2l**



### Supplement Figure 3 asic1

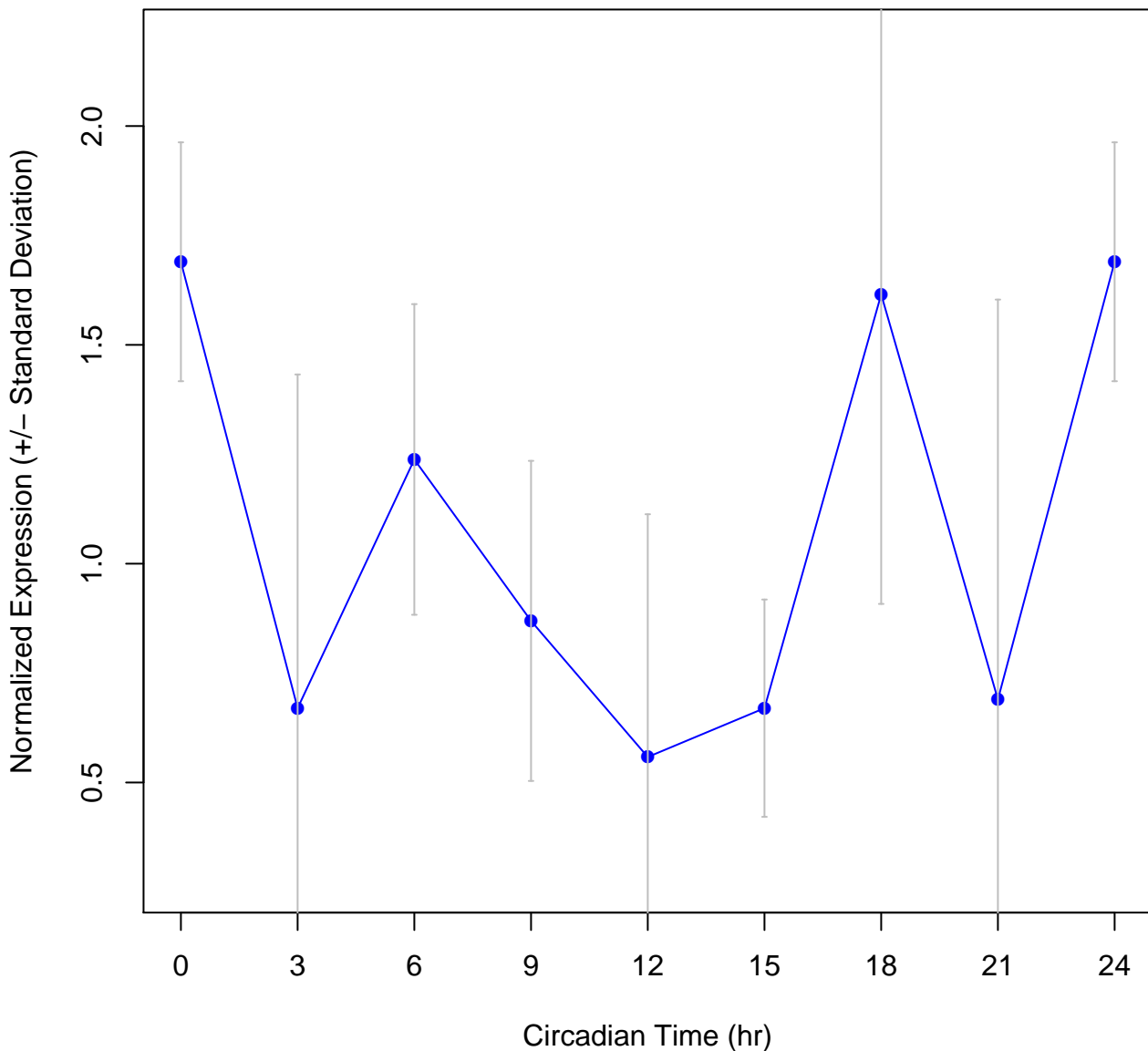


Supplement Figure 3 atm

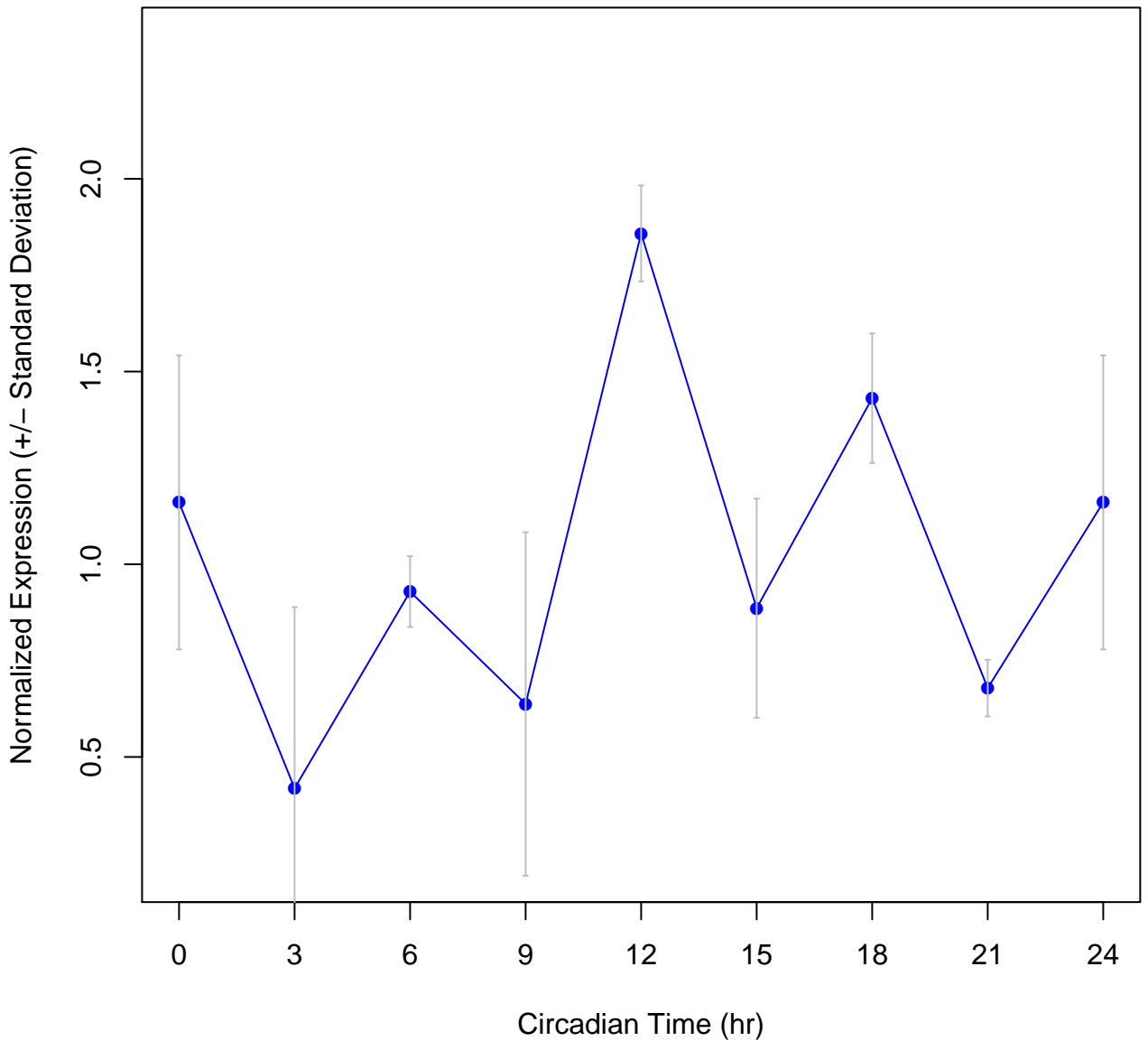




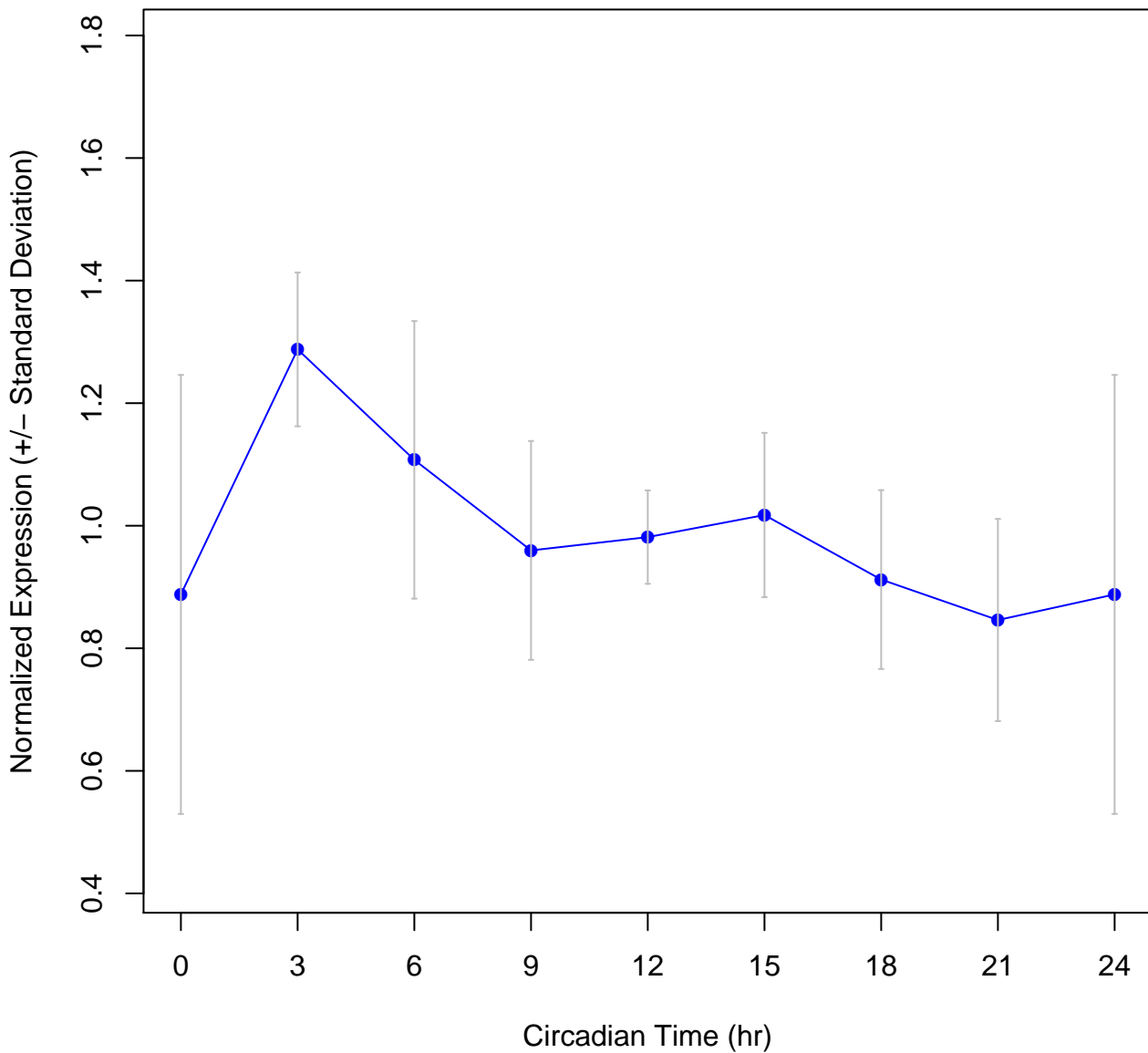
Supplement Figure 3 atp2a1



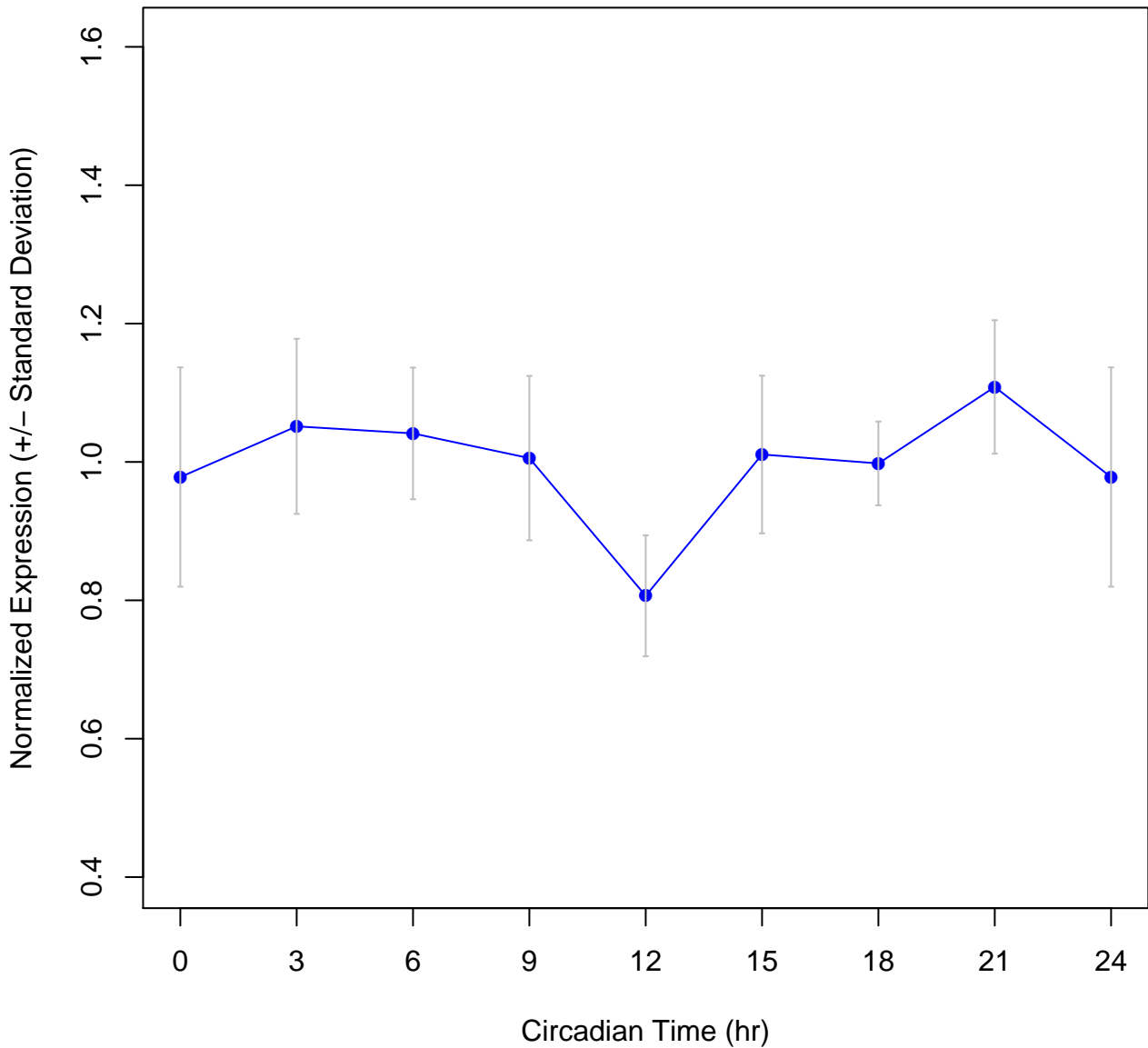
**Supplement Figure 3 aurka**



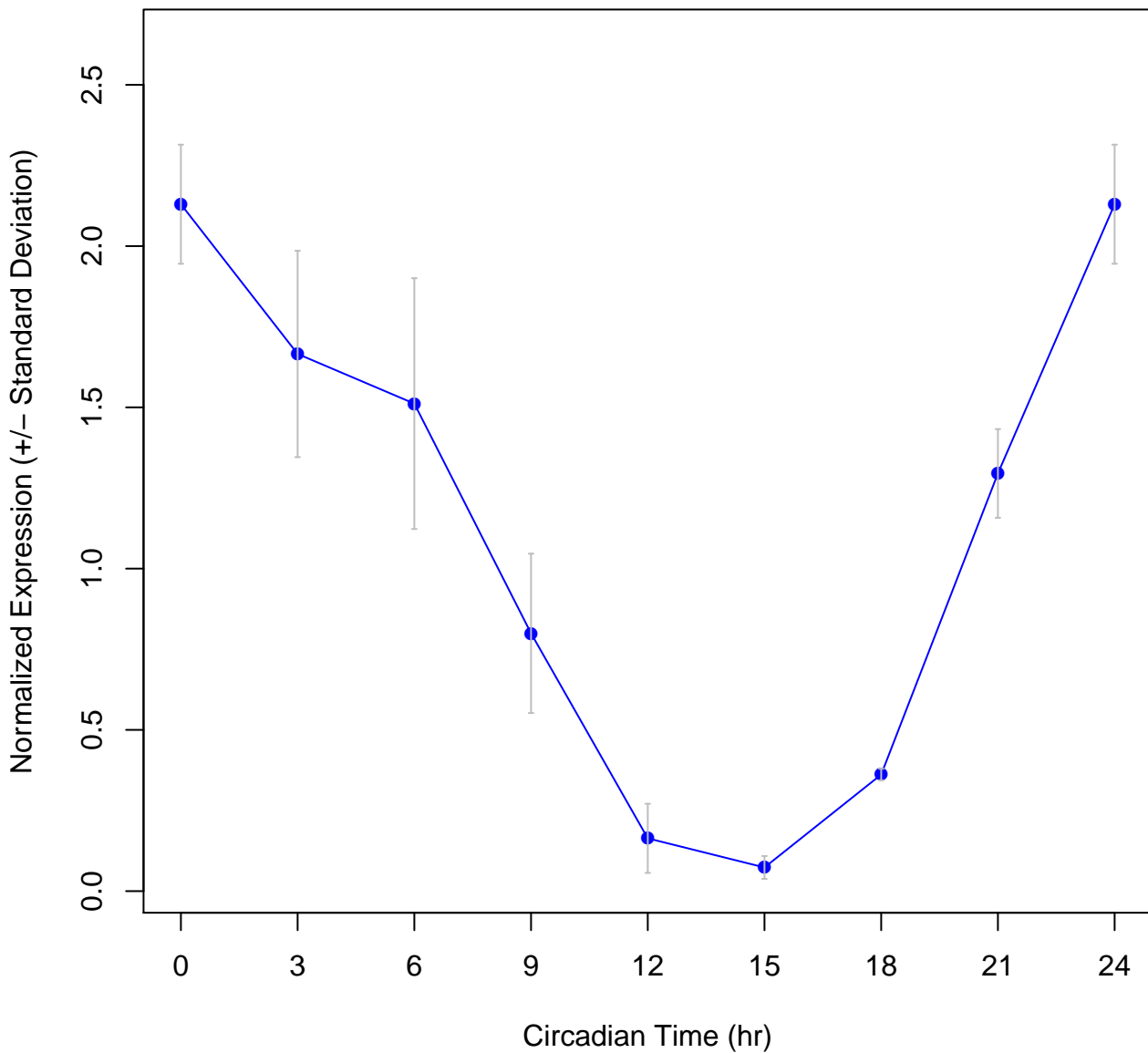
Supplement Figure 3 bcl1



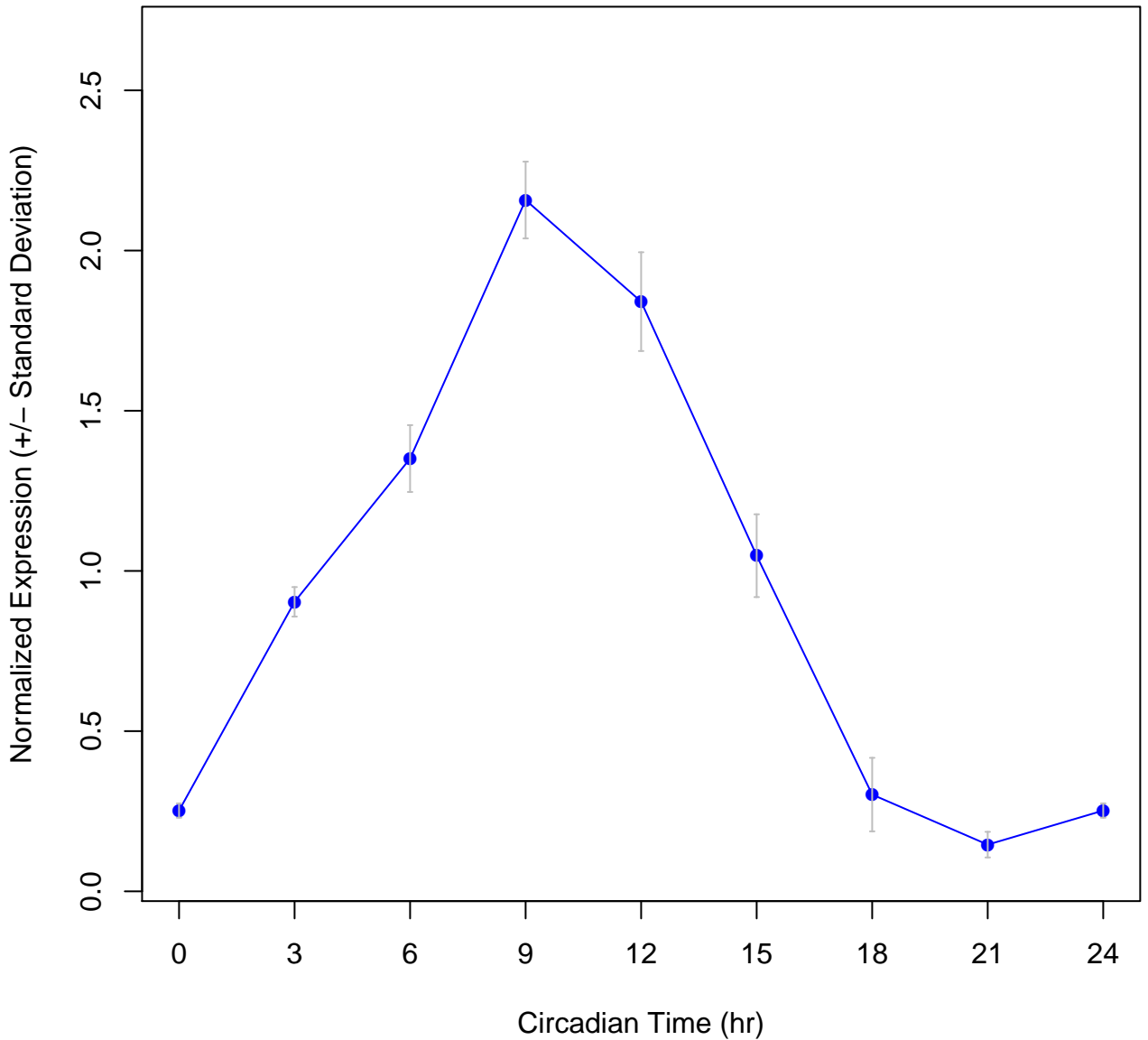
Supplement Figure 3 bcl2



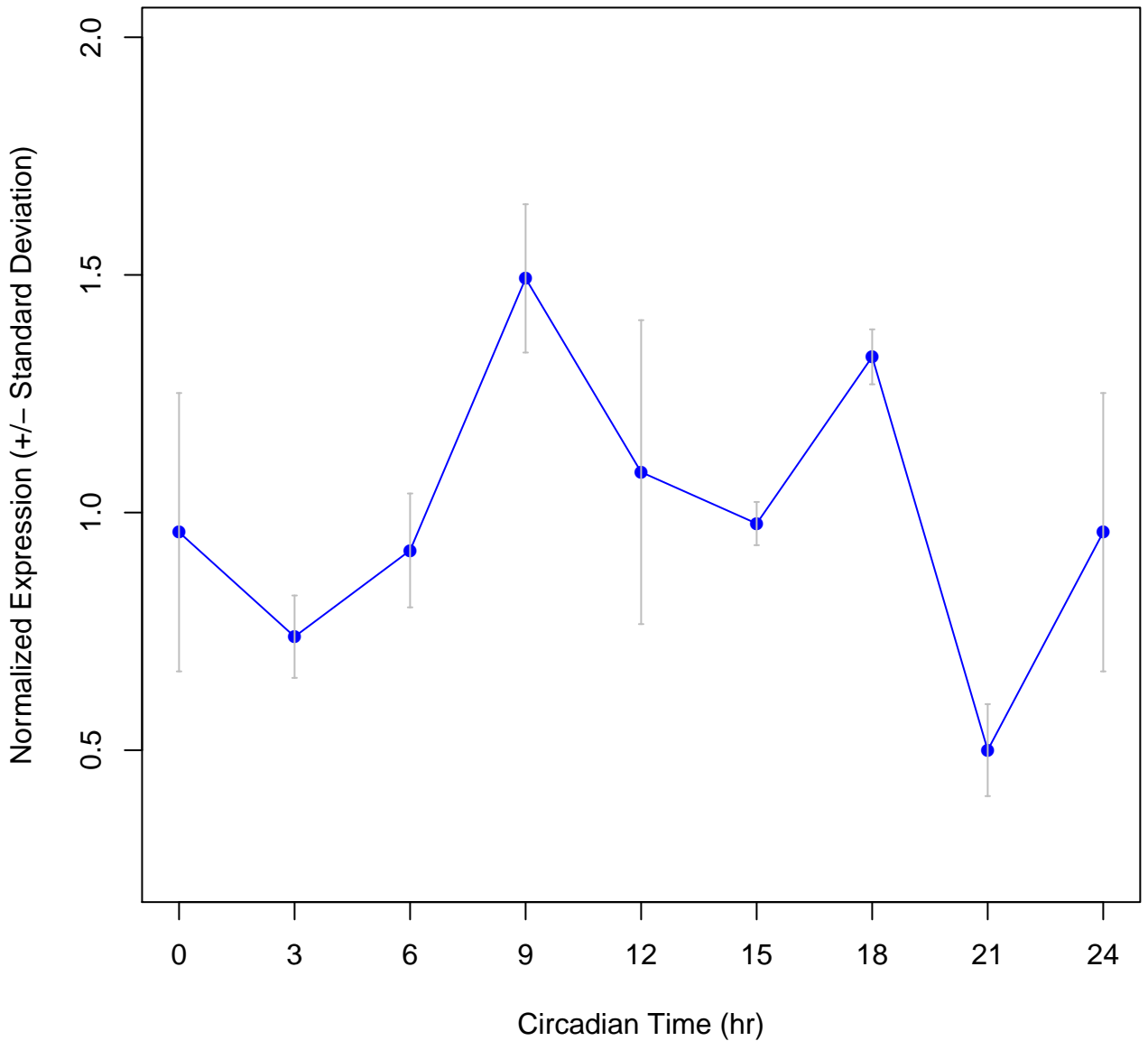
Supplement Figure 3 bhlhe40



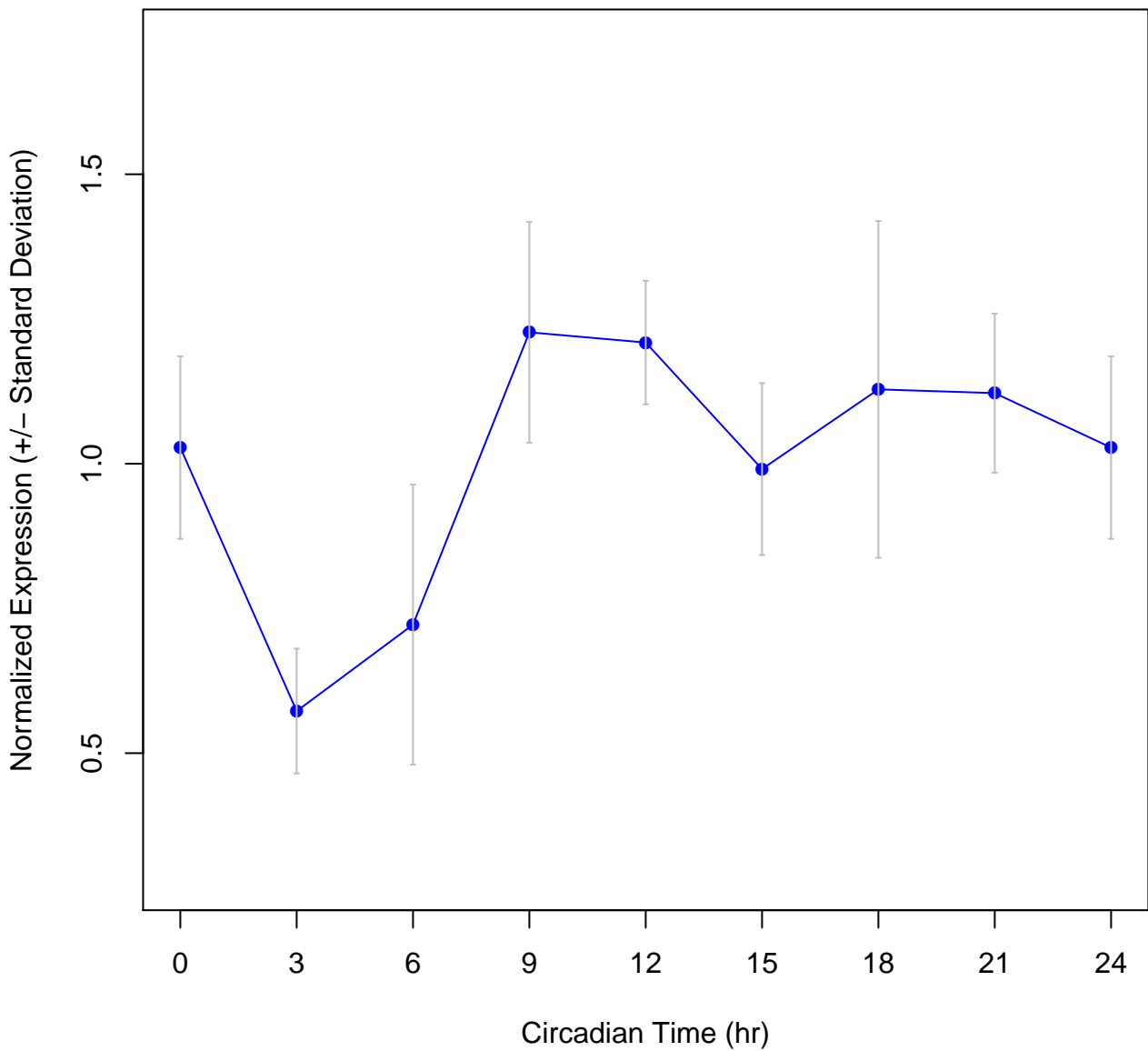
**Supplement Figure 3 bmal1**



**Supplement Figure 3 bmp7**

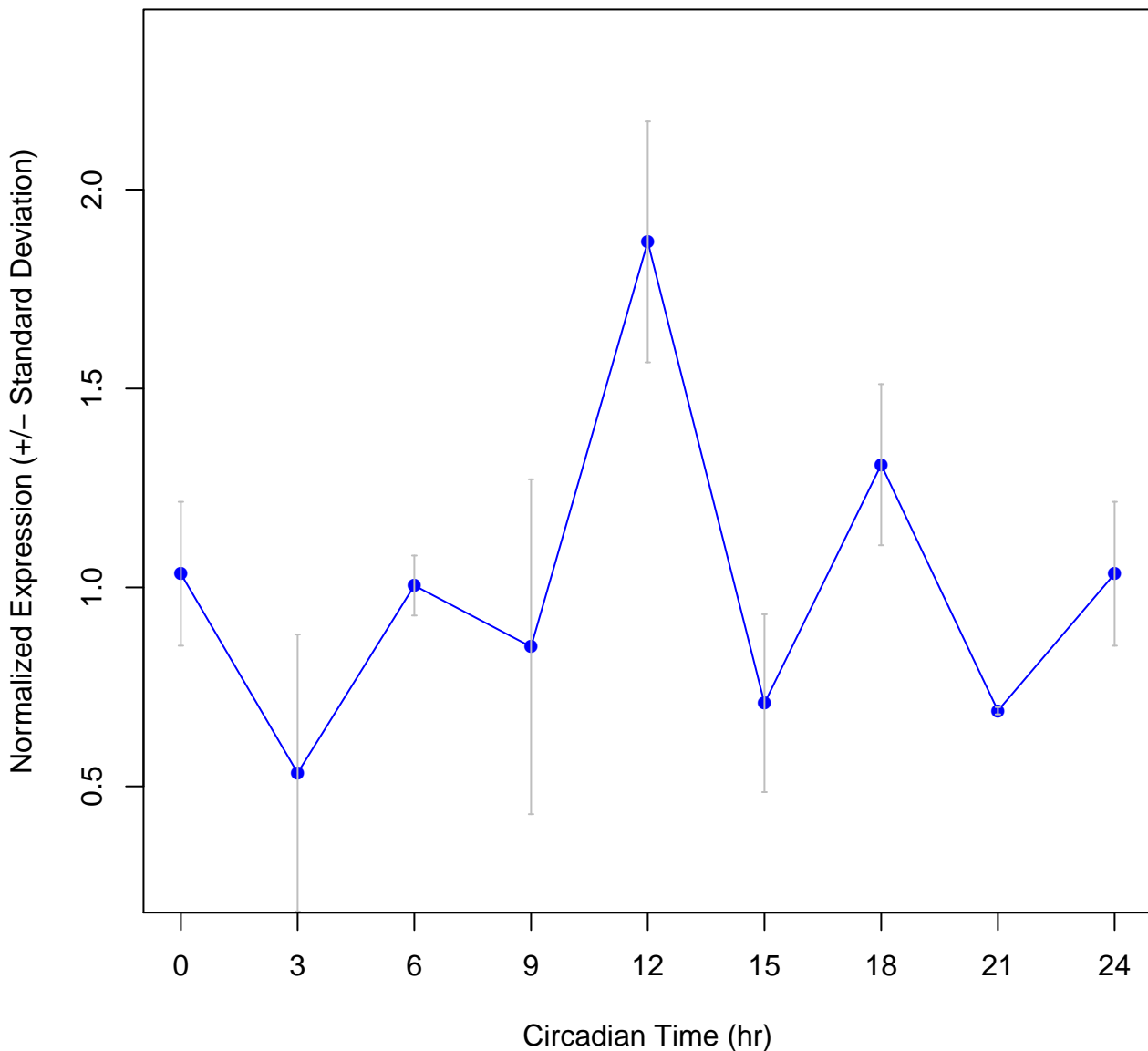


Supplement Figure 3 bmpr1b

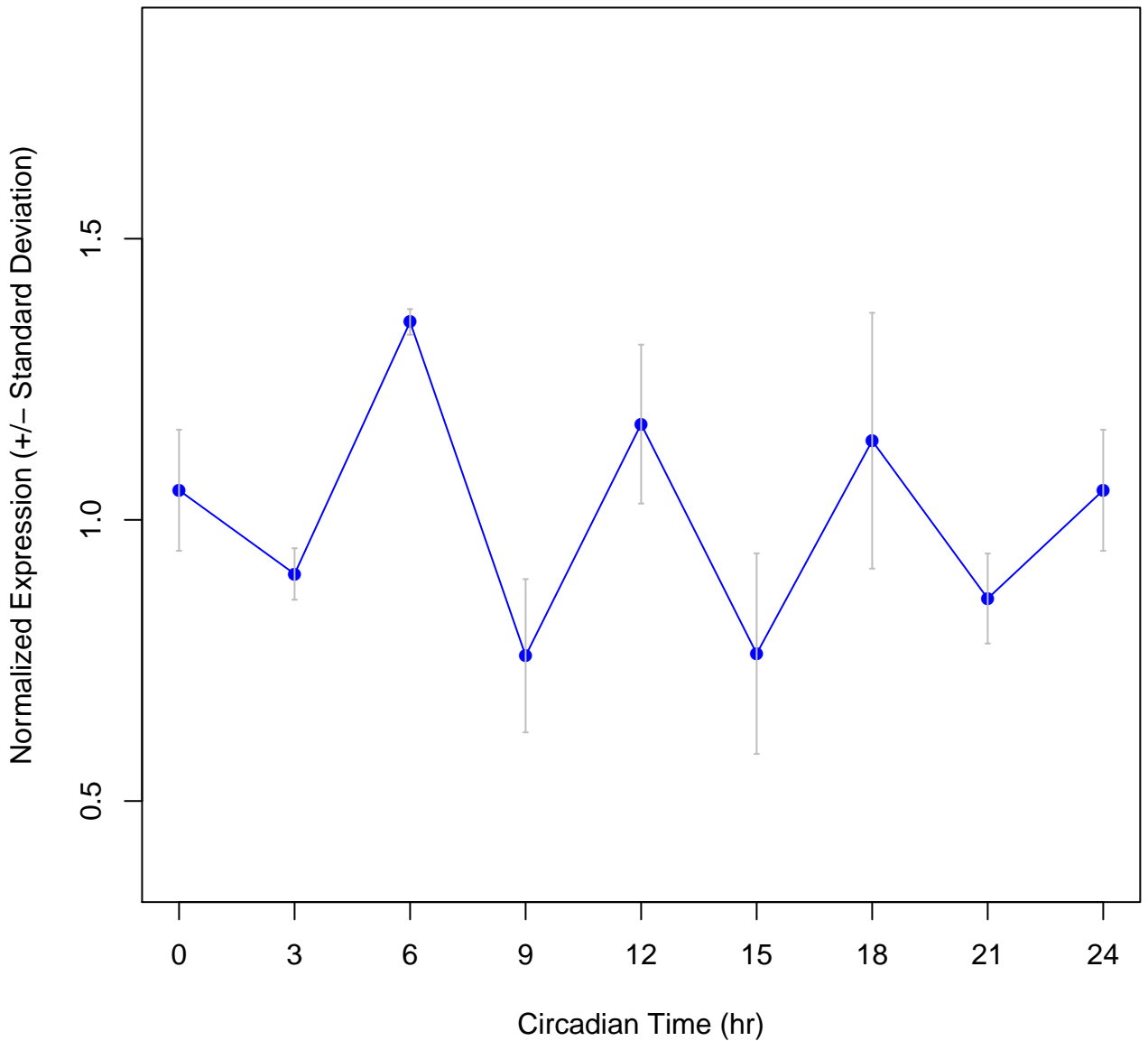




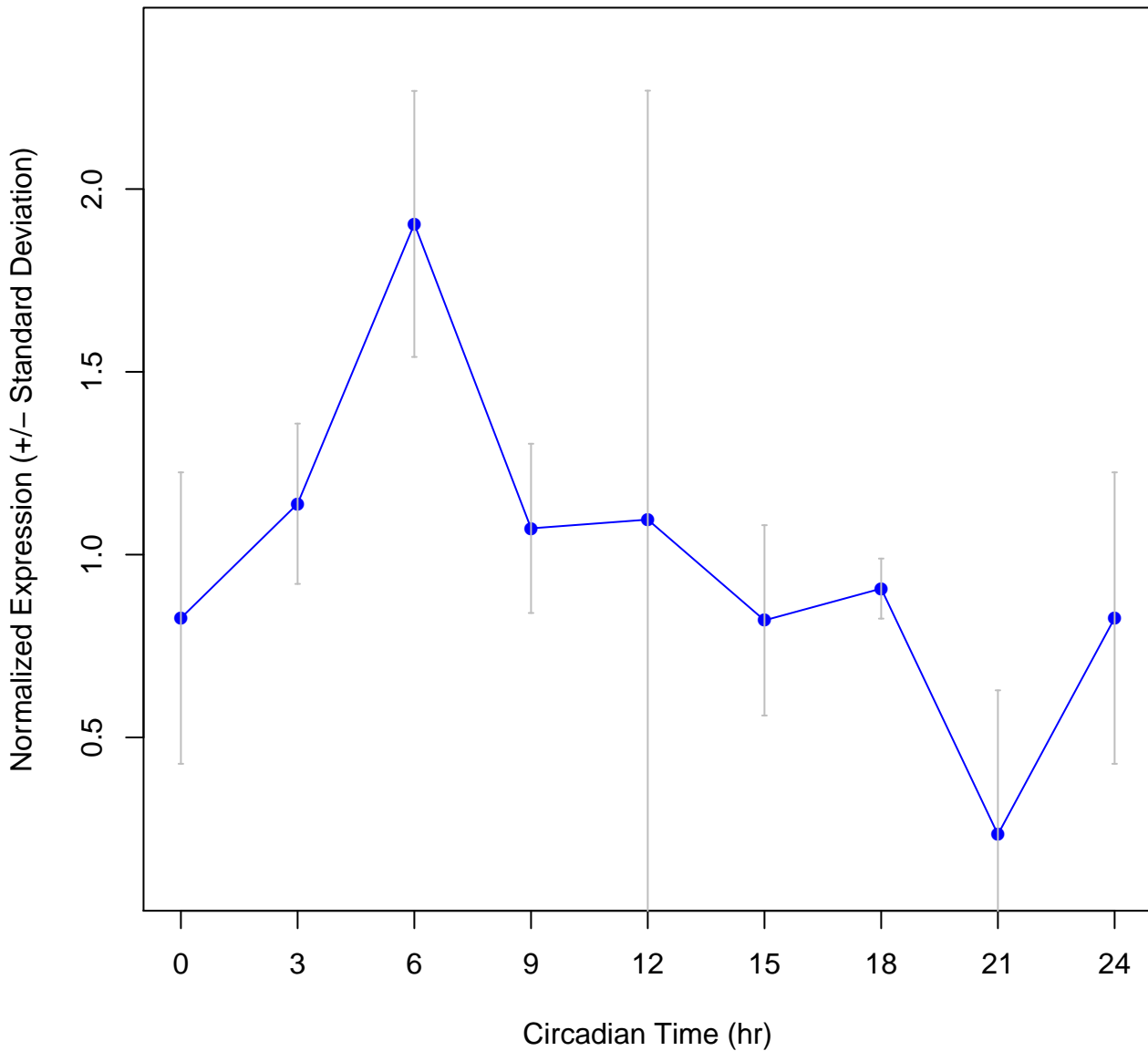
**Supplement Figure 3 bora**



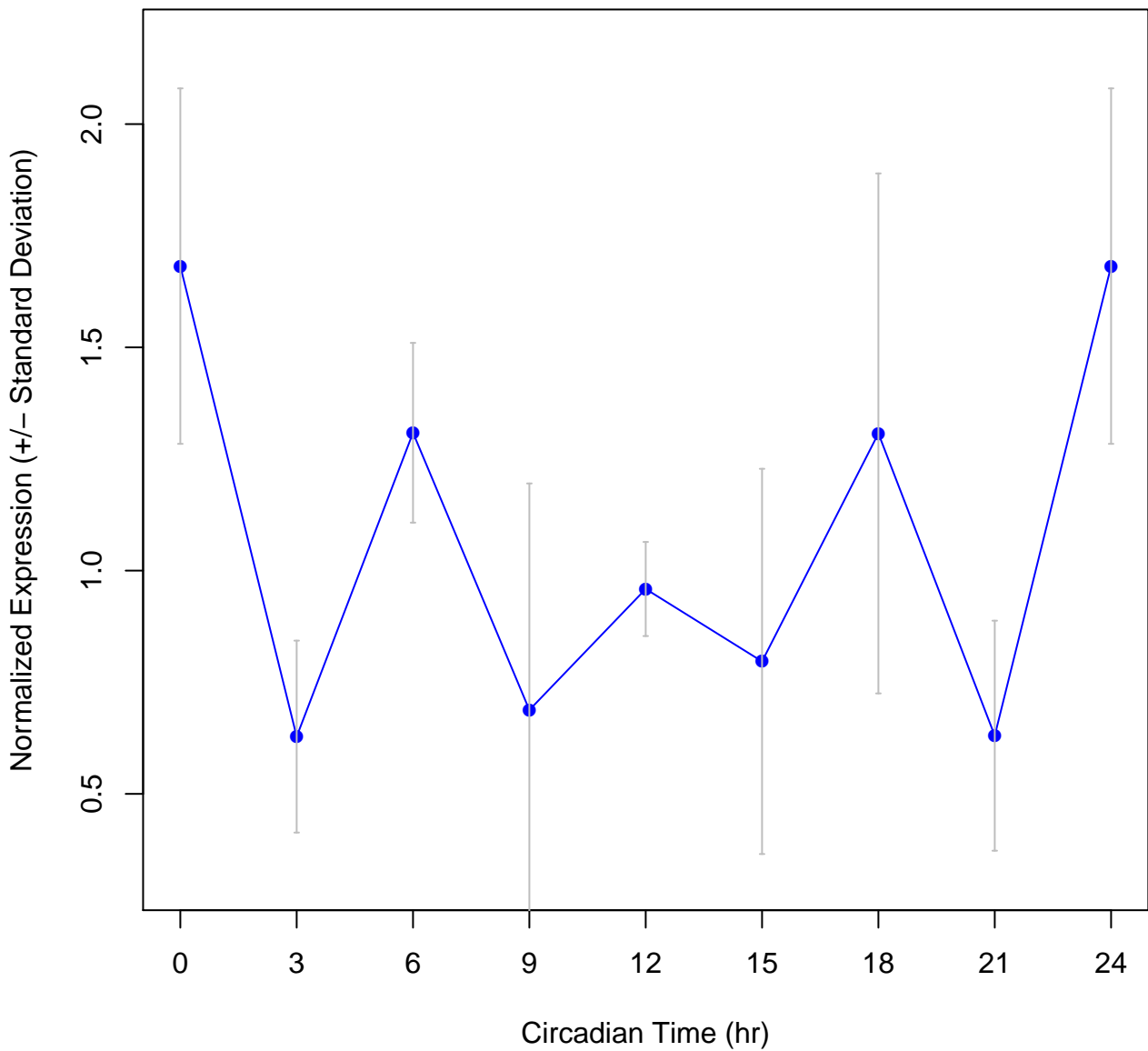
**Supplement Figure 3 brca2**



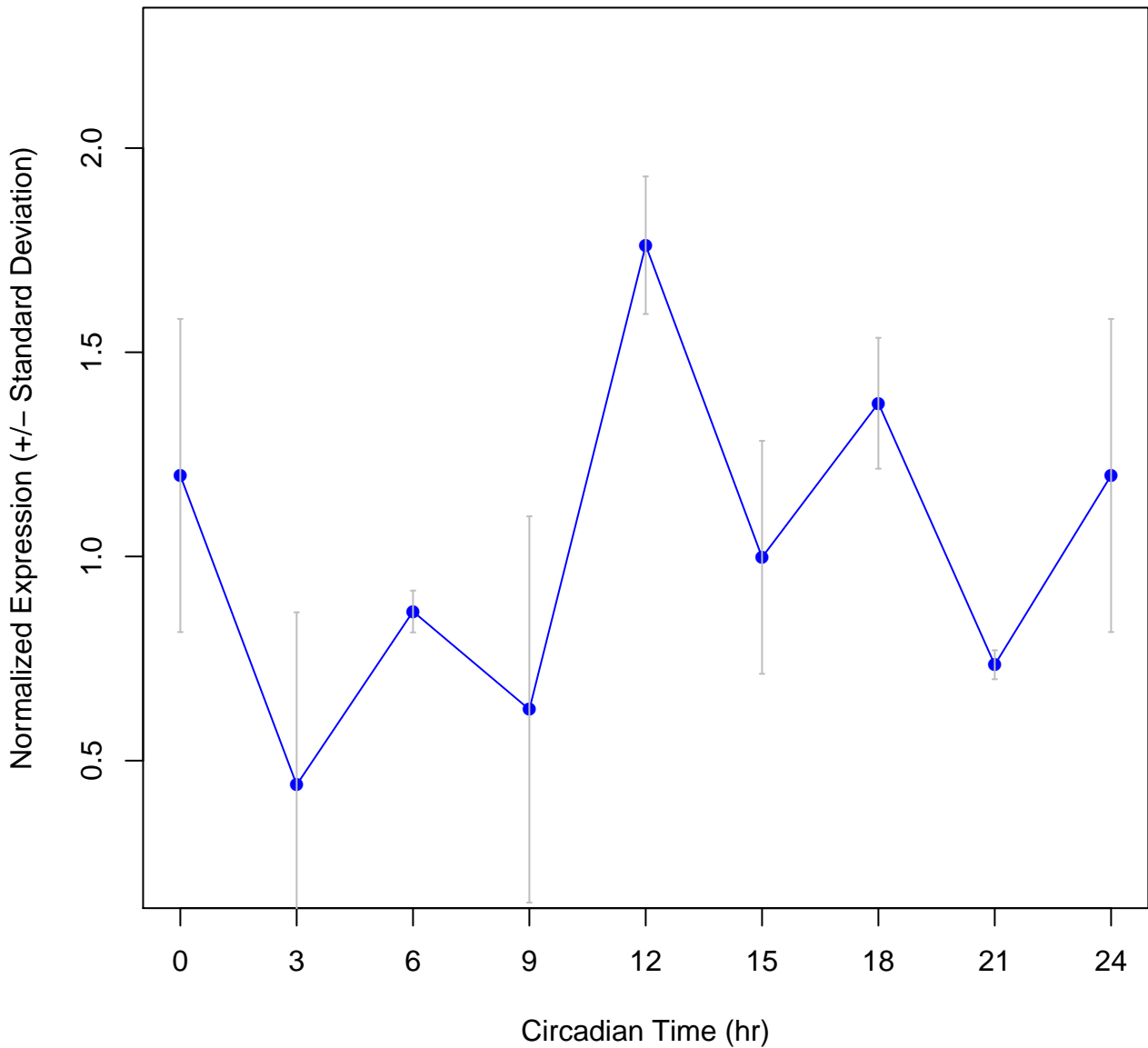
Supplement Figure 3 camk1g



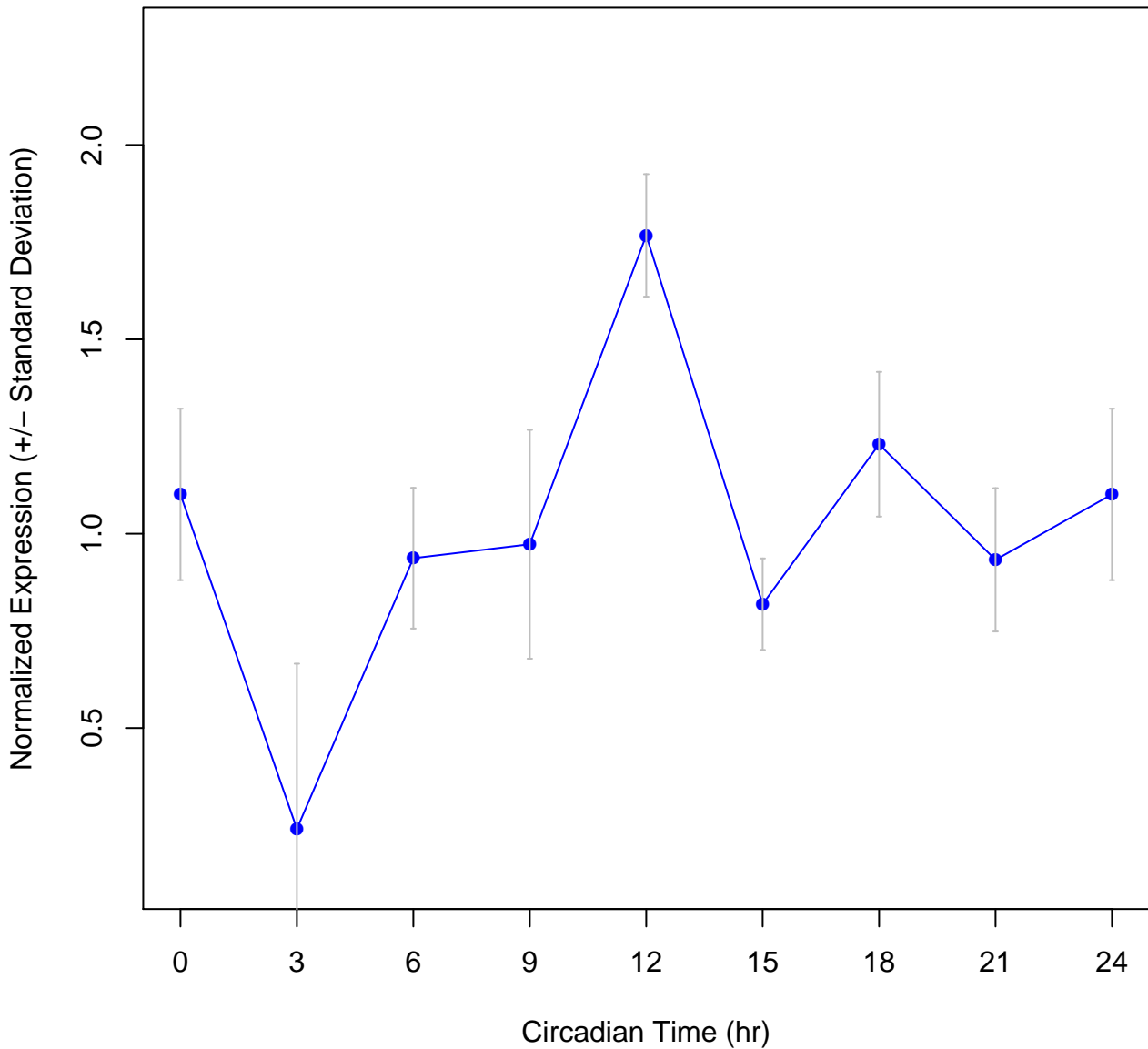
Supplement Figure 3 camk2a



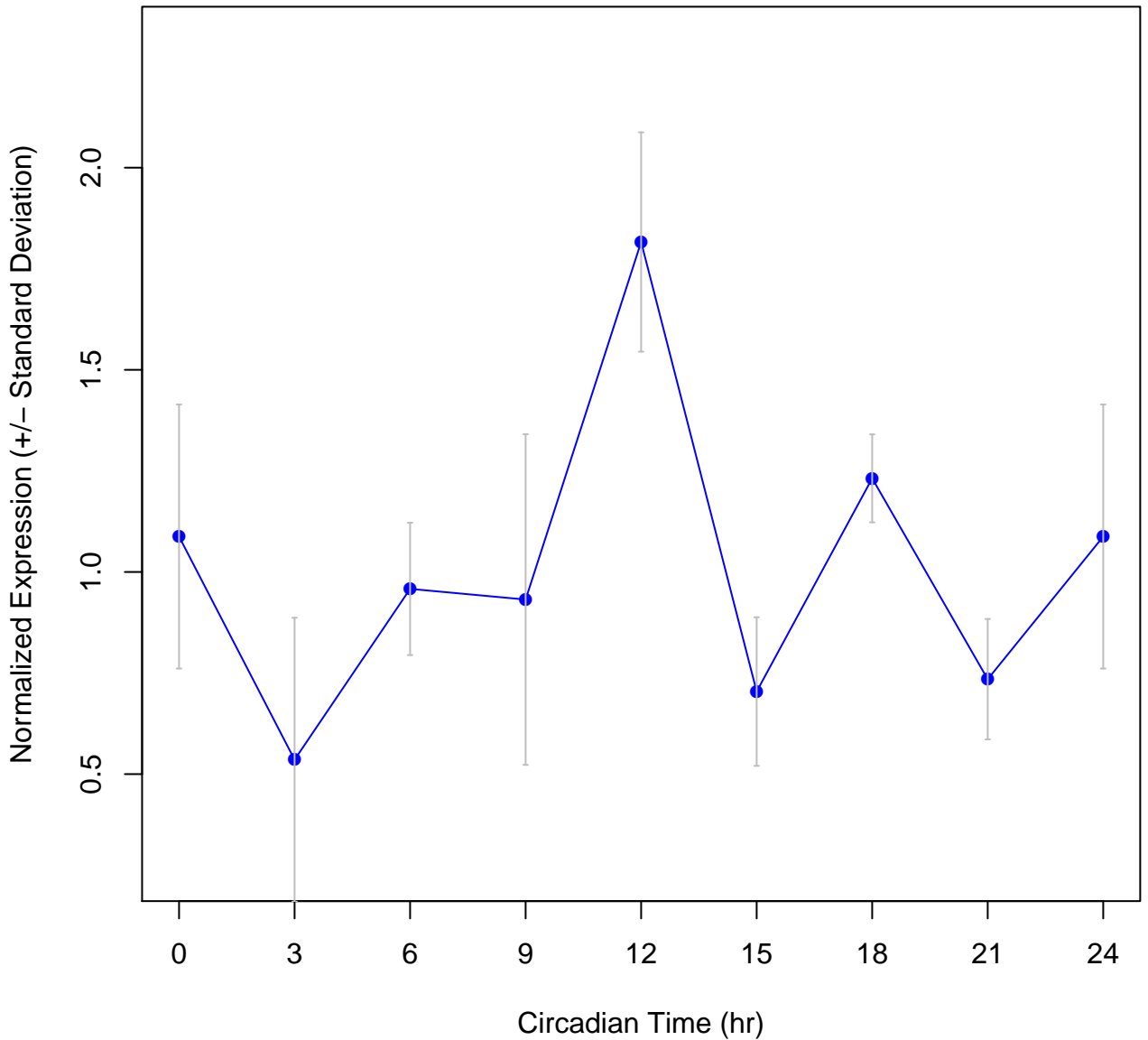
**Supplement Figure 3 ccnb1**



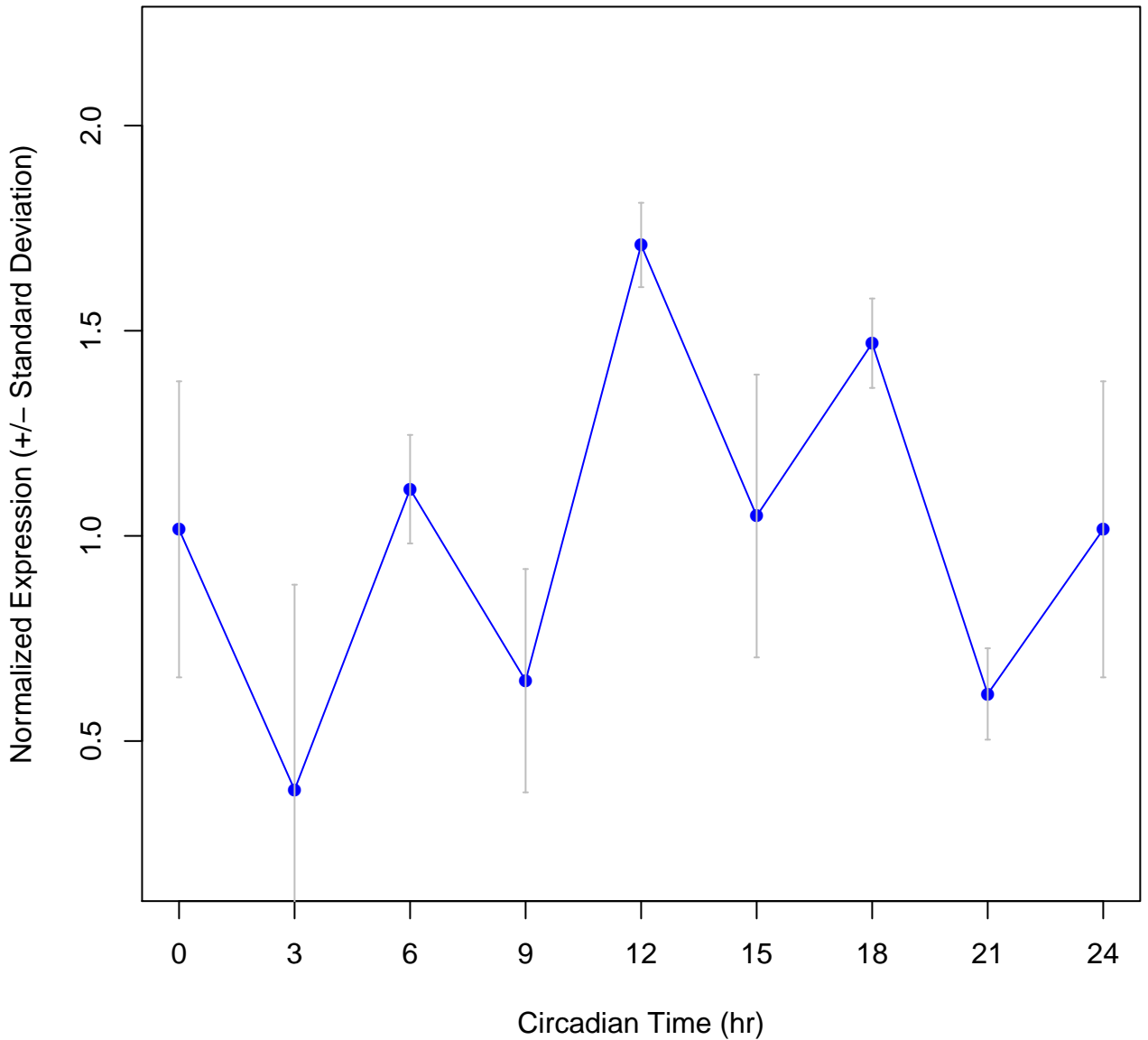
**Supplement Figure 3 ccnb2**



**Supplement Figure 3 ccnb3**

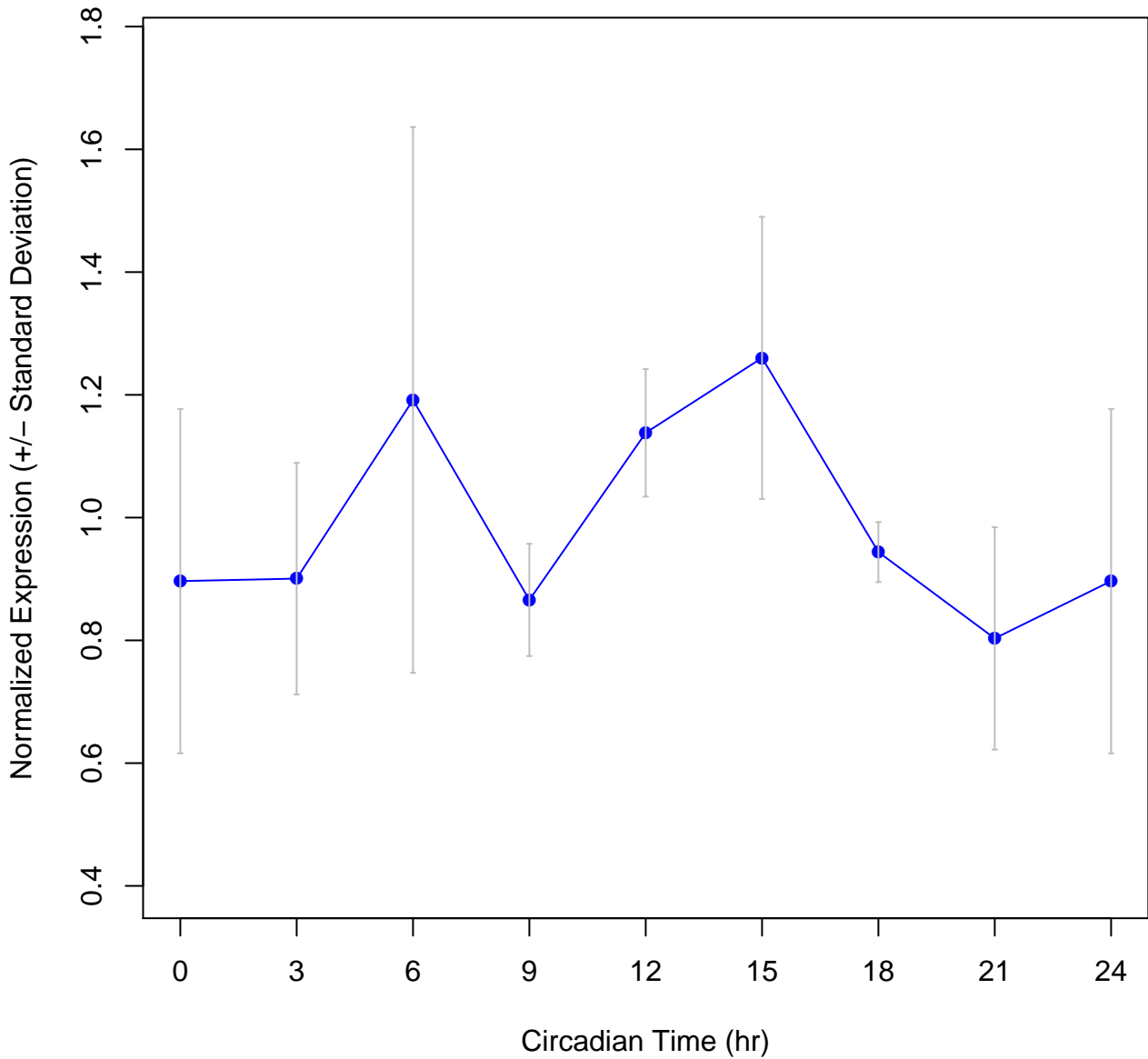


**Supplement Figure 3 ccnf**

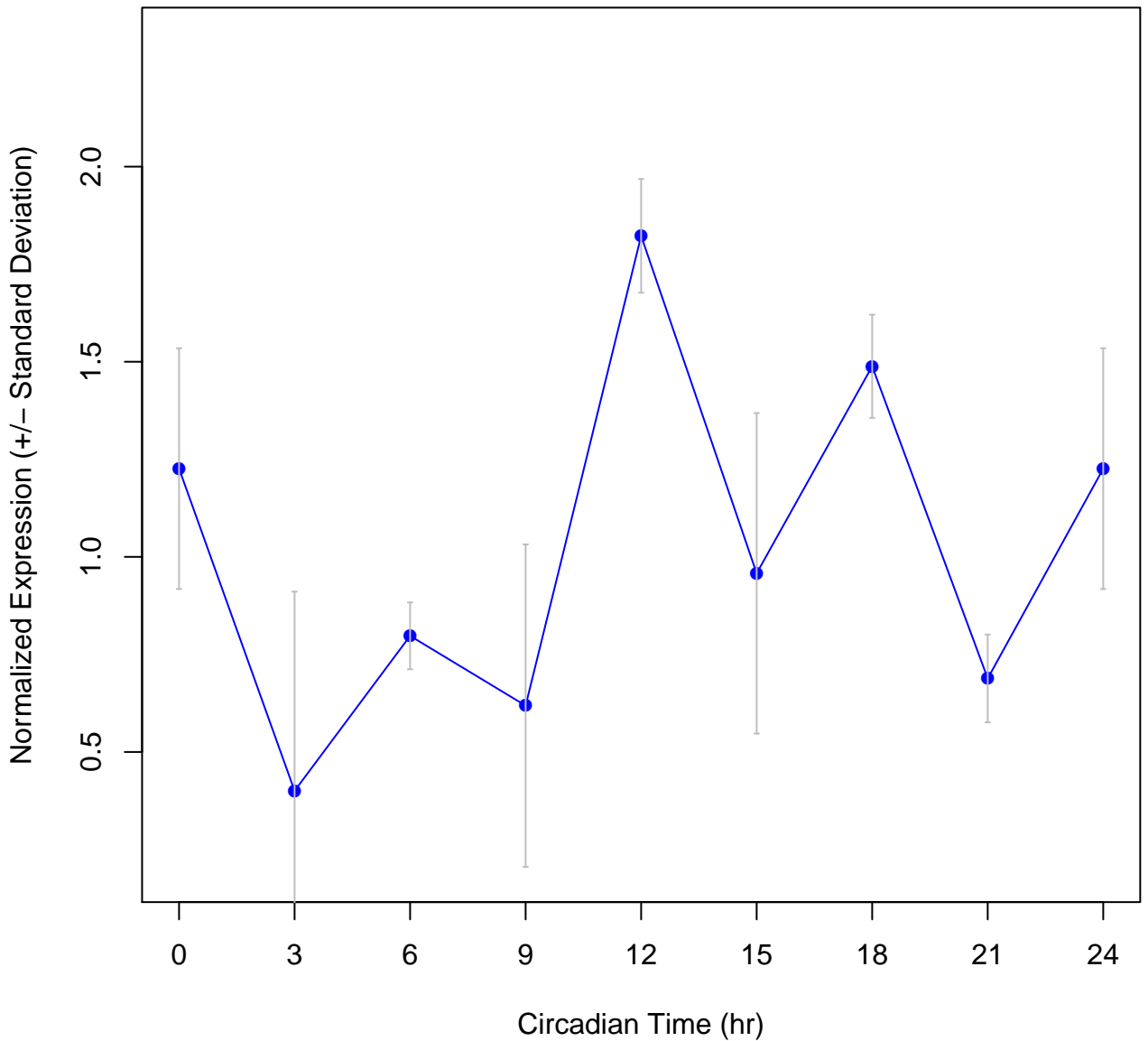




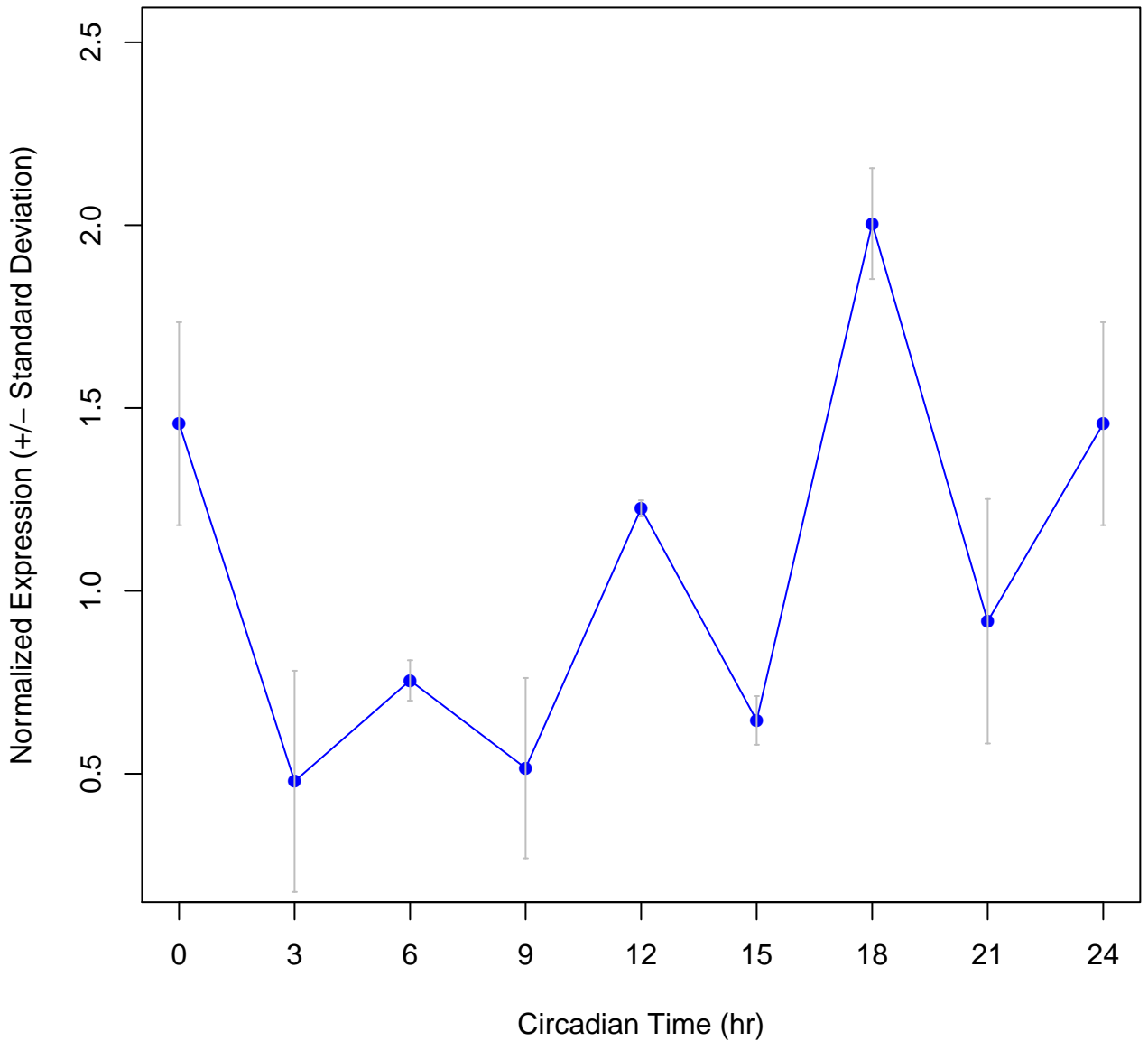
### Supplement Figure 3 cd44



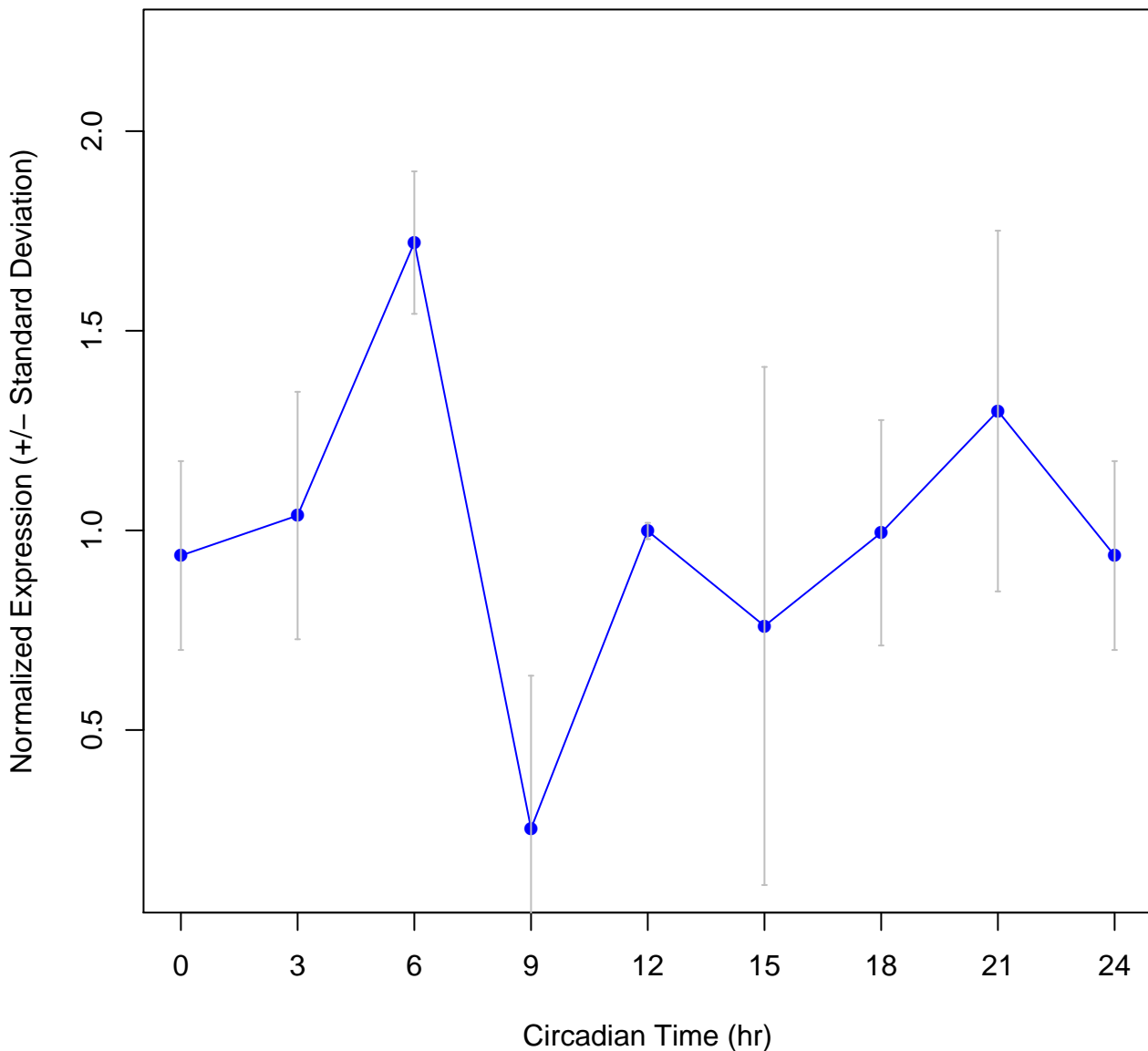
**Supplement Figure 3 cdc20**



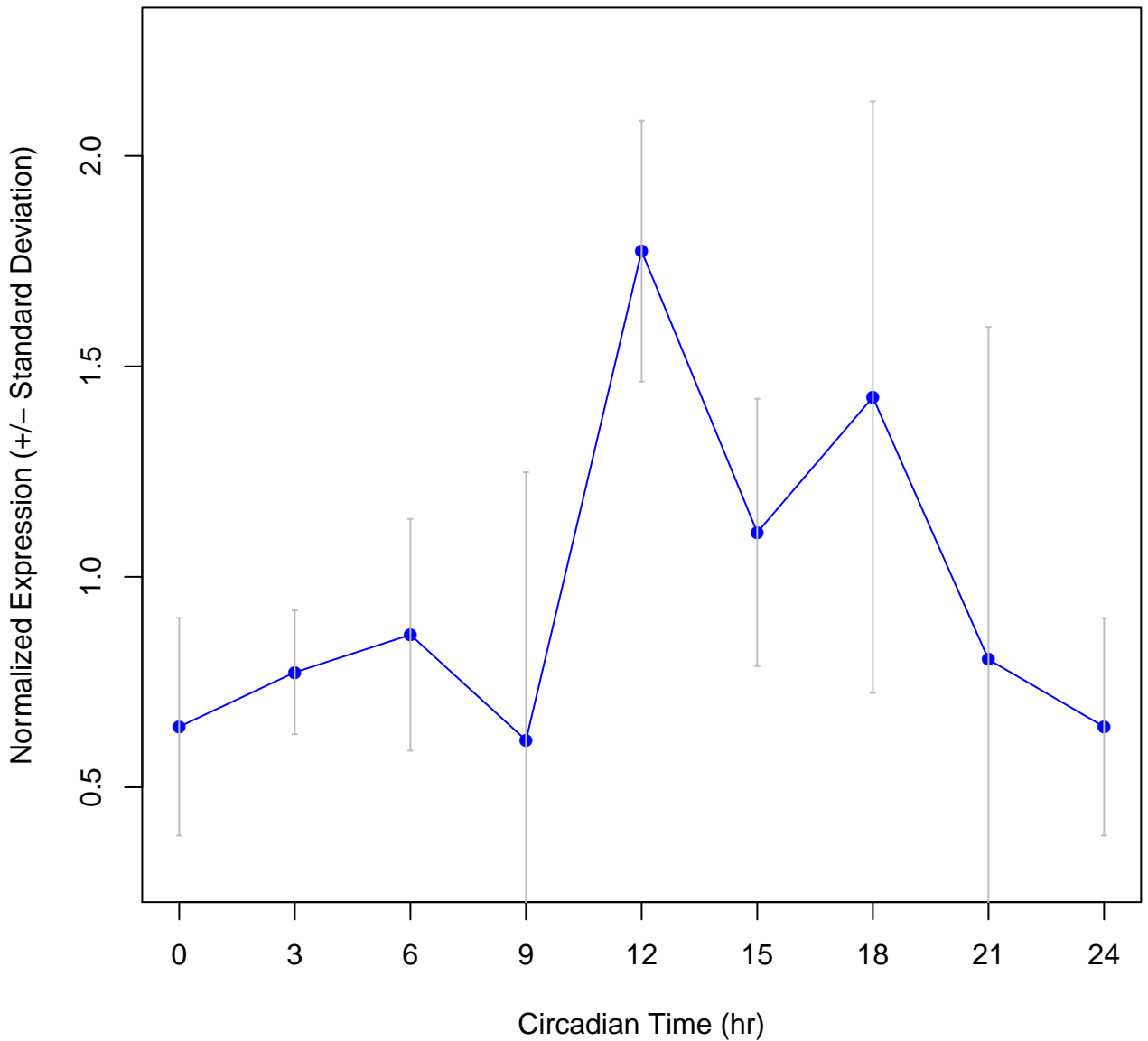
**Supplement Figure 3 *cdc25b***



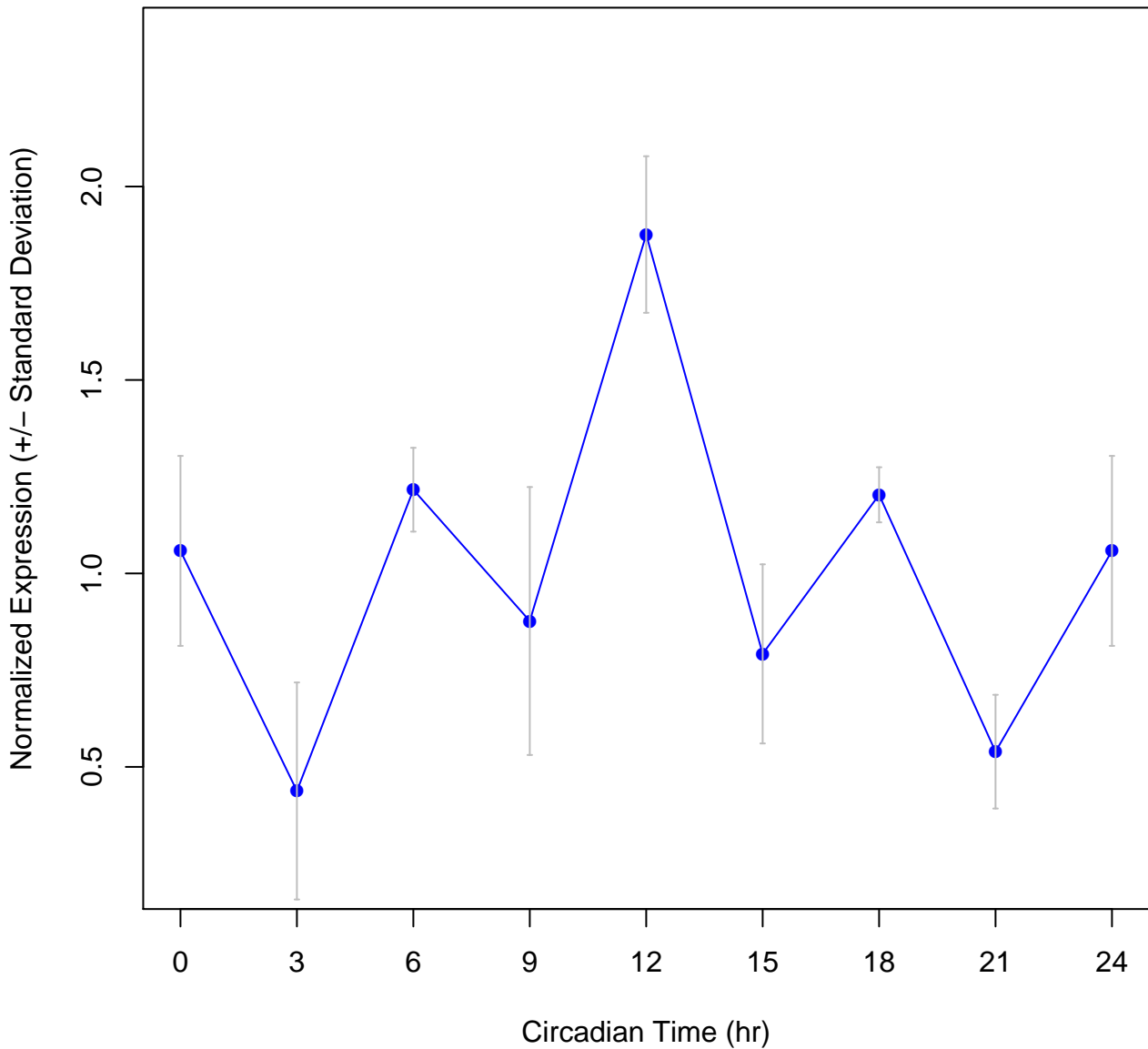
**Supplement Figure 3 cdca7**



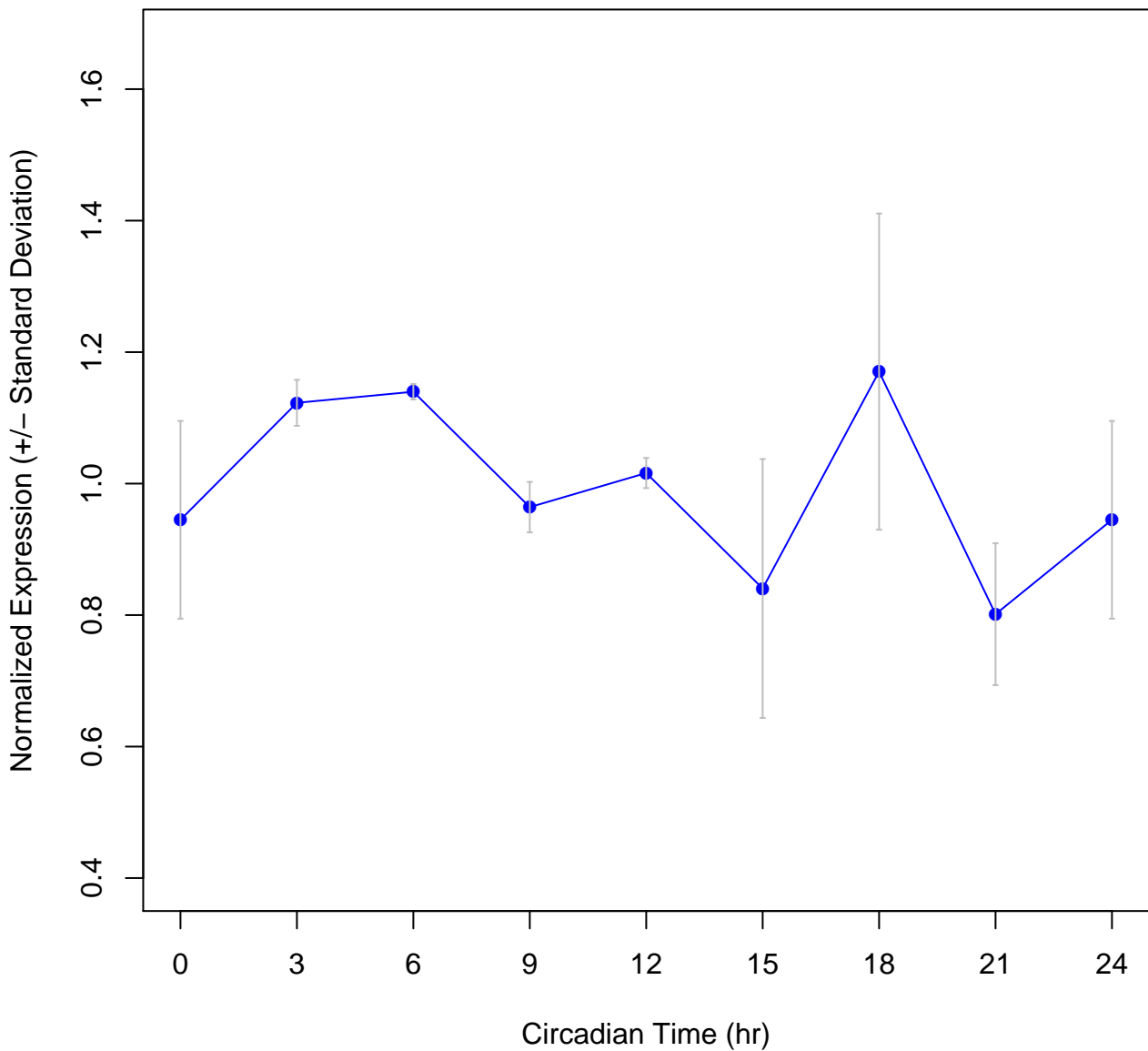
**Supplement Figure 3 cdh15**



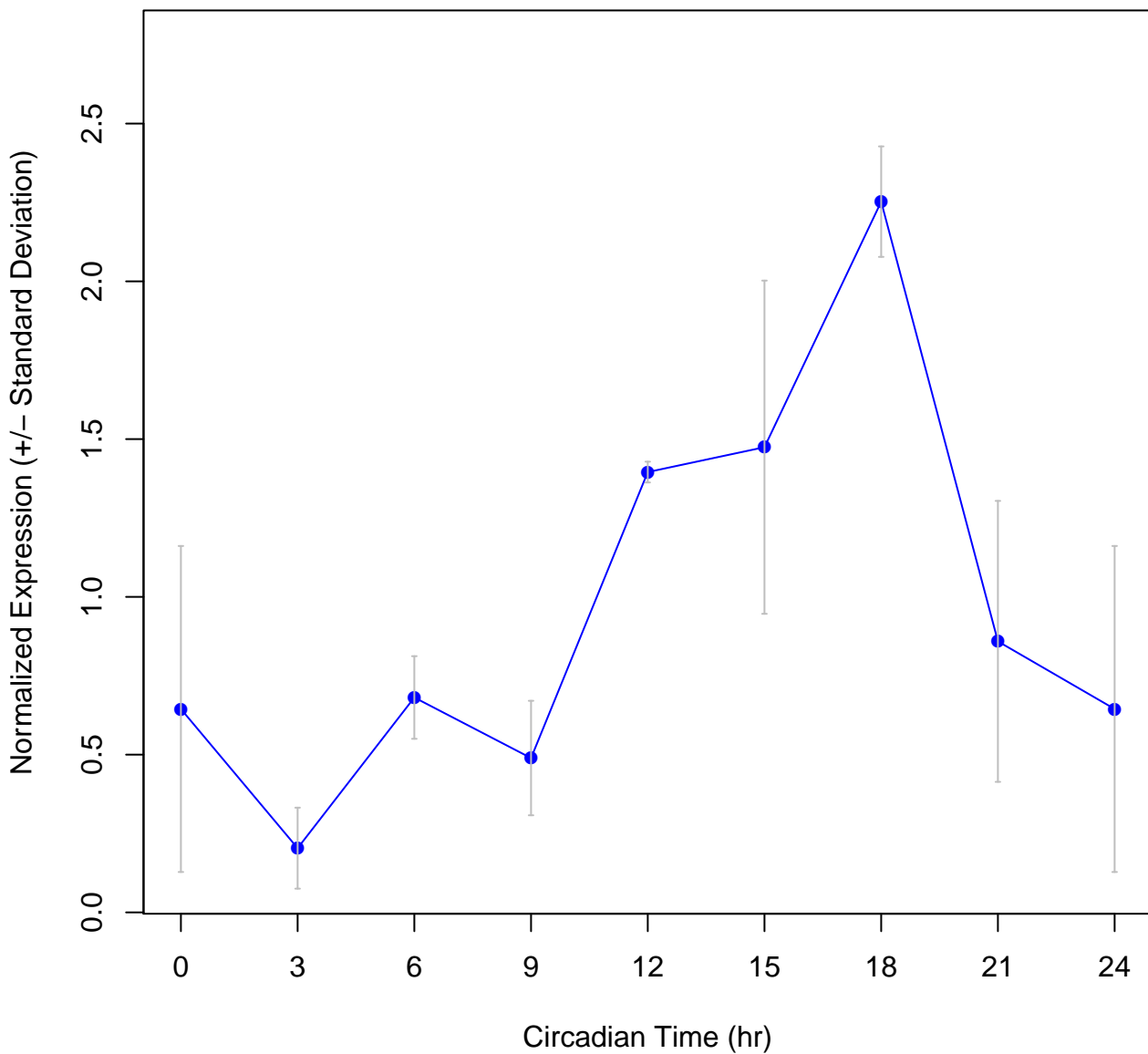
### Supplement Figure 3 cdk1



**Supplement Figure 3 cdk7**

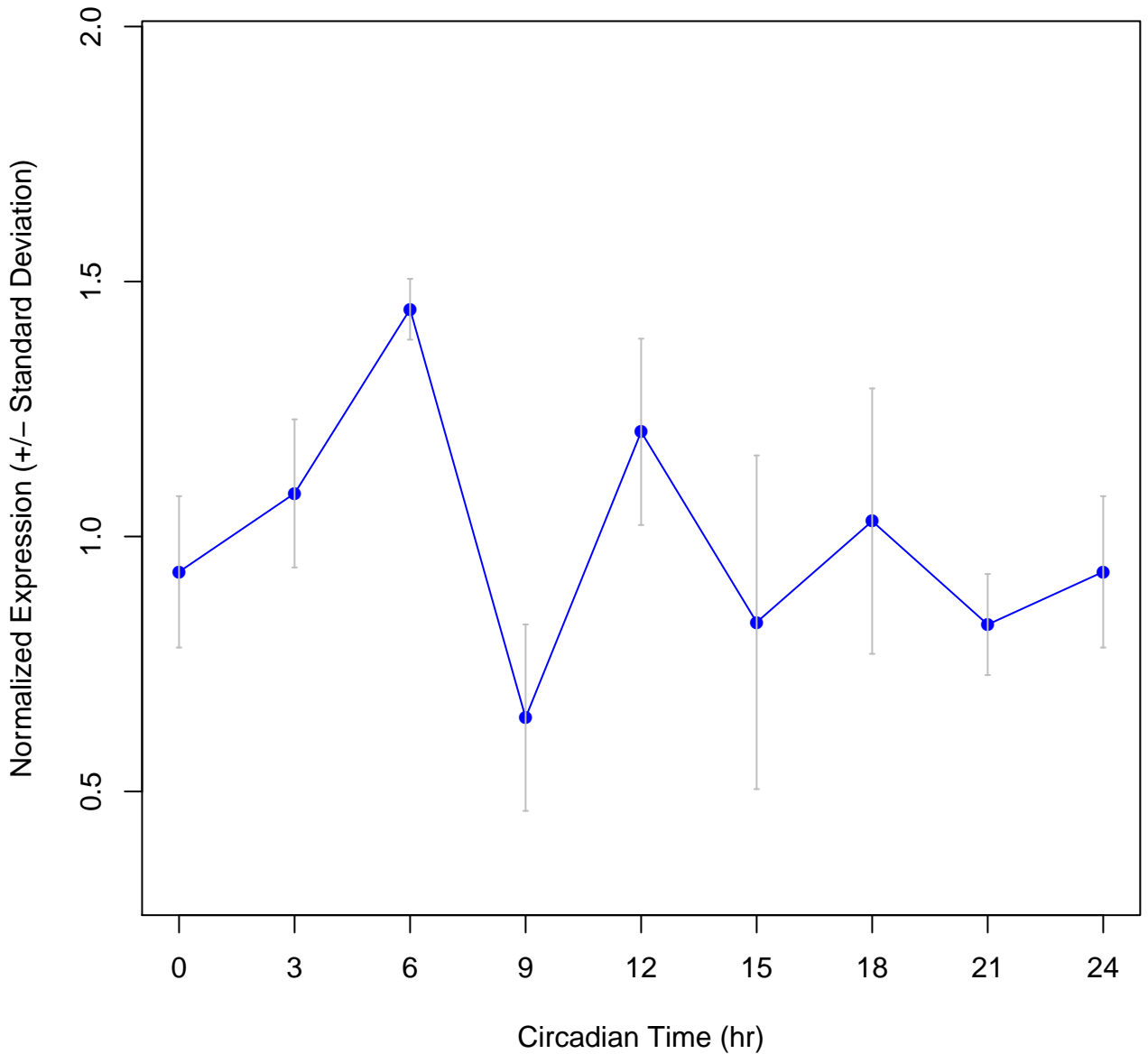


Supplement Figure 3 cdkn1a

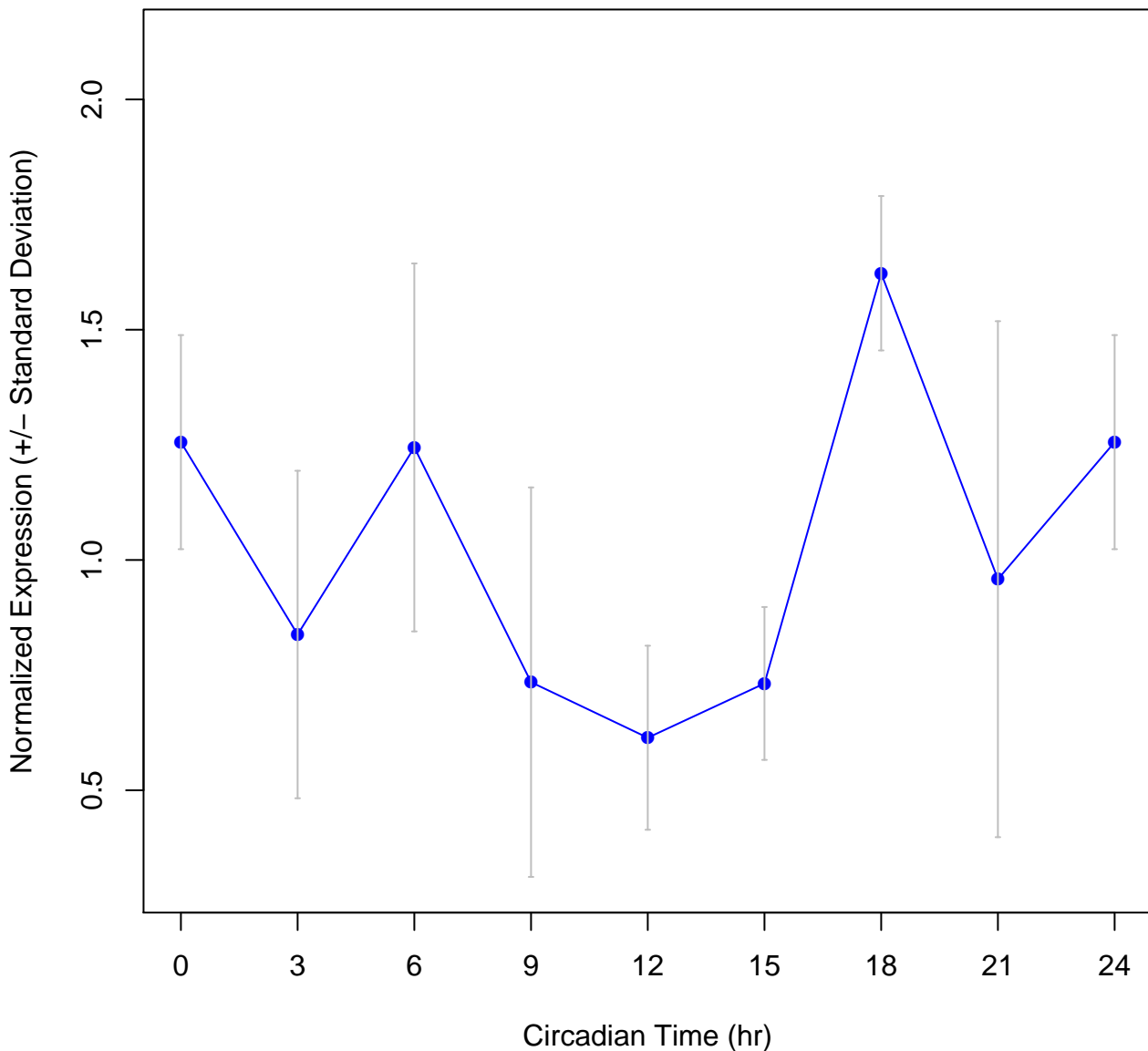




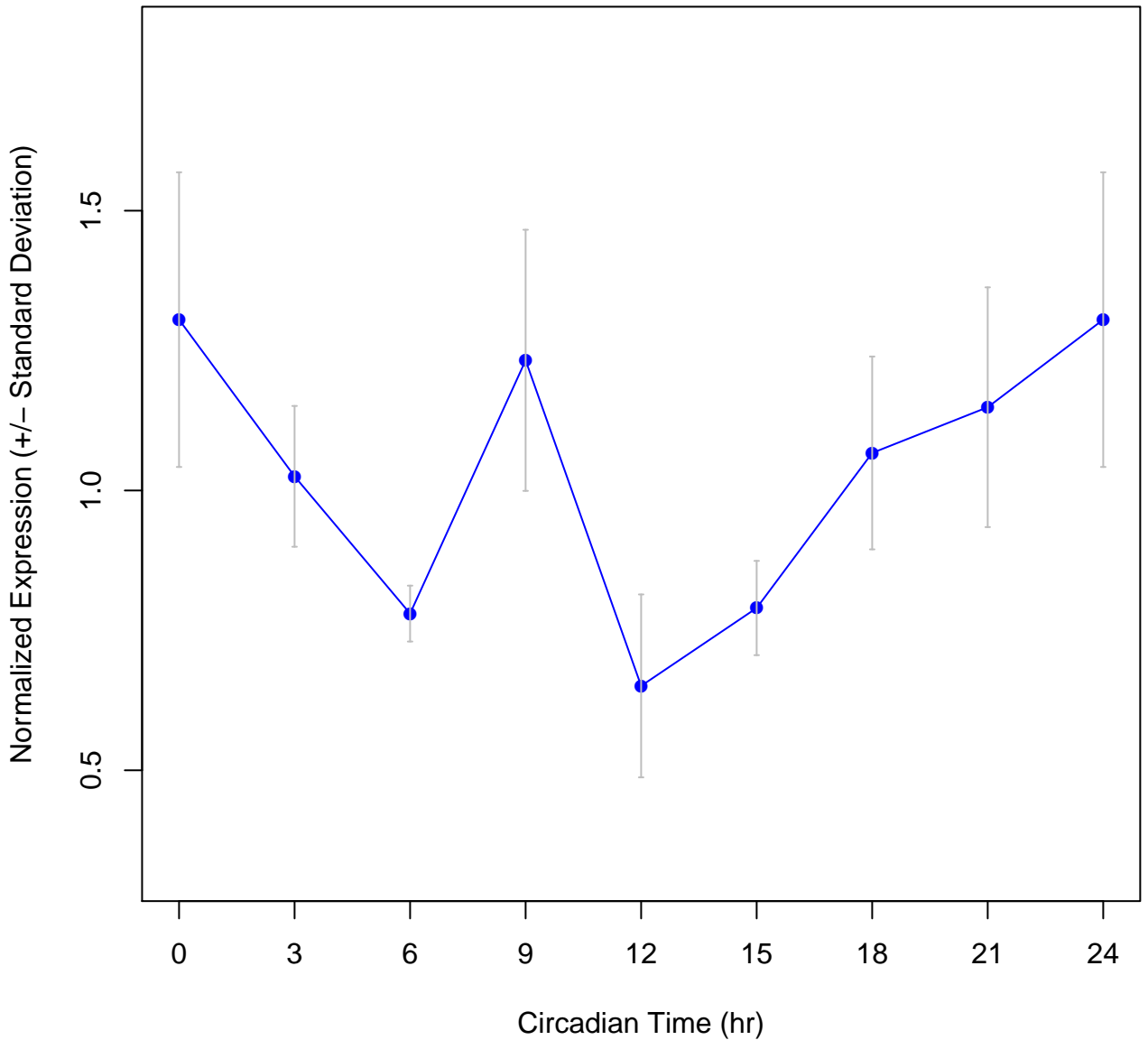
### Supplement Figure 3 chk1



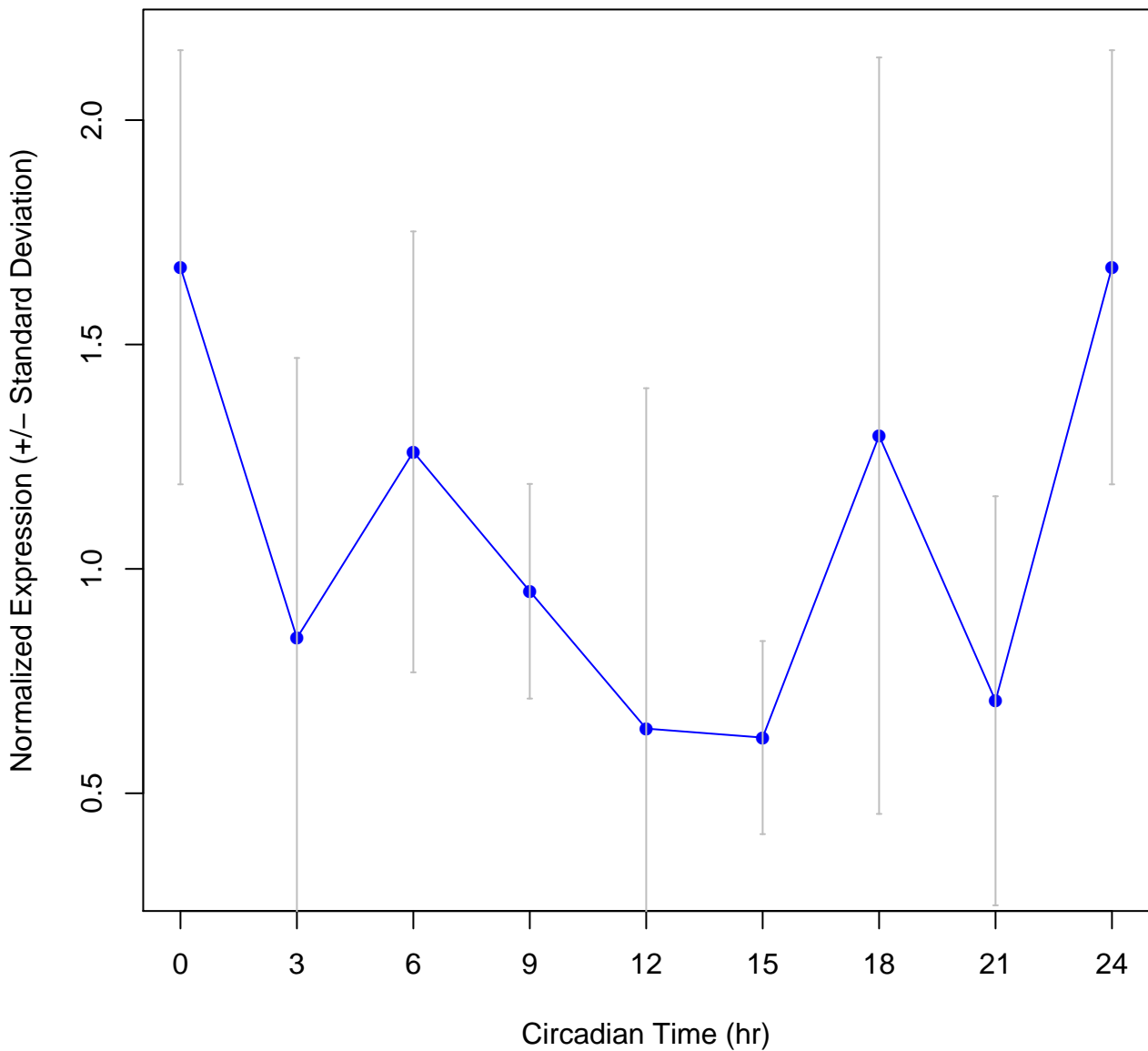
Supplement Figure 3 chrnb1



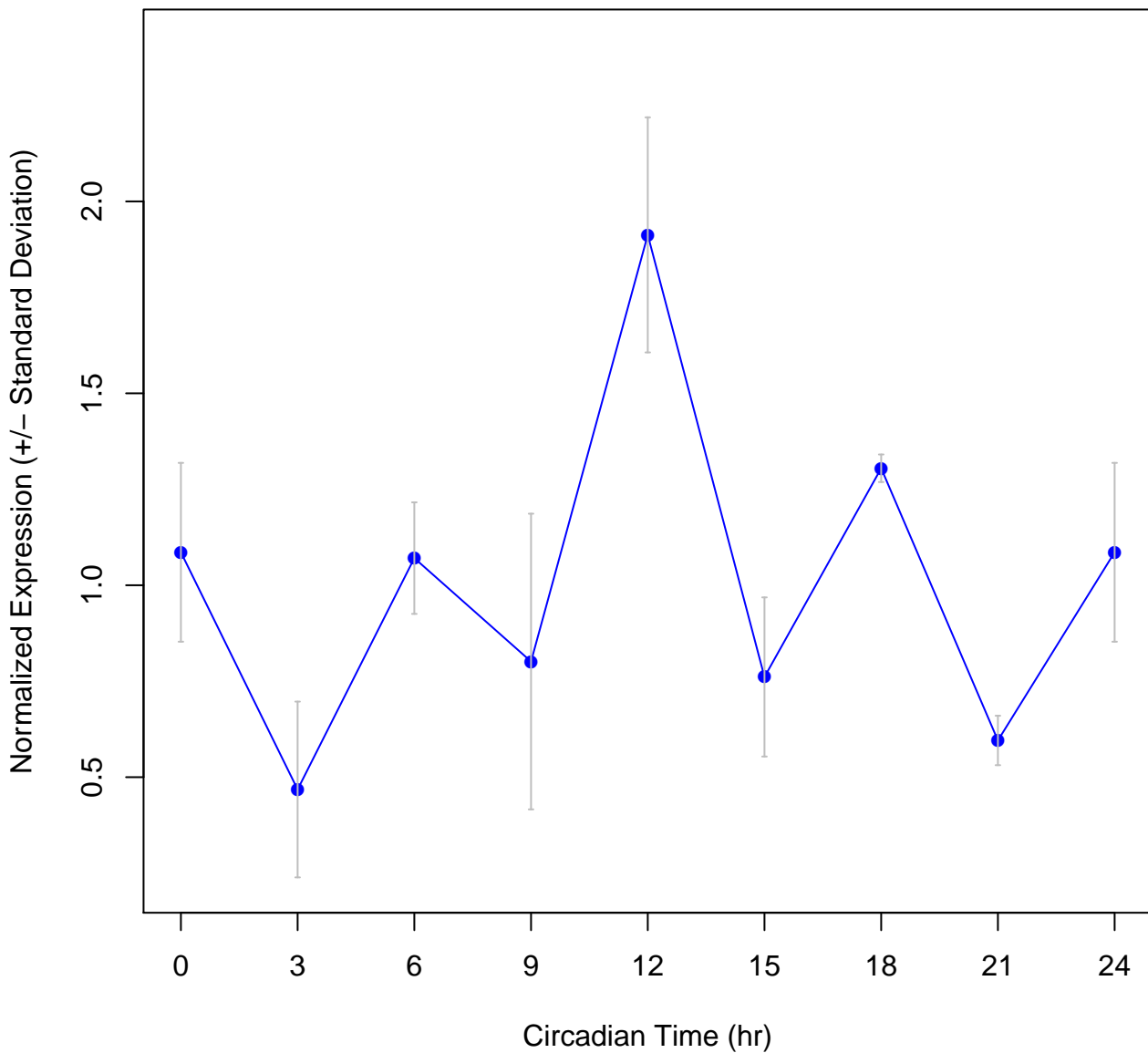
**Supplement Figure 3 ck1e**



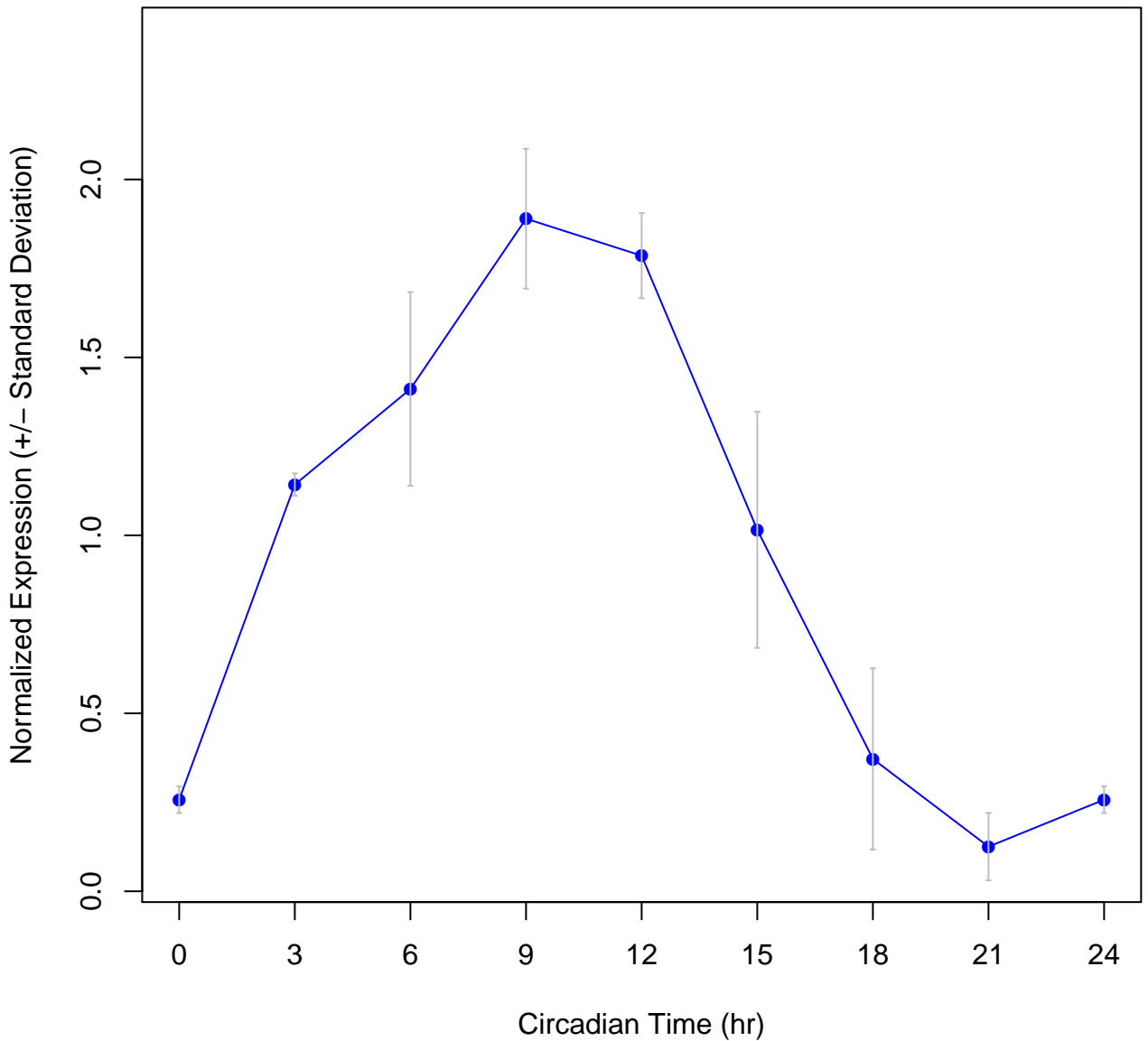
Supplement Figure 3 ckm



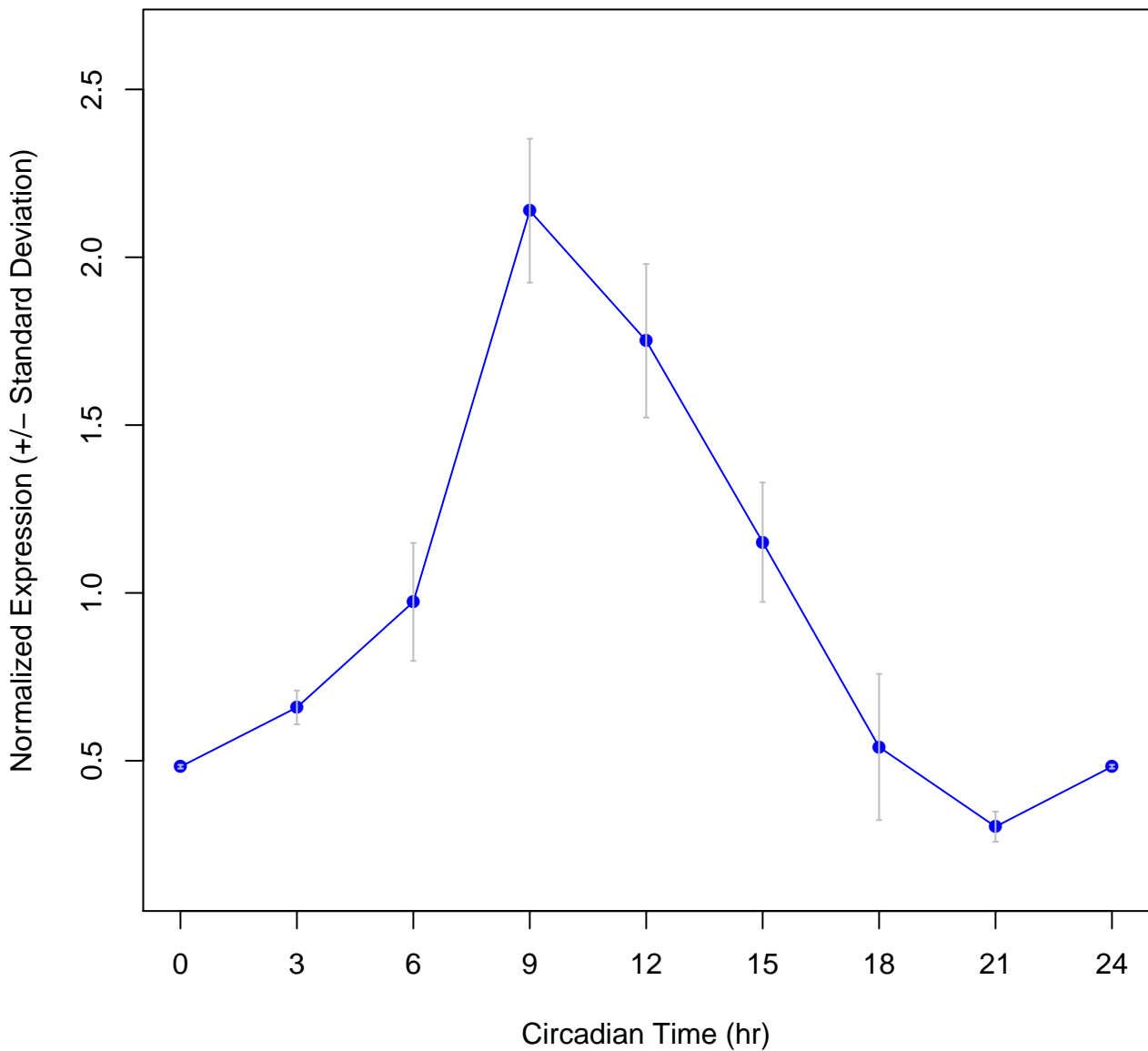
### Supplement Figure 3 cks2



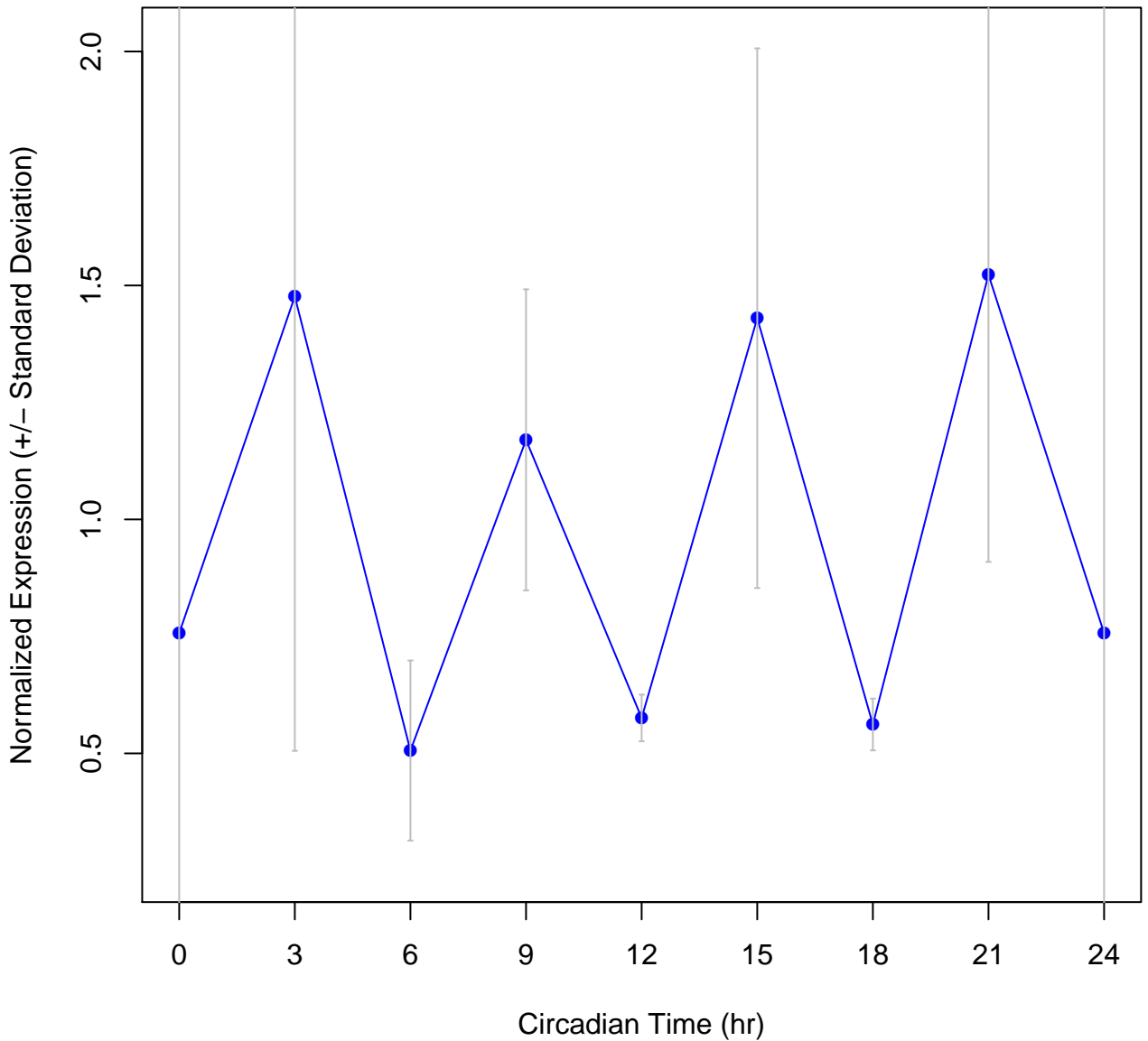
### Supplement Figure 3 clocka



**Supplement Figure 3 clockb**

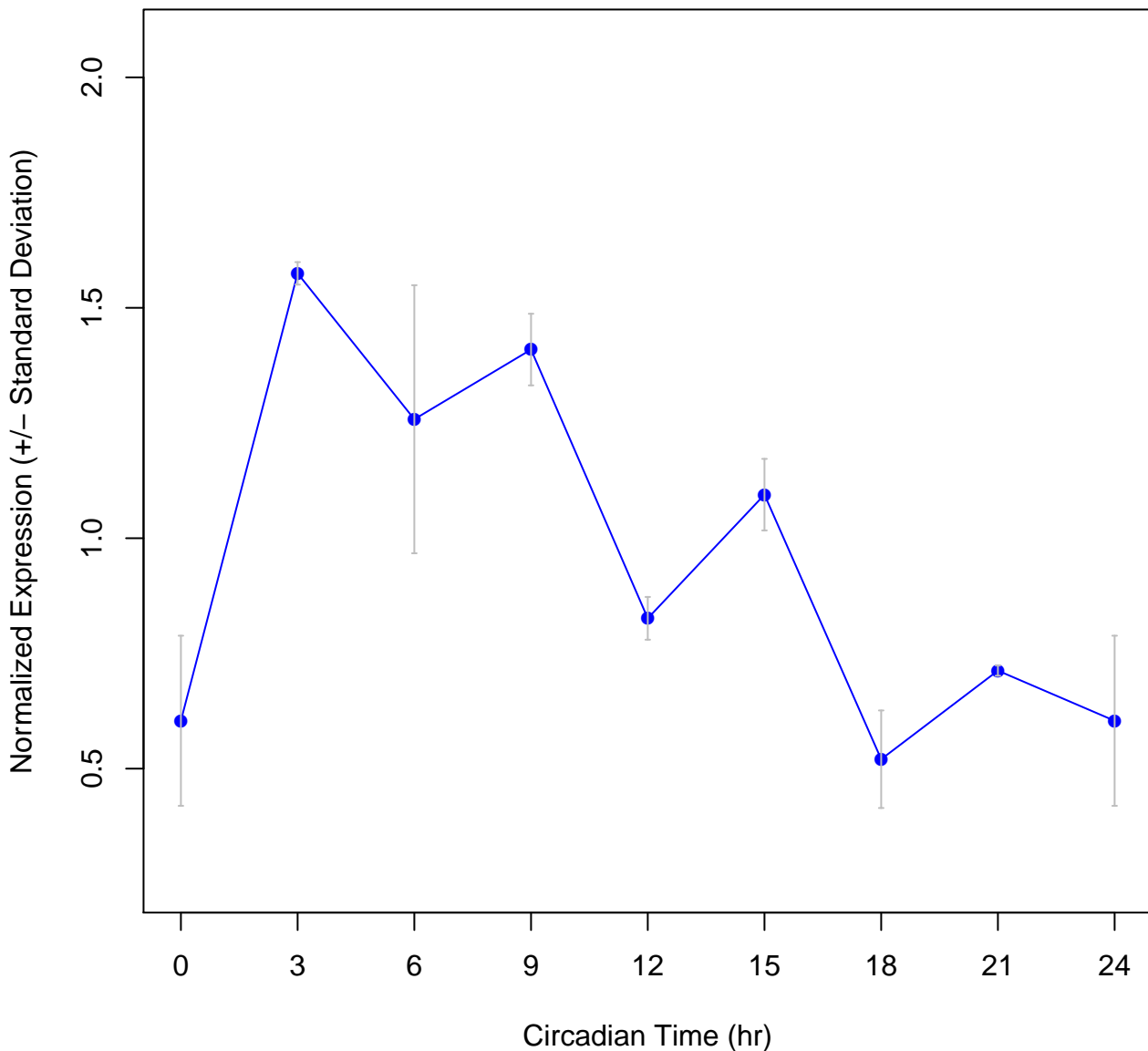


### Supplement Figure 3 col9a1

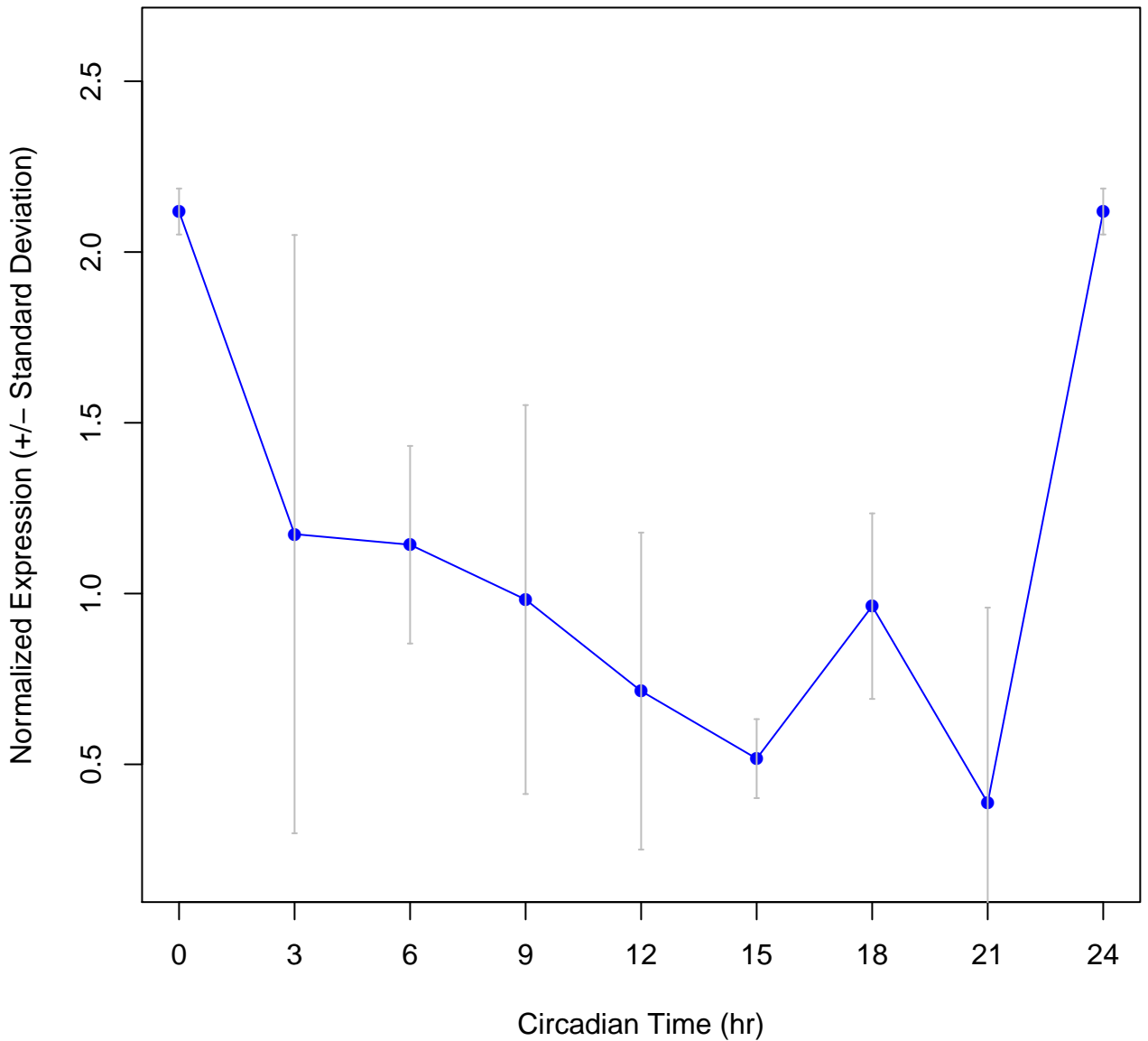




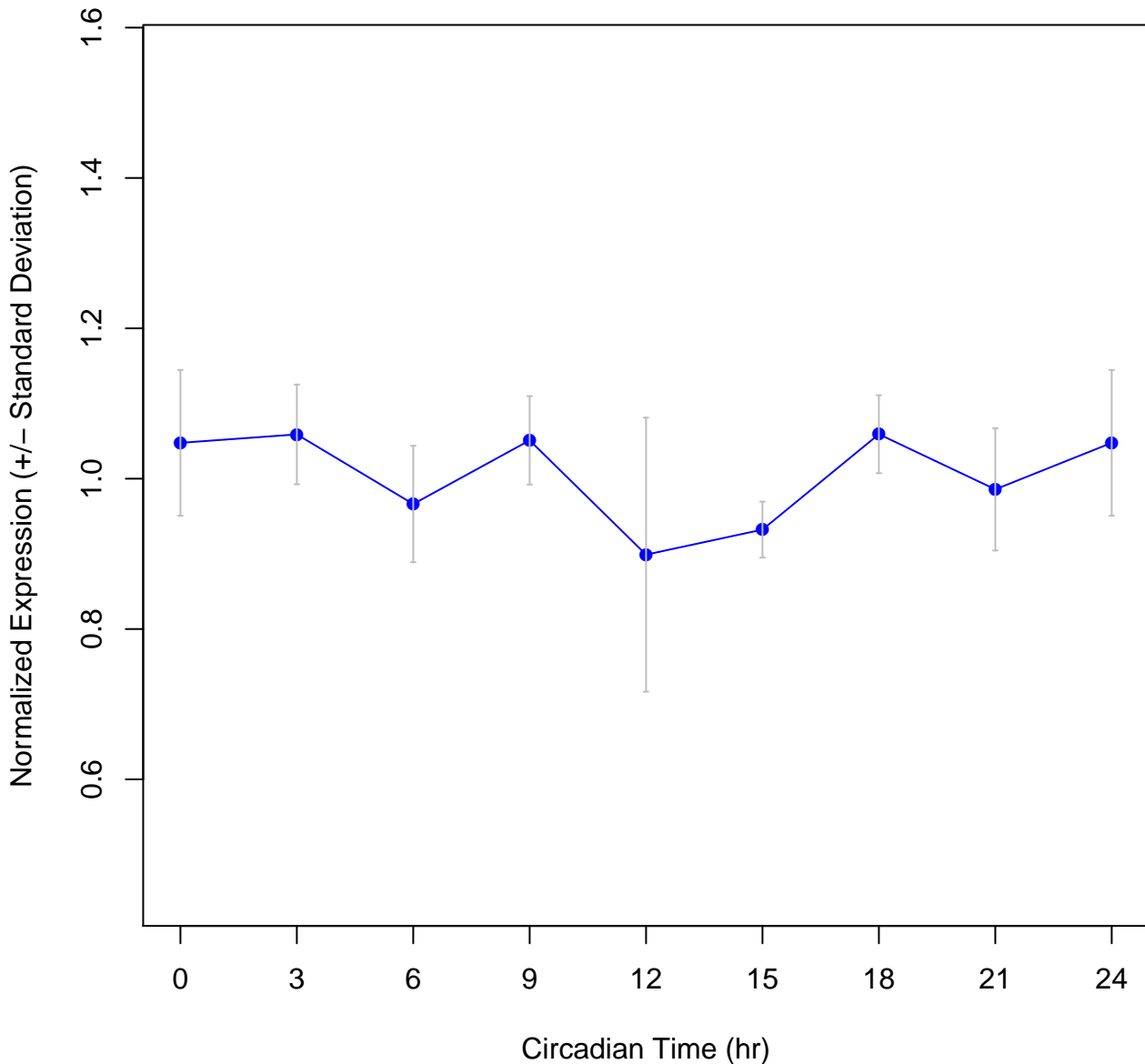
### Supplement Figure 3 cpd photolyase



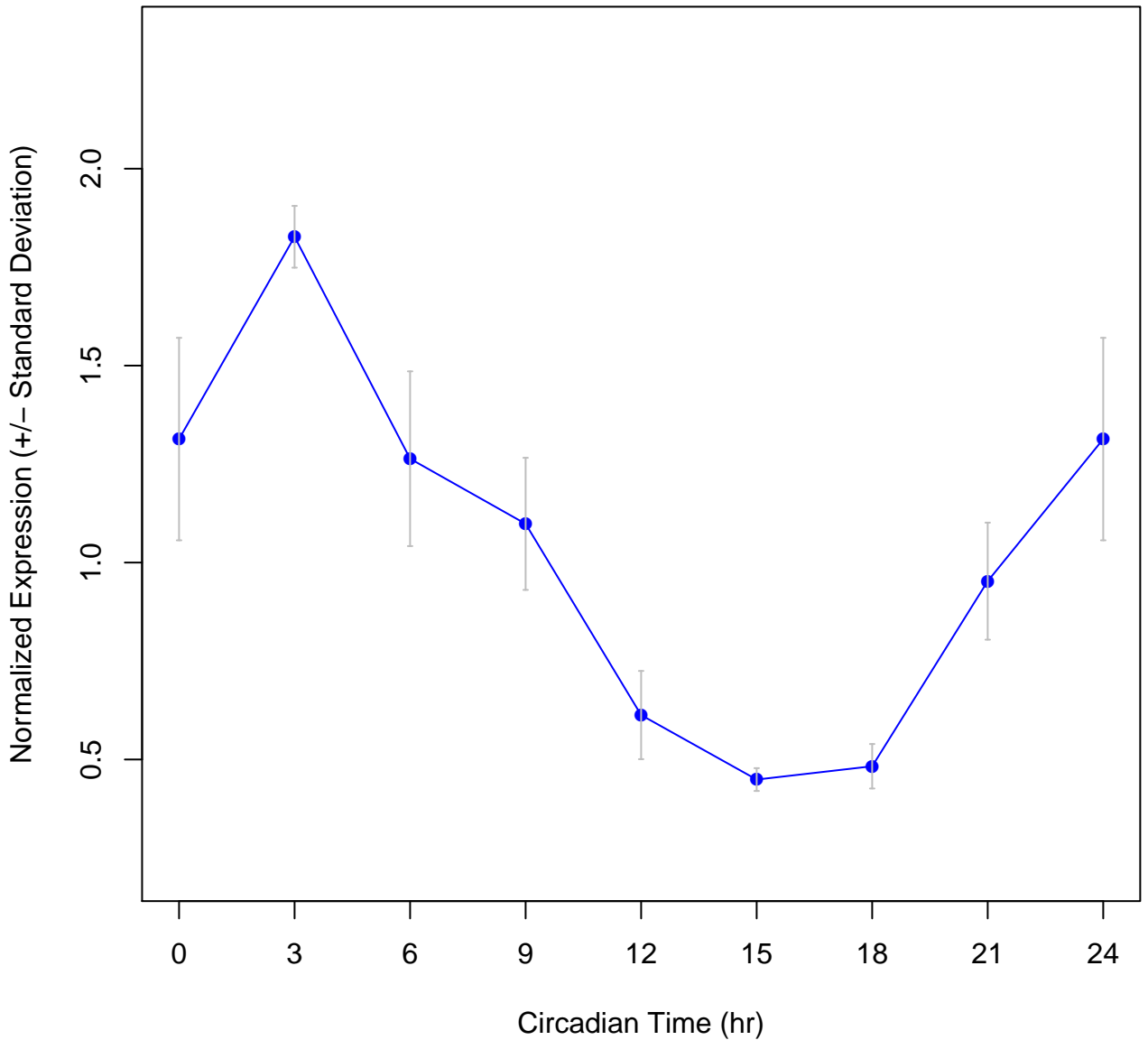
### Supplement Figure 3 creb5



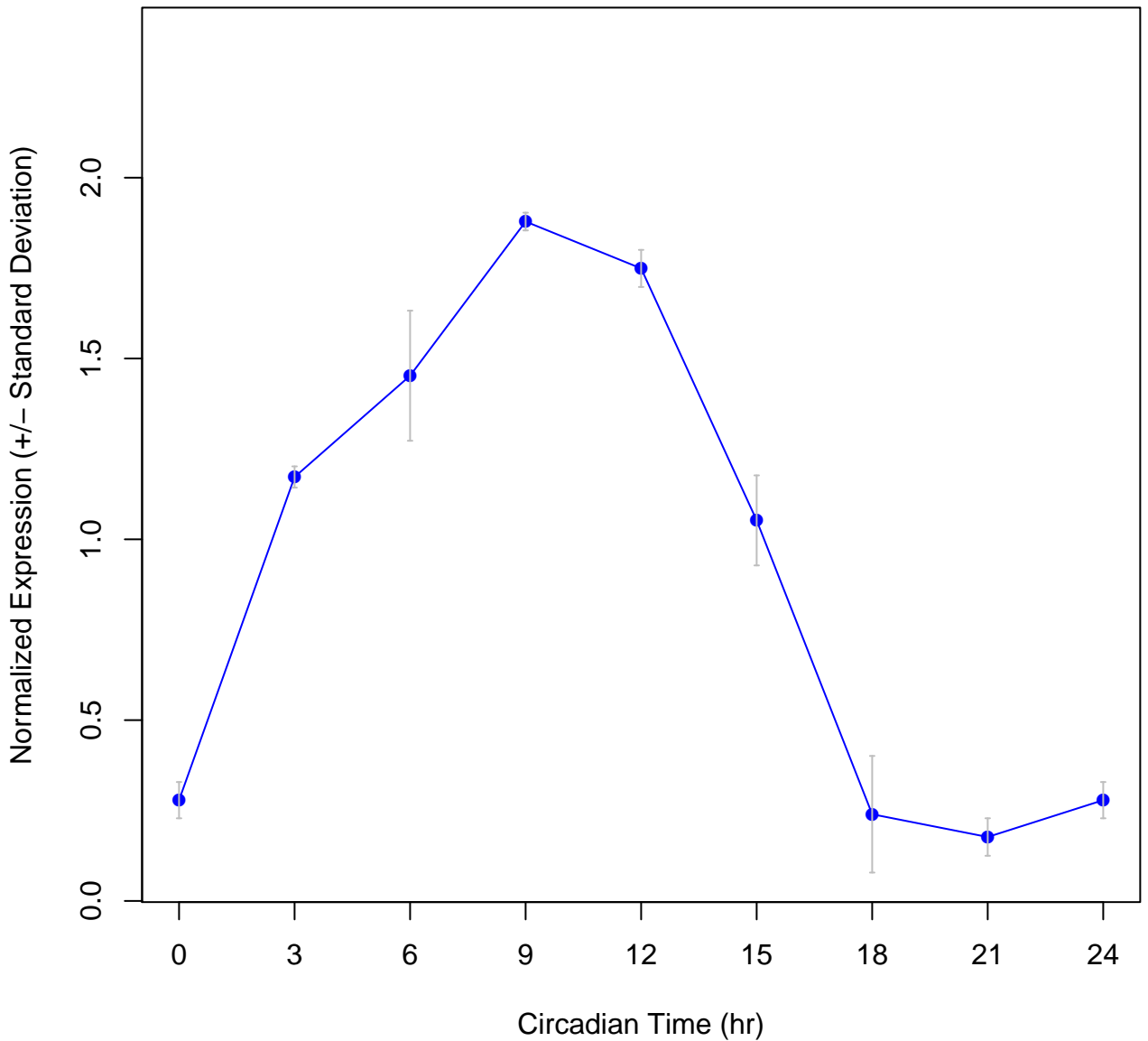
Supplement Figure 3 crtc2



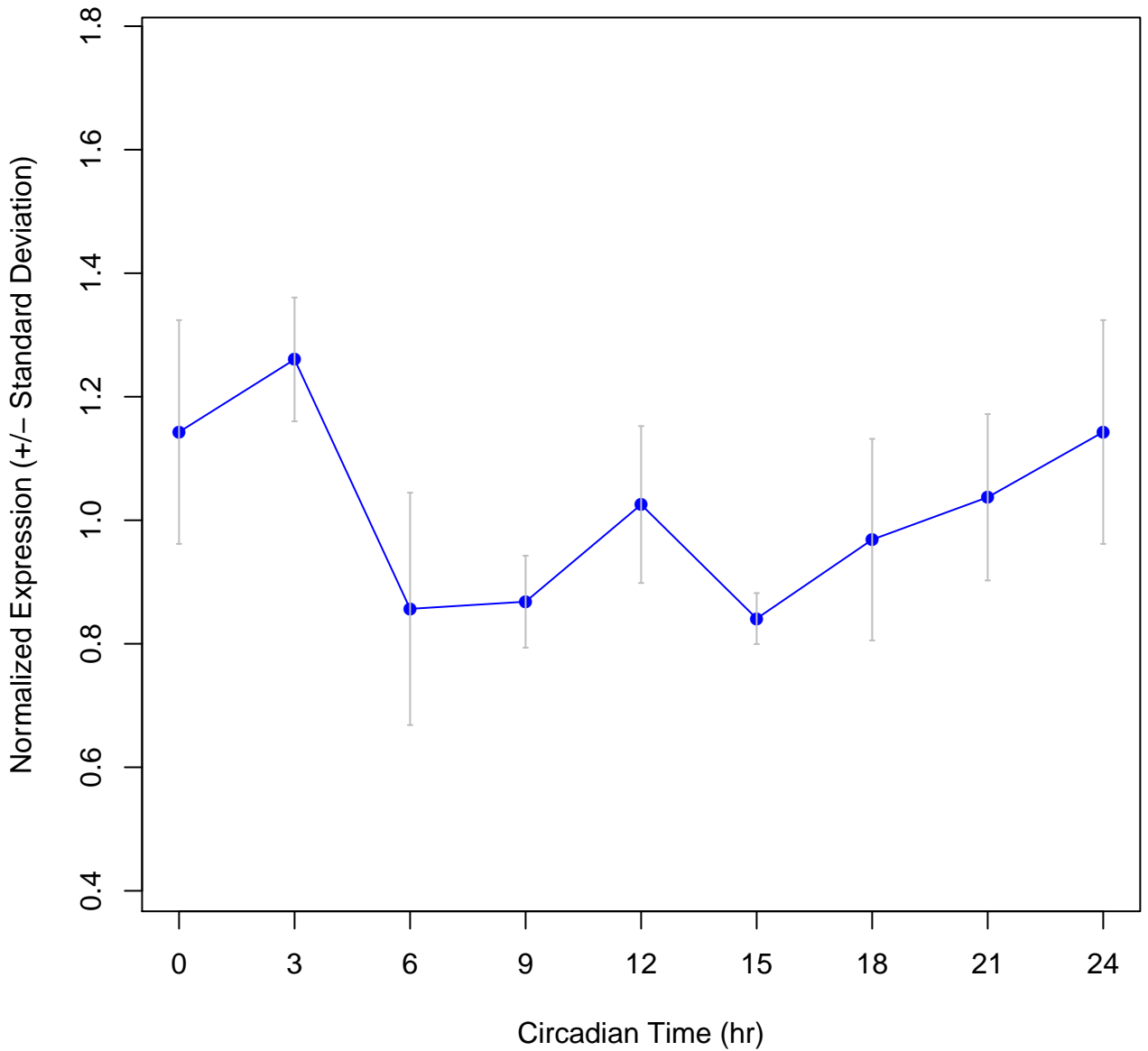
Supplement Figure 3 cry1



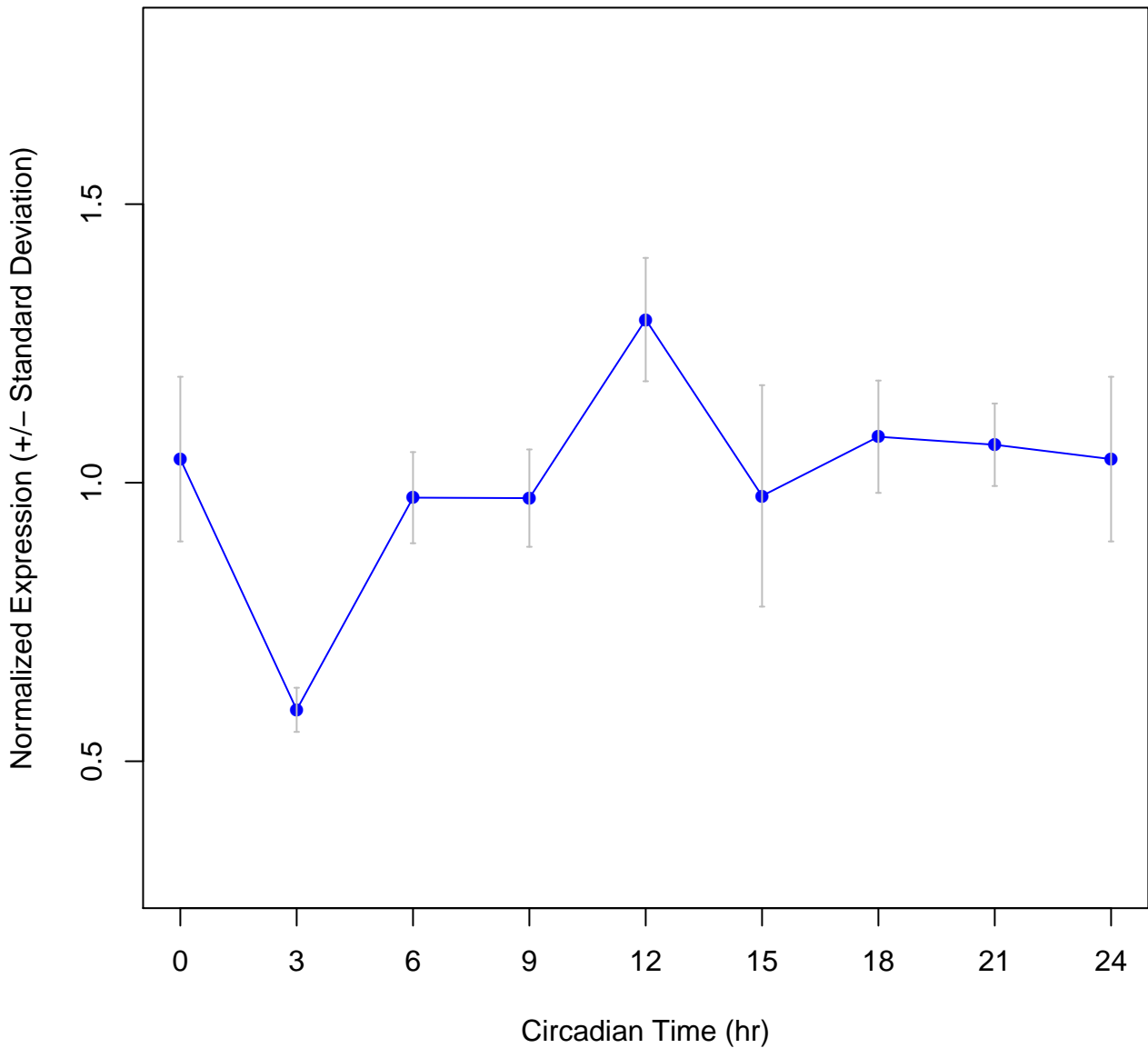
**Supplement Figure 3 cry2**



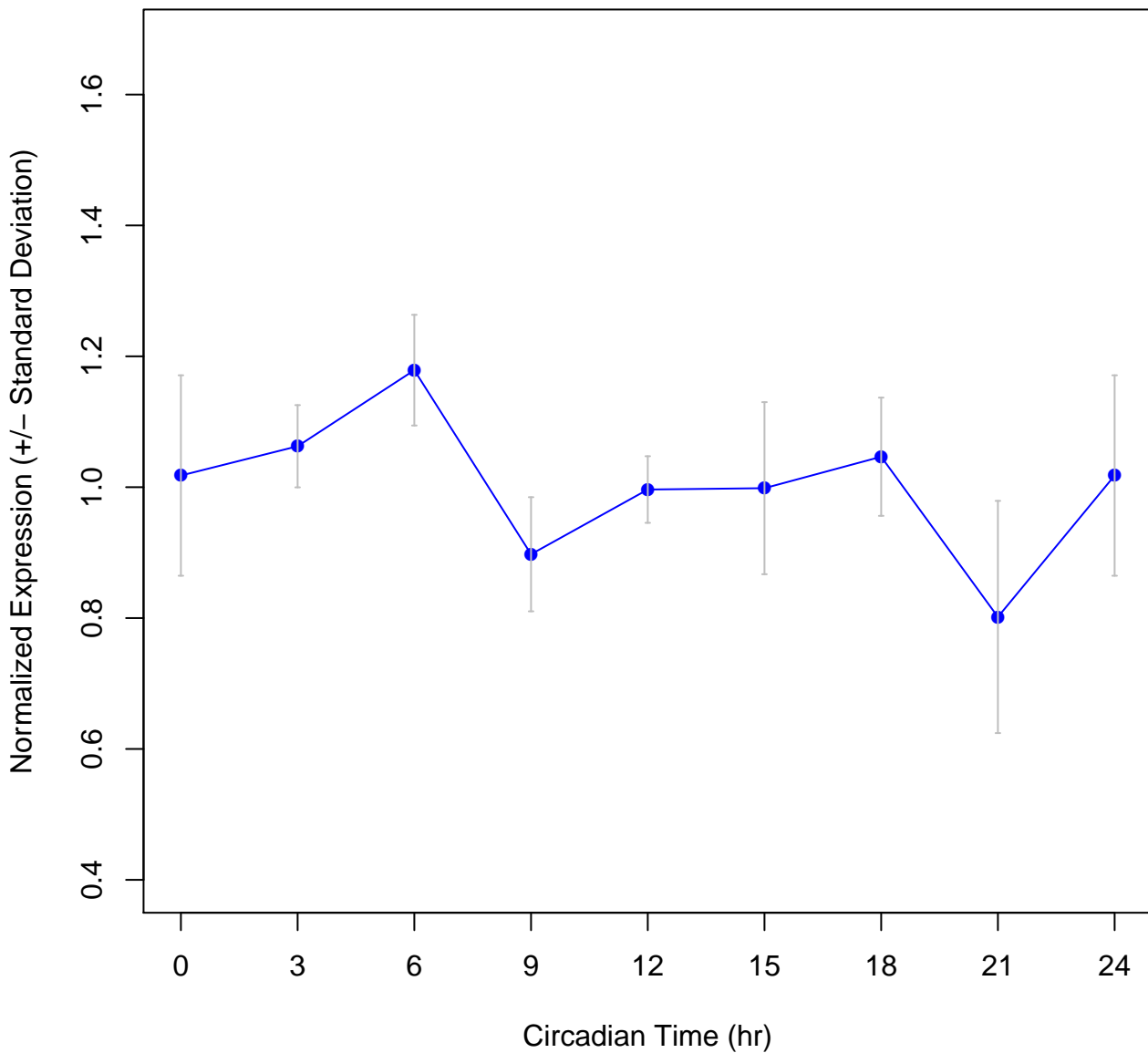
Supplement Figure 3 cry3



Supplement Figure 3 ctbp2

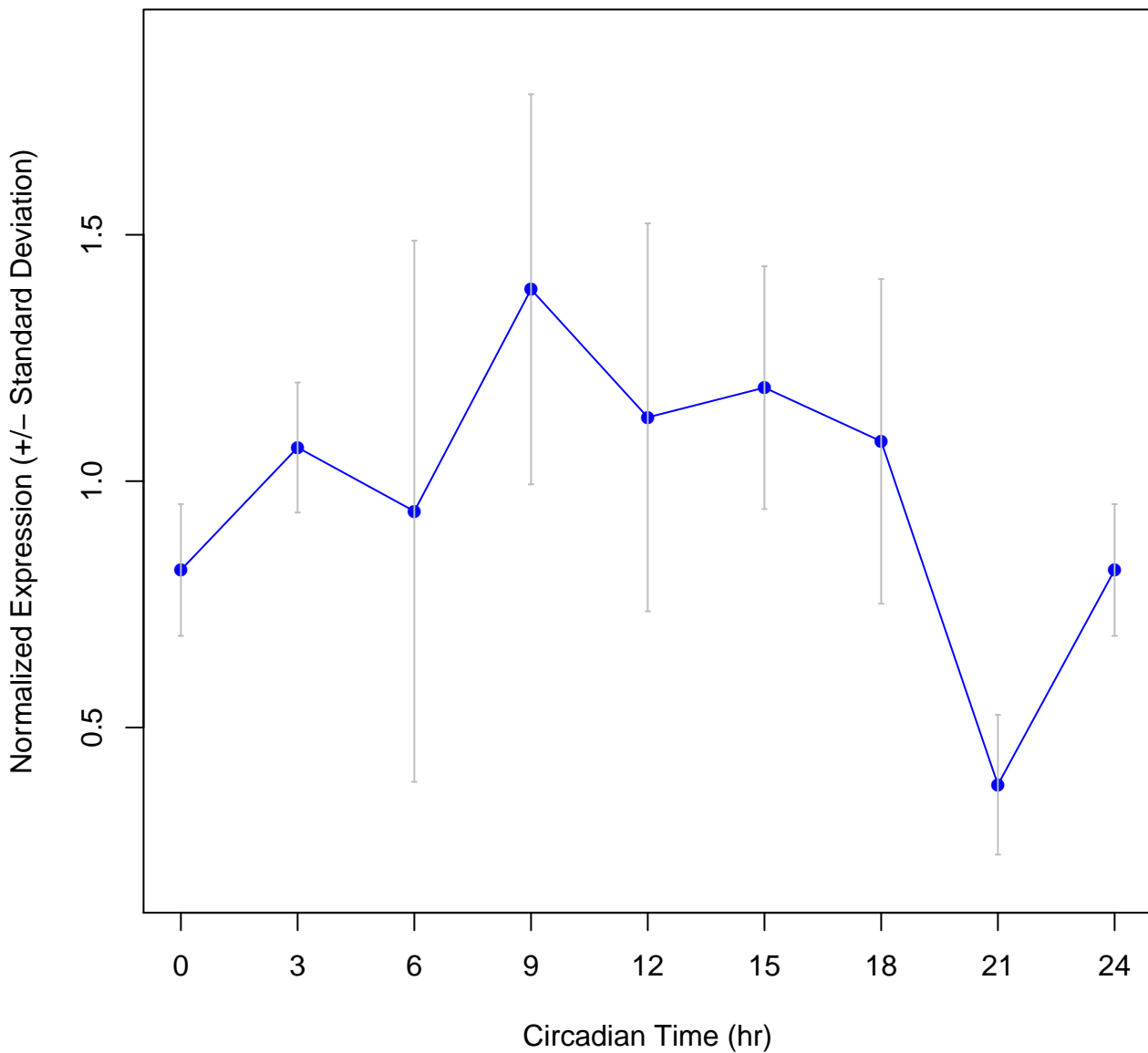


Supplement Figure 3 cul1

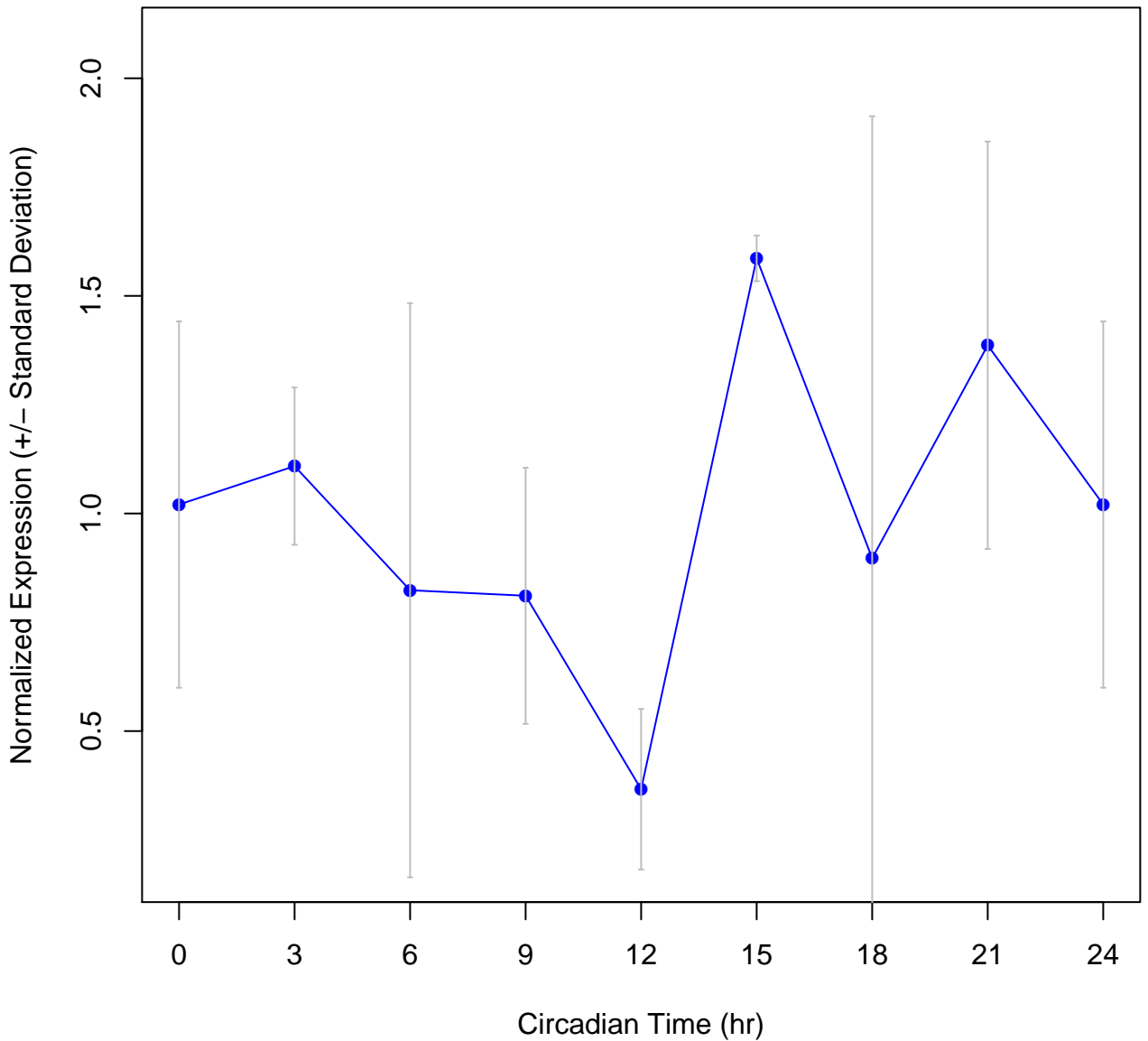




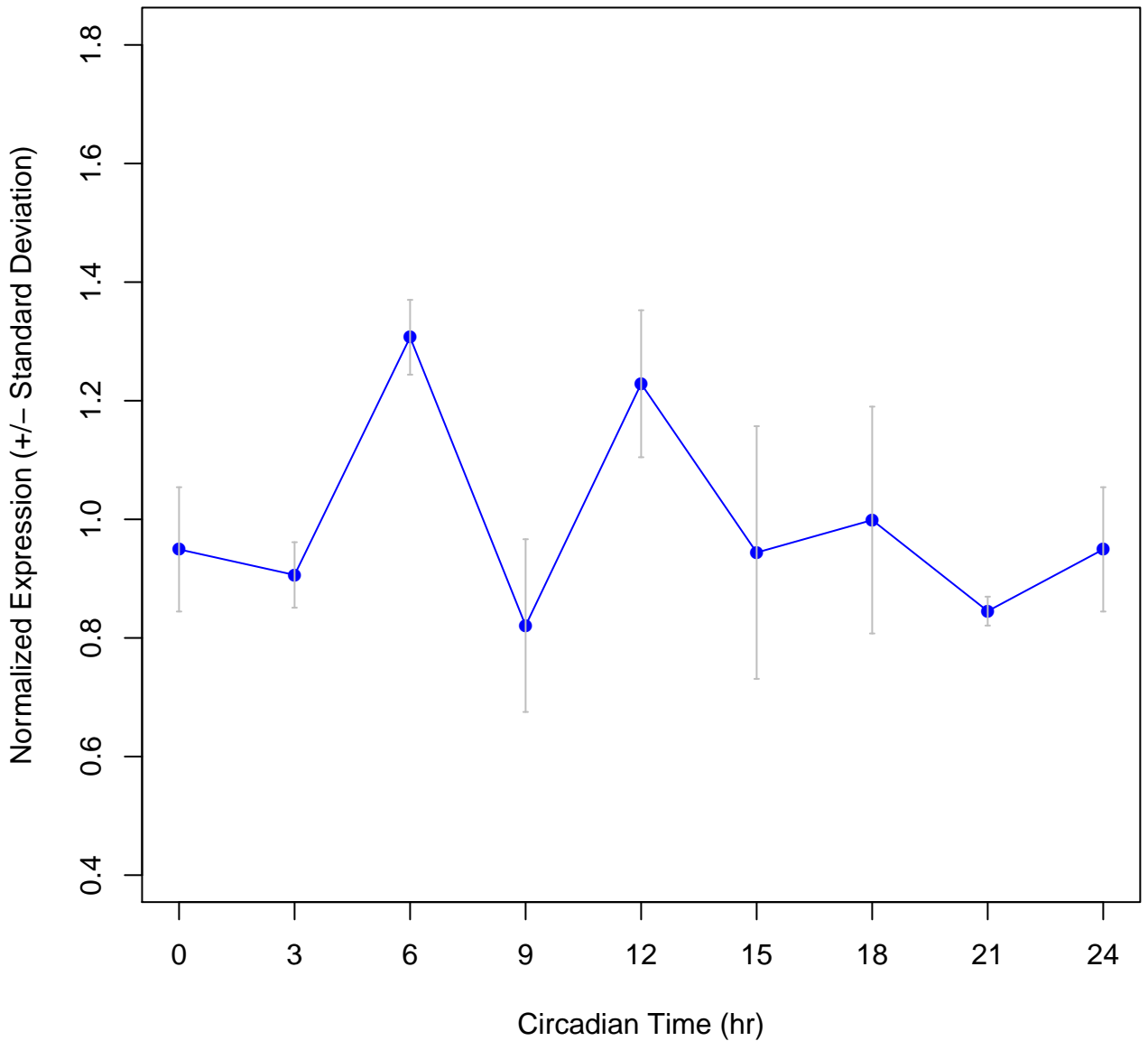
Supplement Figure 3 cyp1



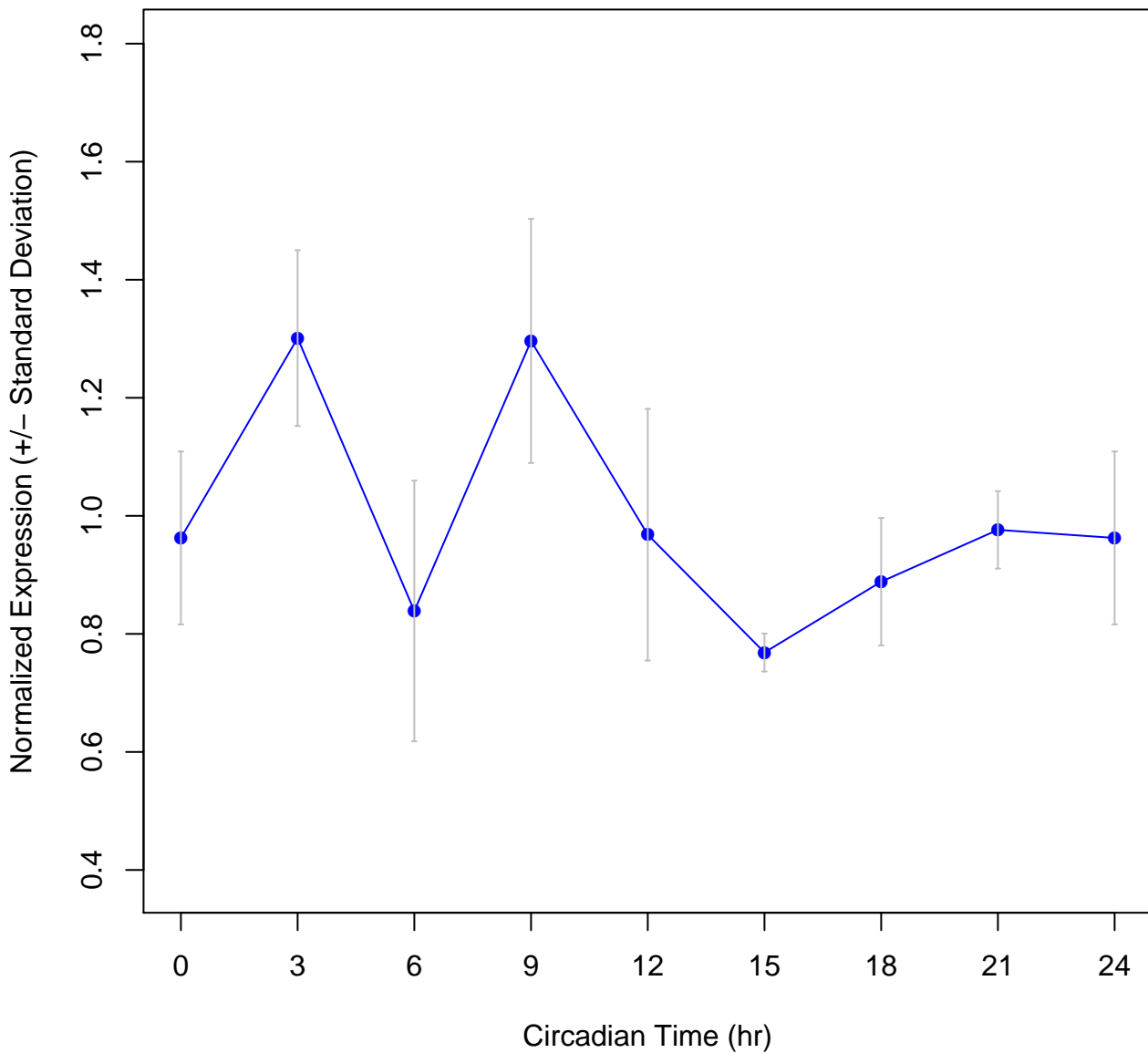
Supplement Figure 3 dct



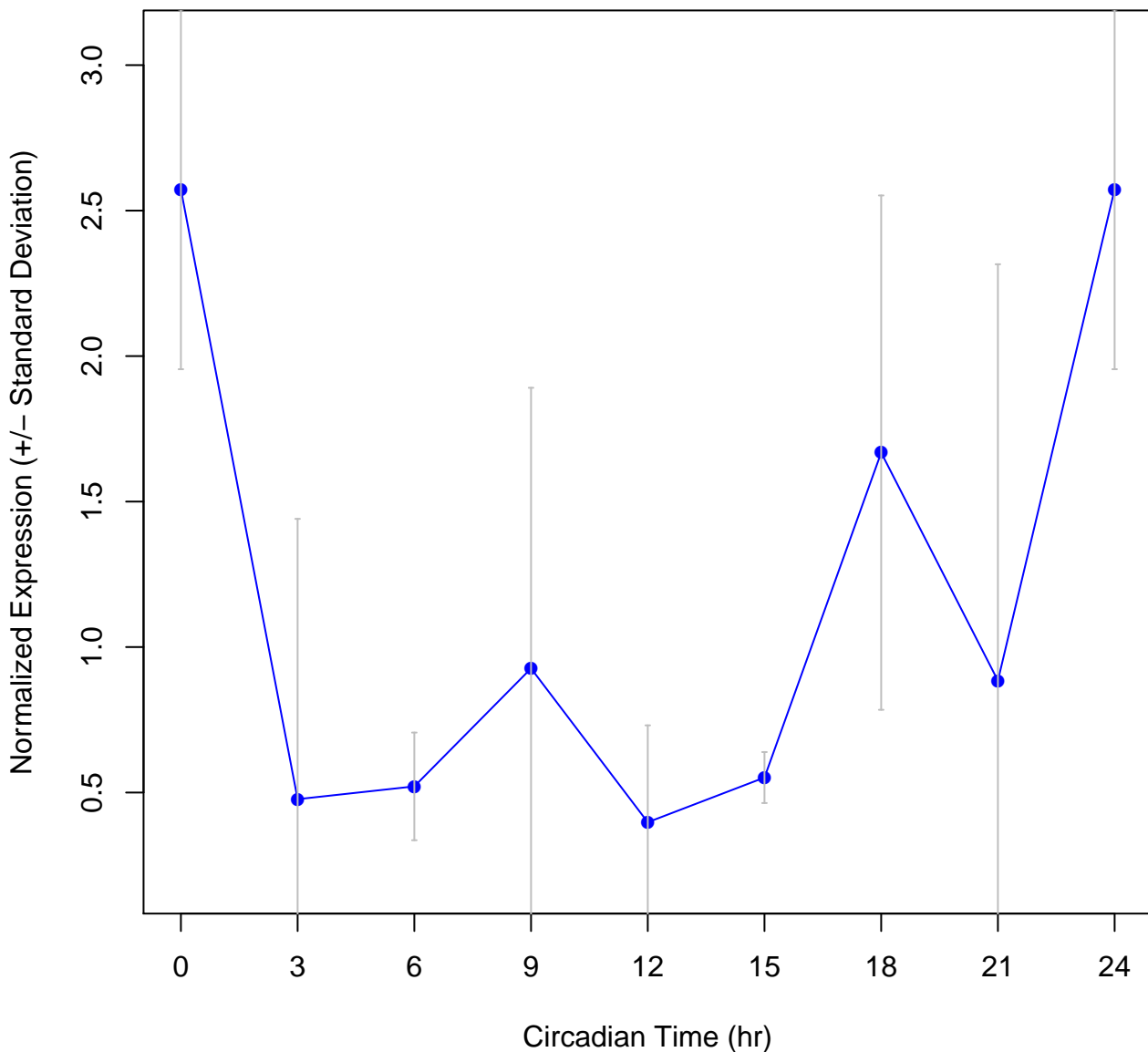
Supplement Figure 3 ddb1



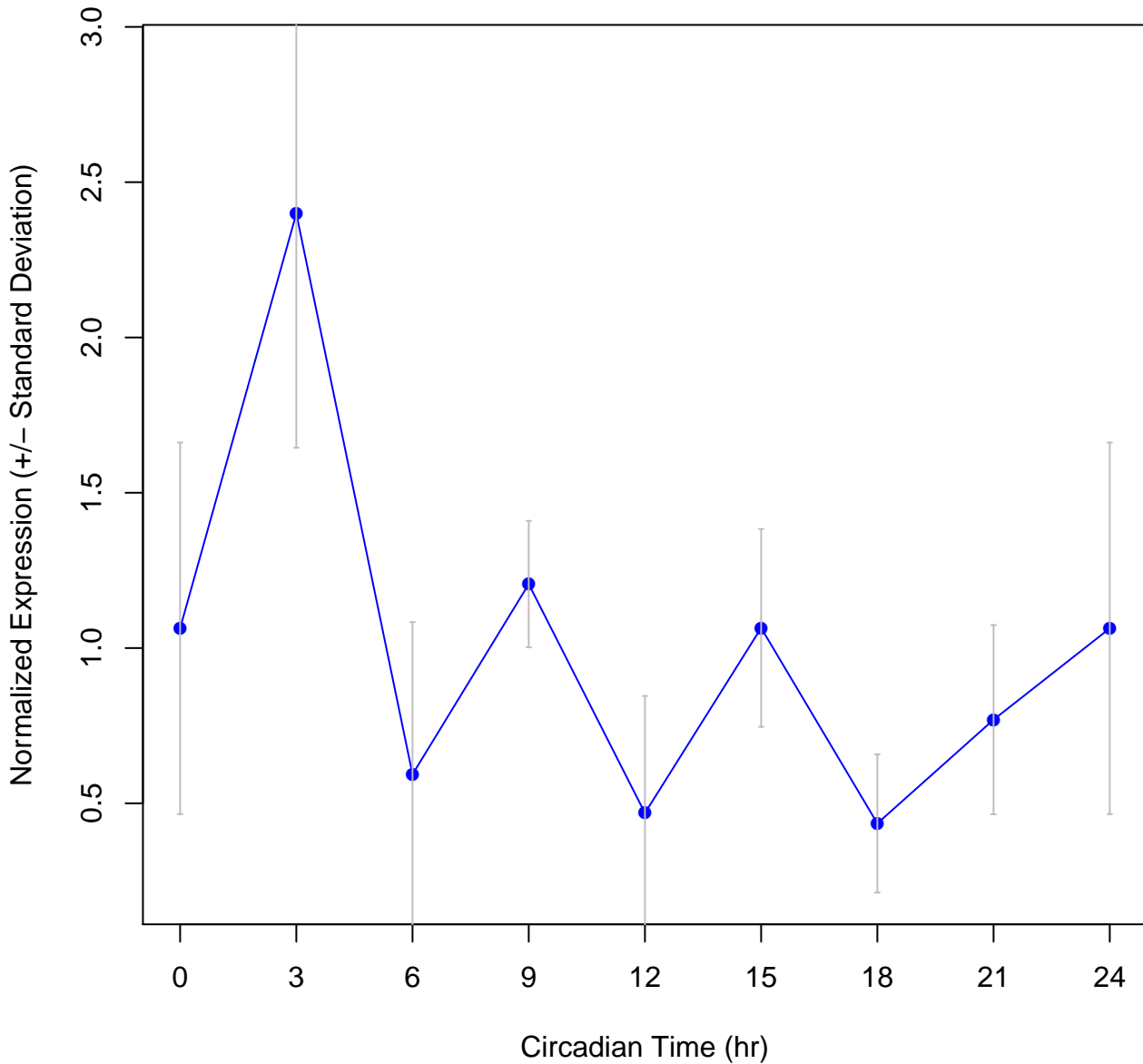
### Supplement Figure 3 ddb2



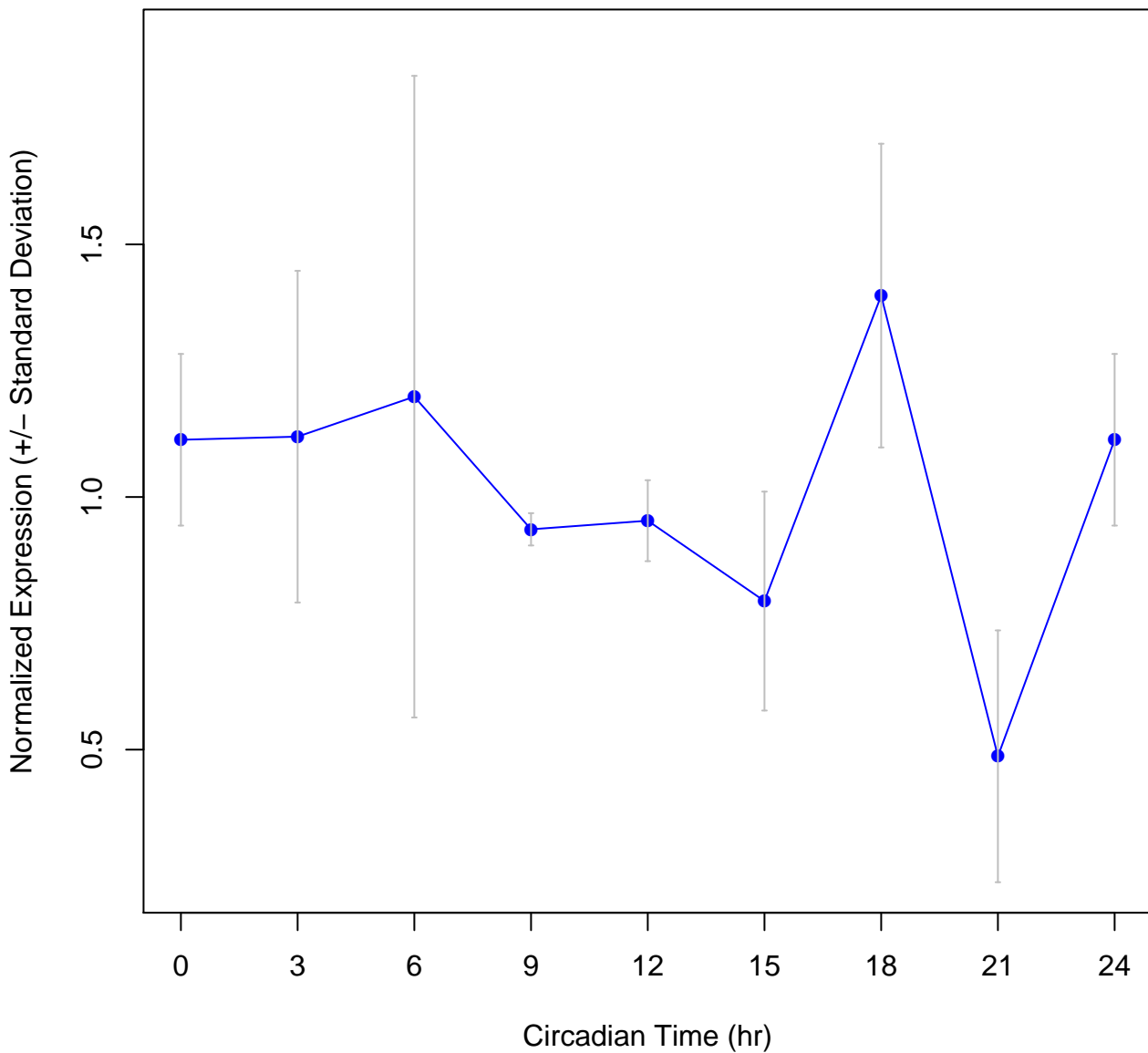
### Supplement Figure 3 dio3



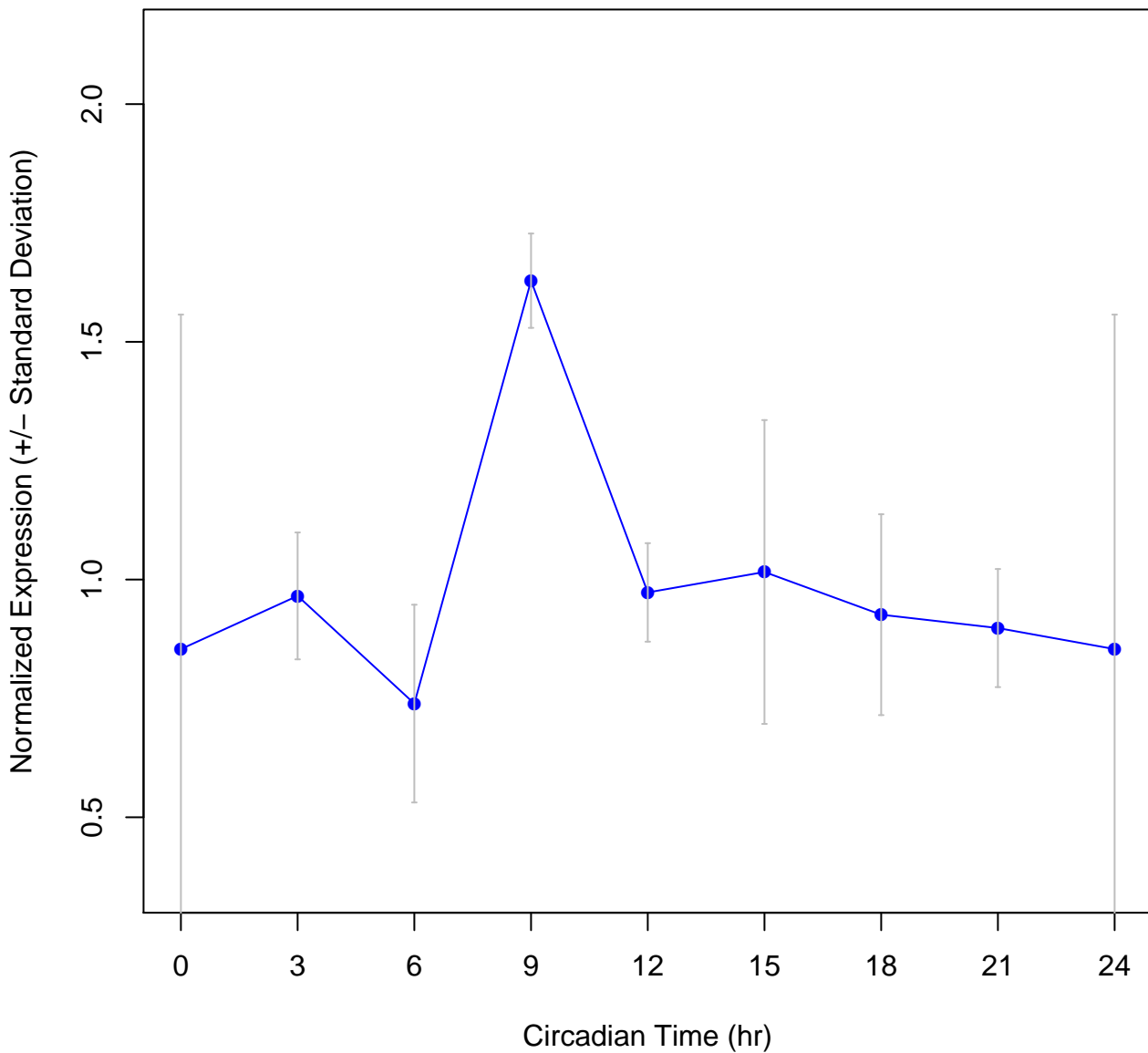
Supplement Figure 3 dnah7



### Supplement Figure 3 dnajb4

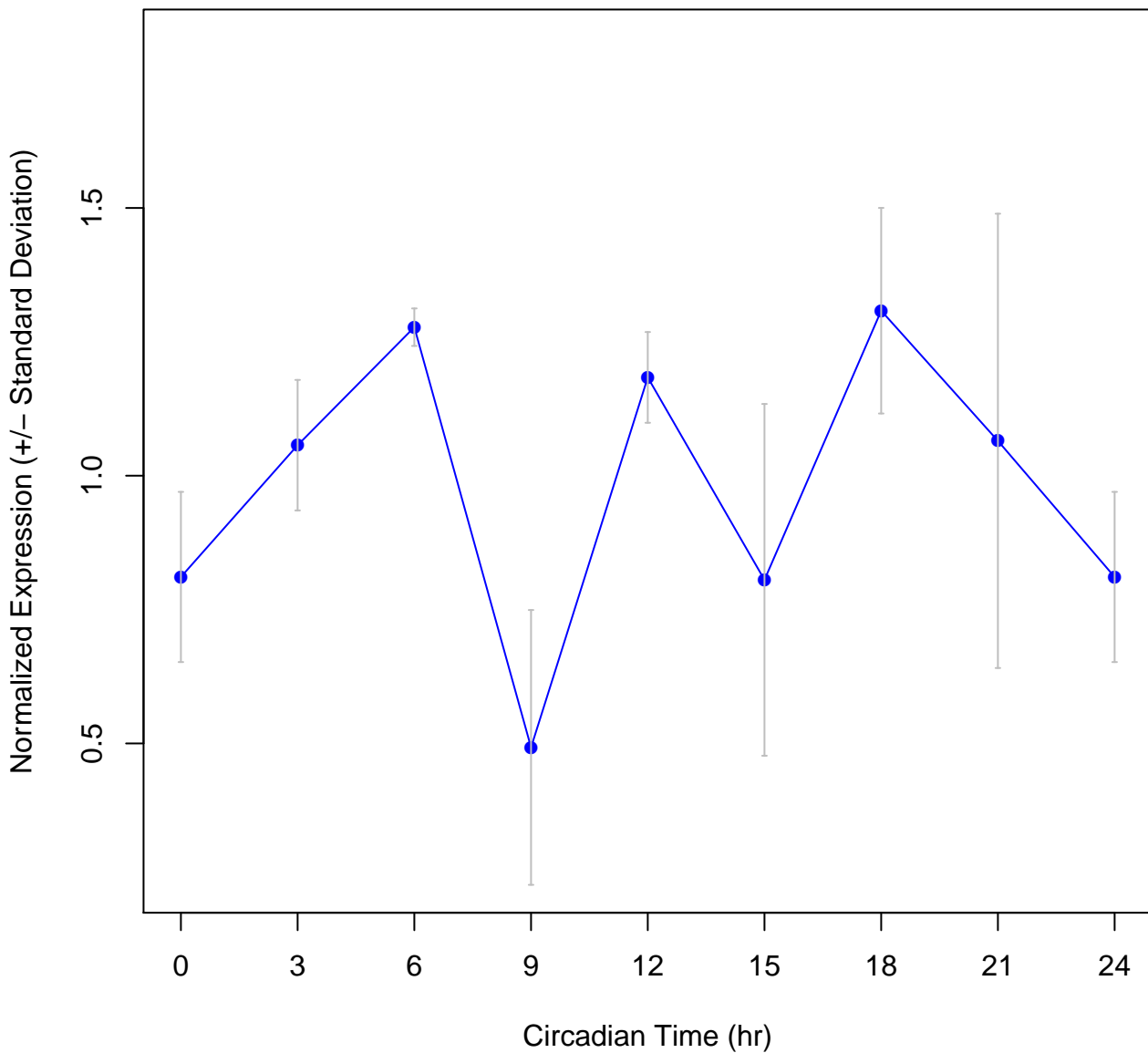


Supplement Figure 3 dscam1

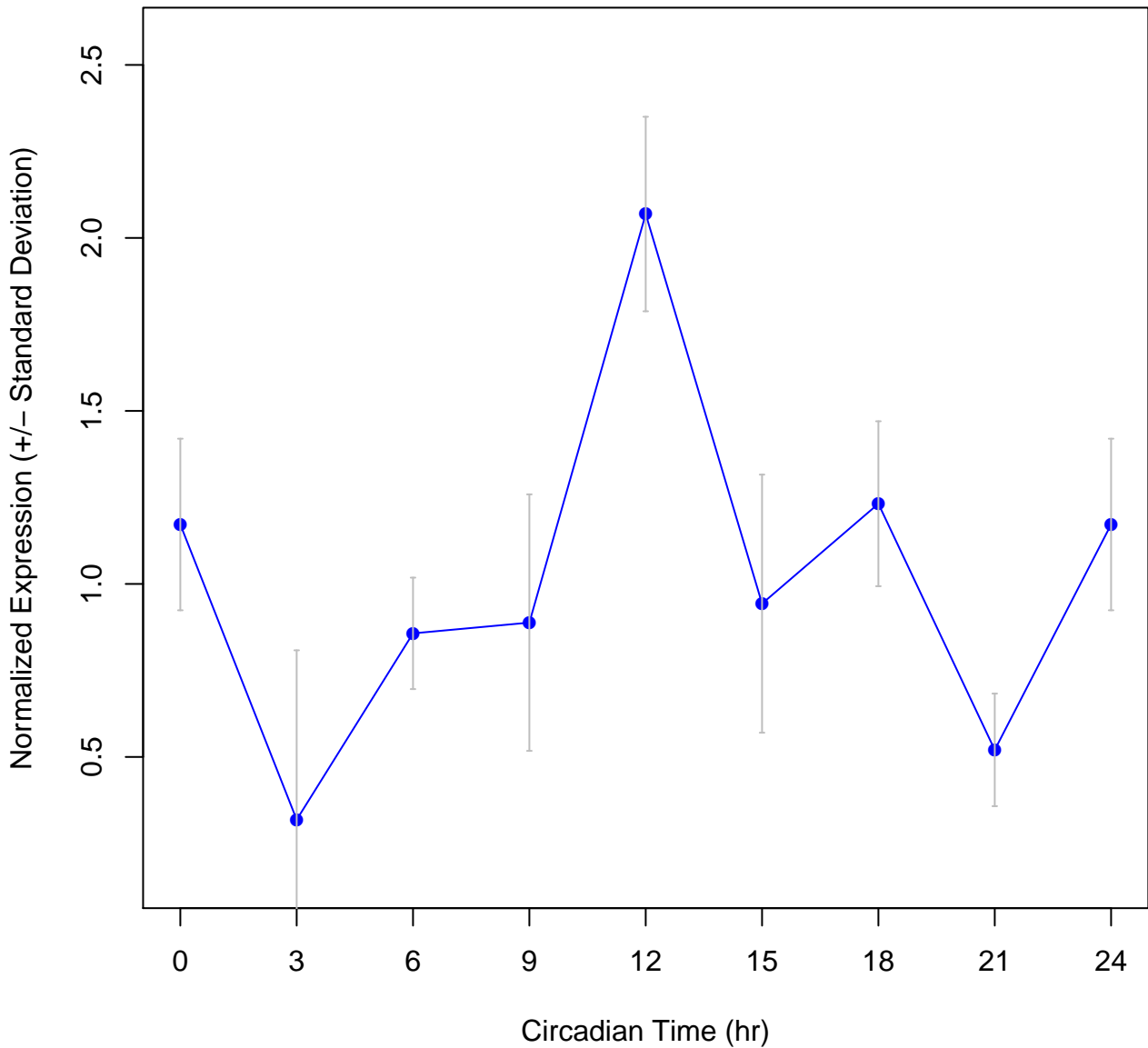




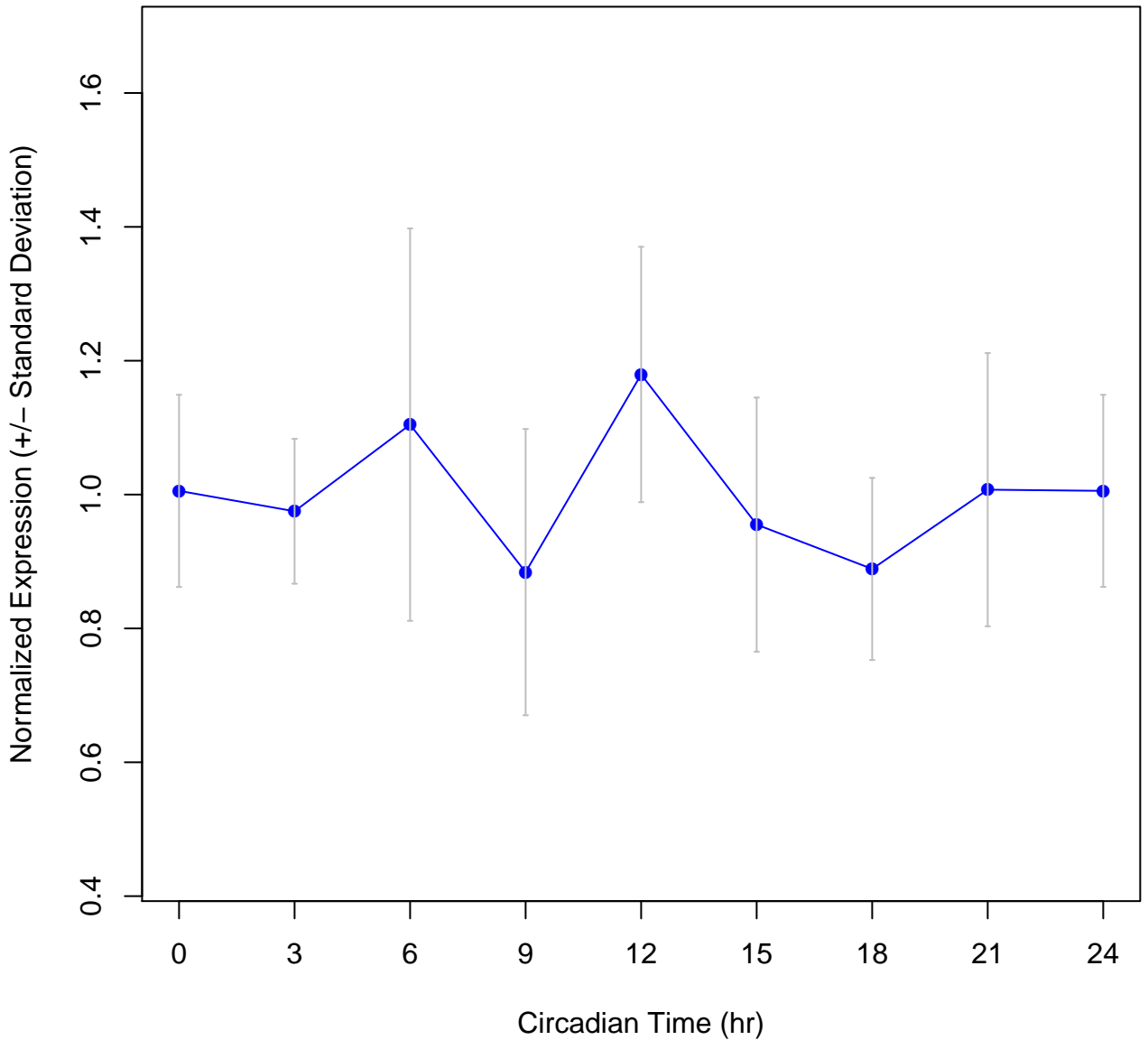
Supplement Figure 3 e2f



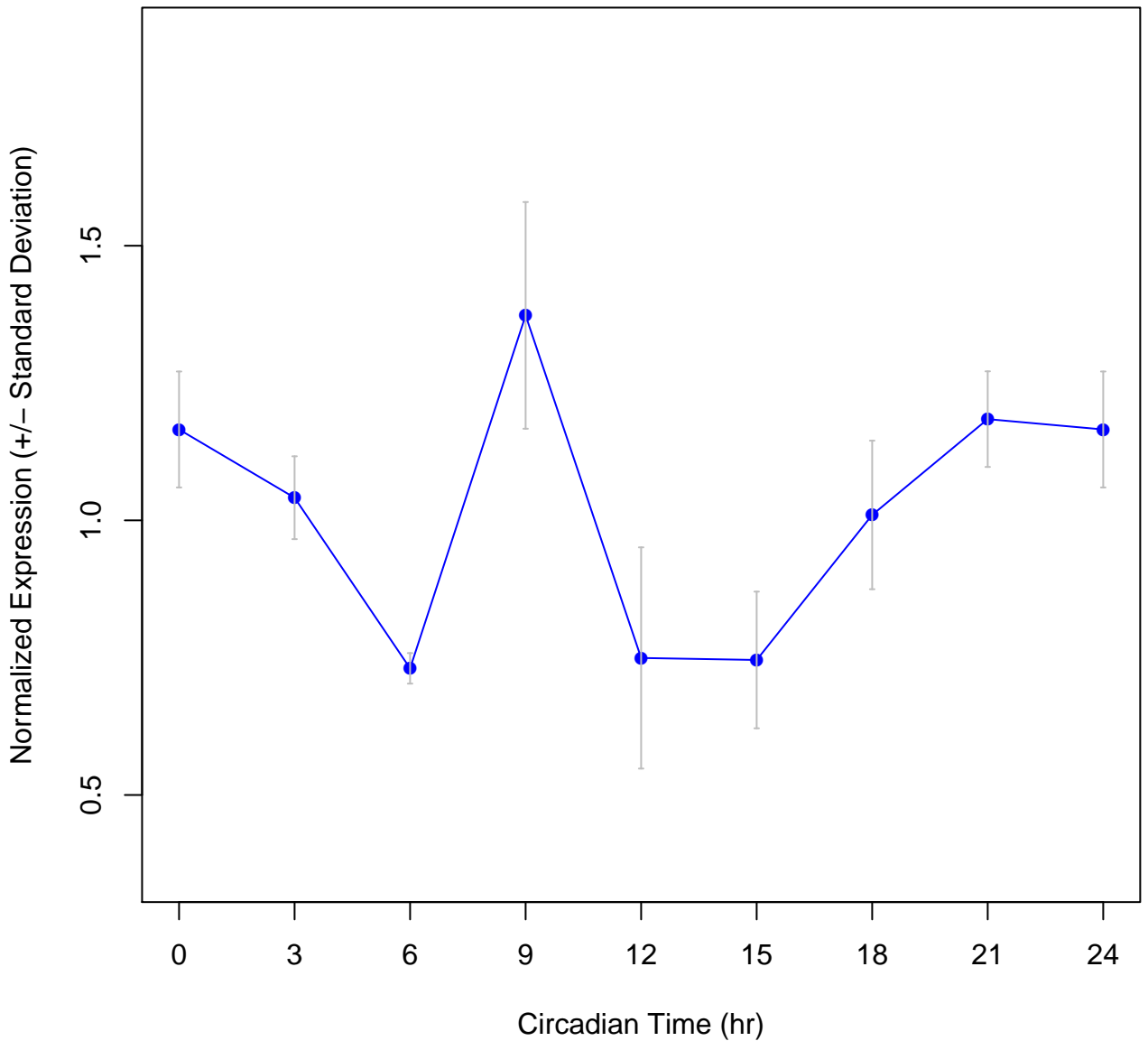
**Supplement Figure 3 ect2**



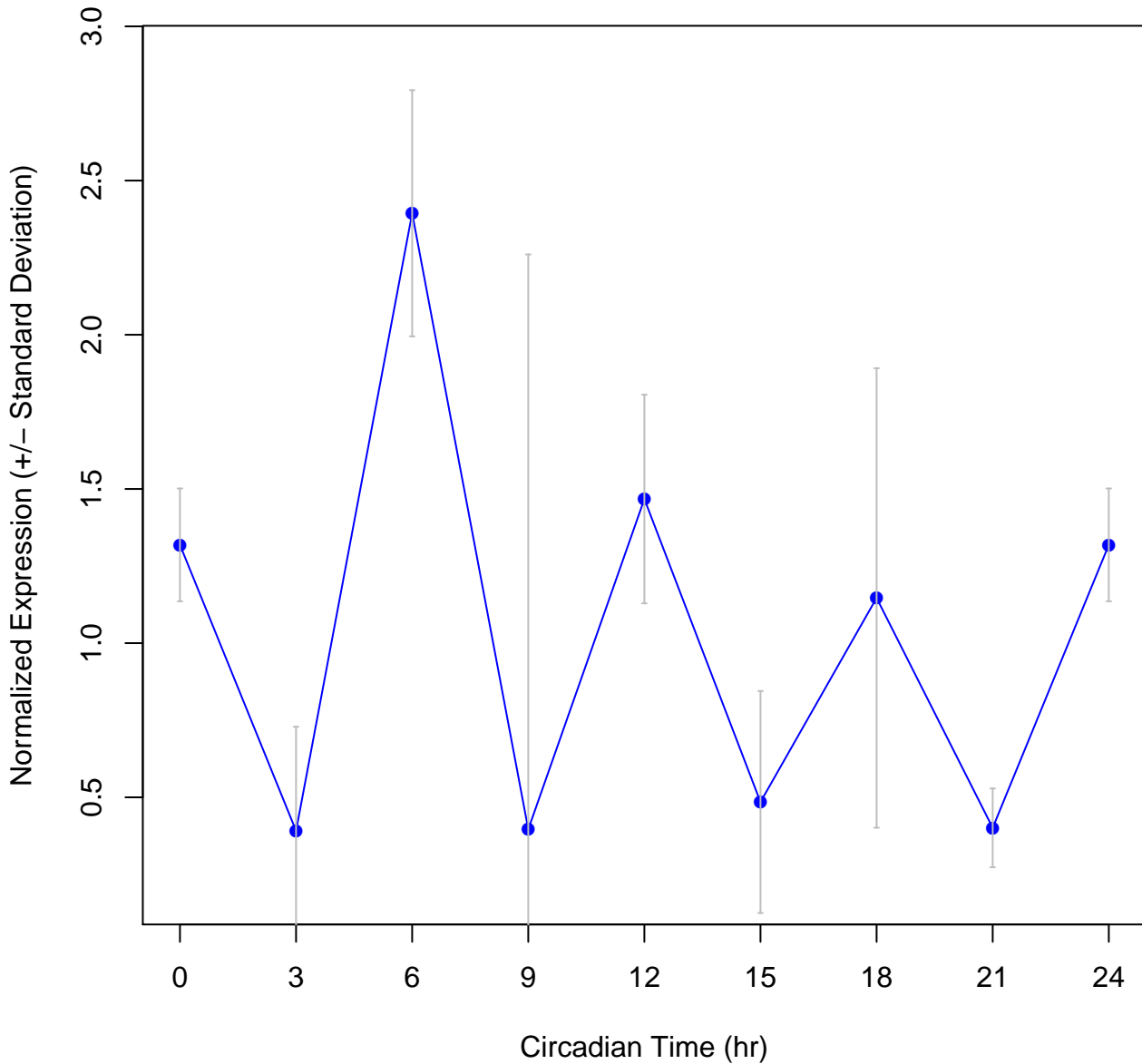
Supplement Figure 3 enox1



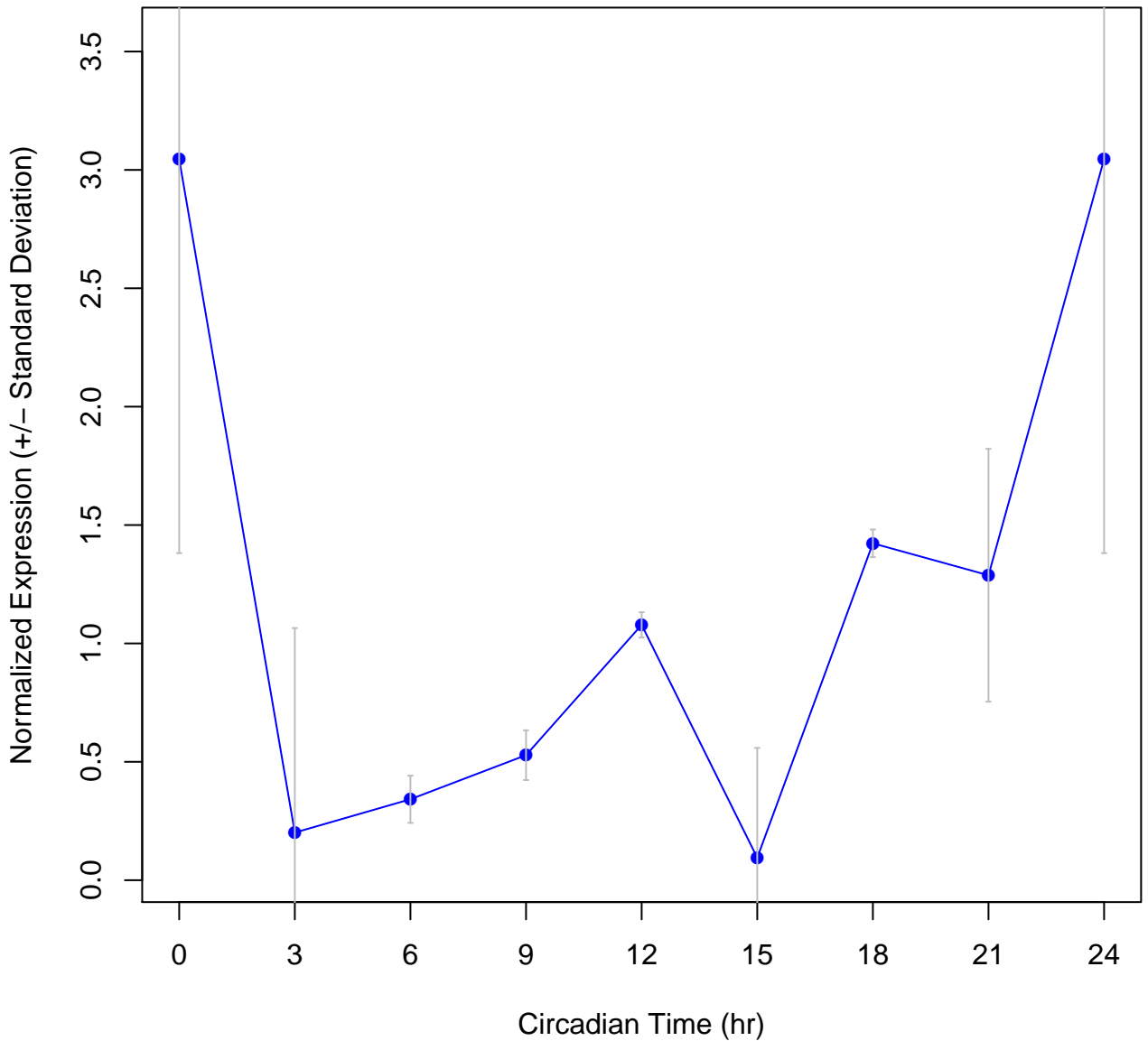
**Supplement Figure 3 enox2**



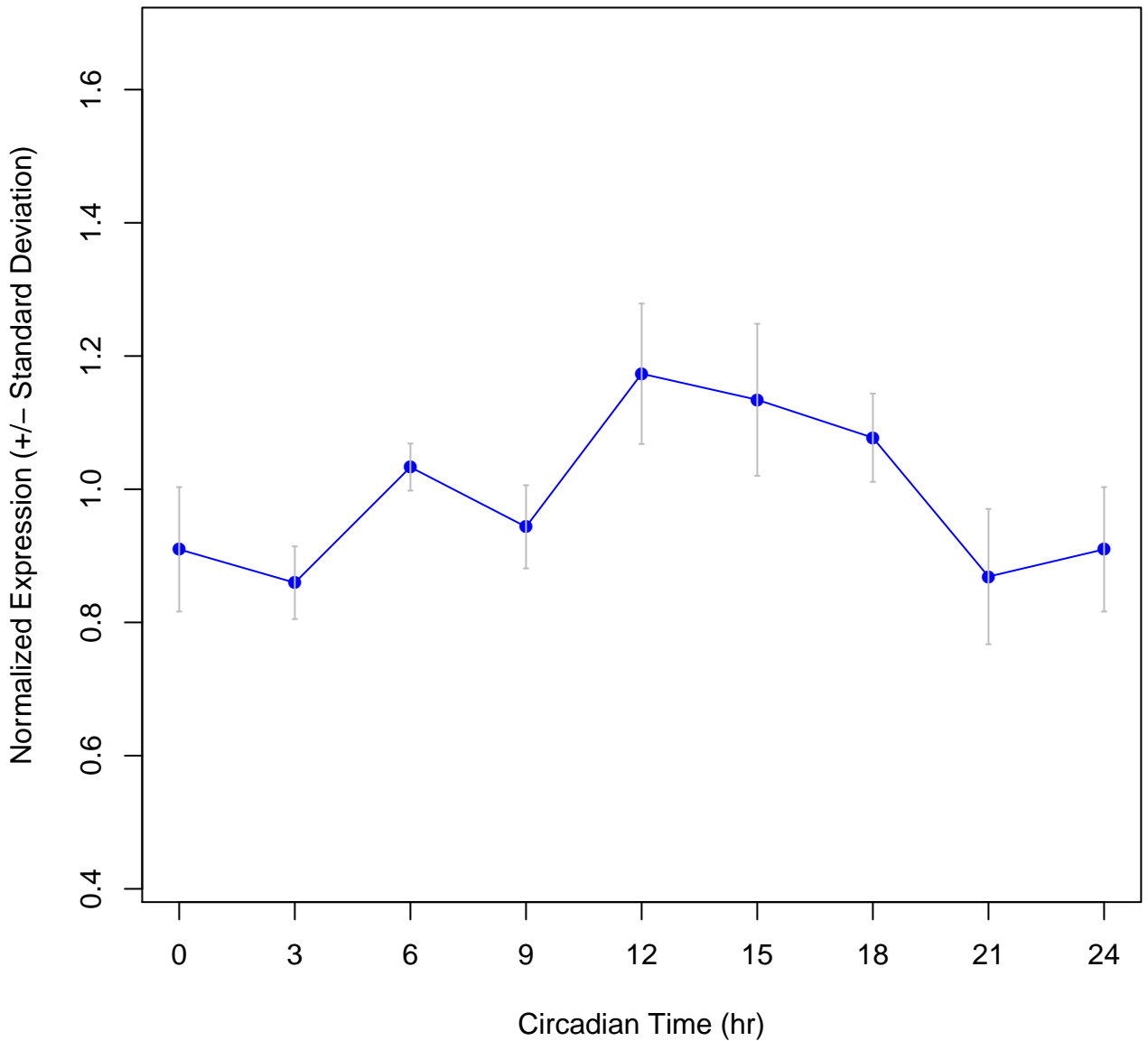
**Supplement Figure 3 ensxmag00000013922**



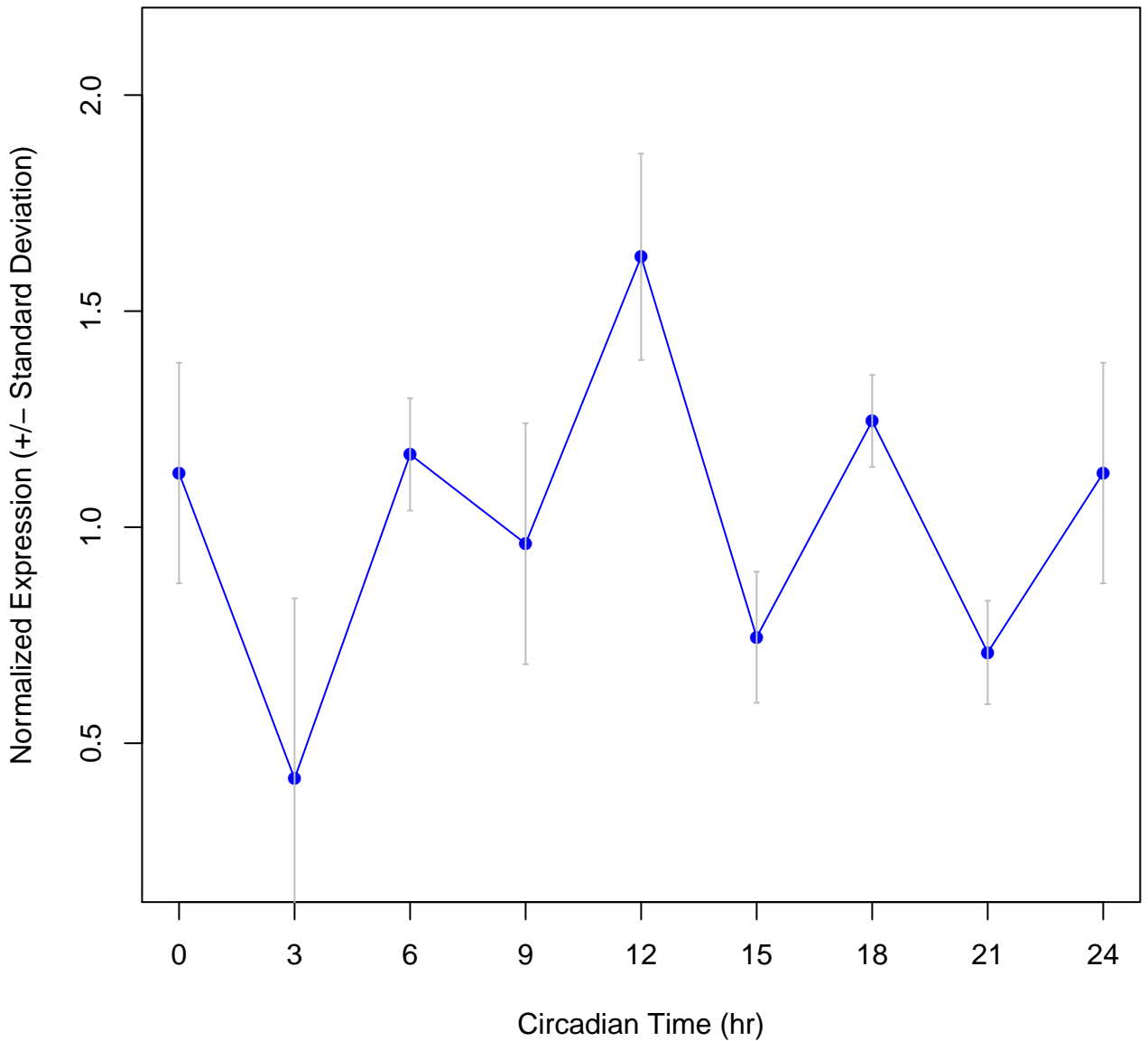
**Supplement Figure 3 ensxmag00000017815**



### Supplement Figure 3 ercc3

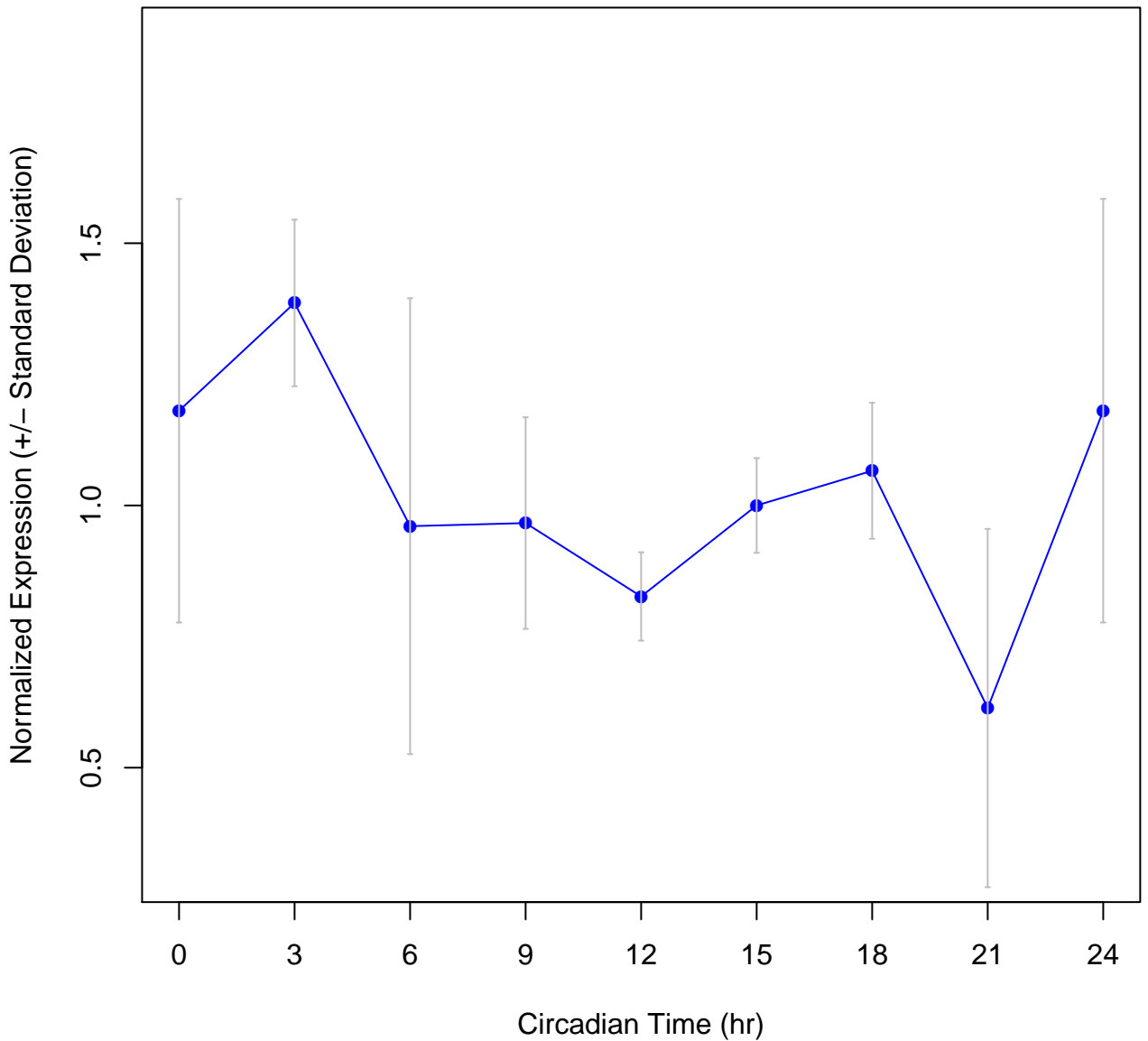


Supplement Figure 3 esp11

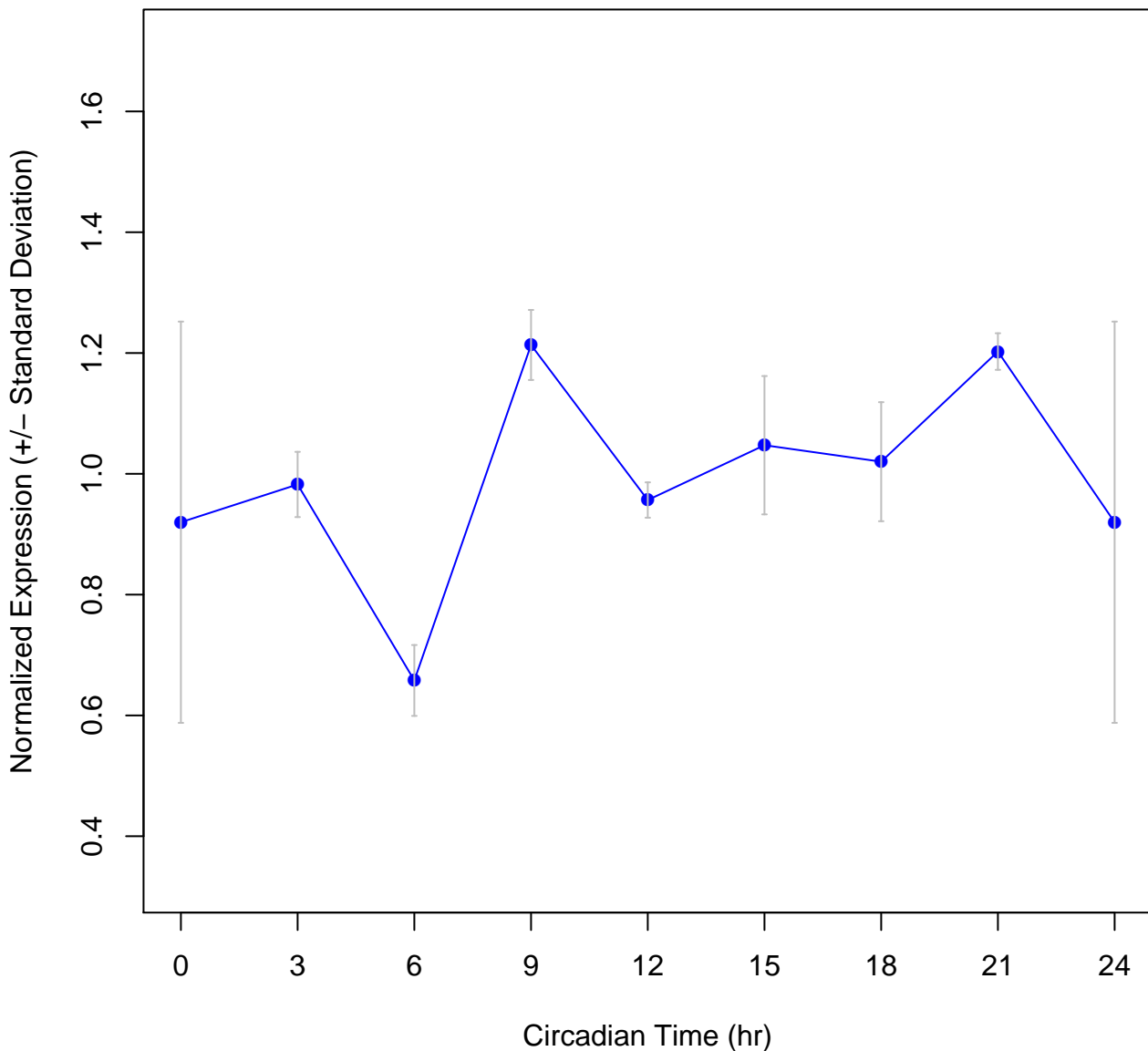




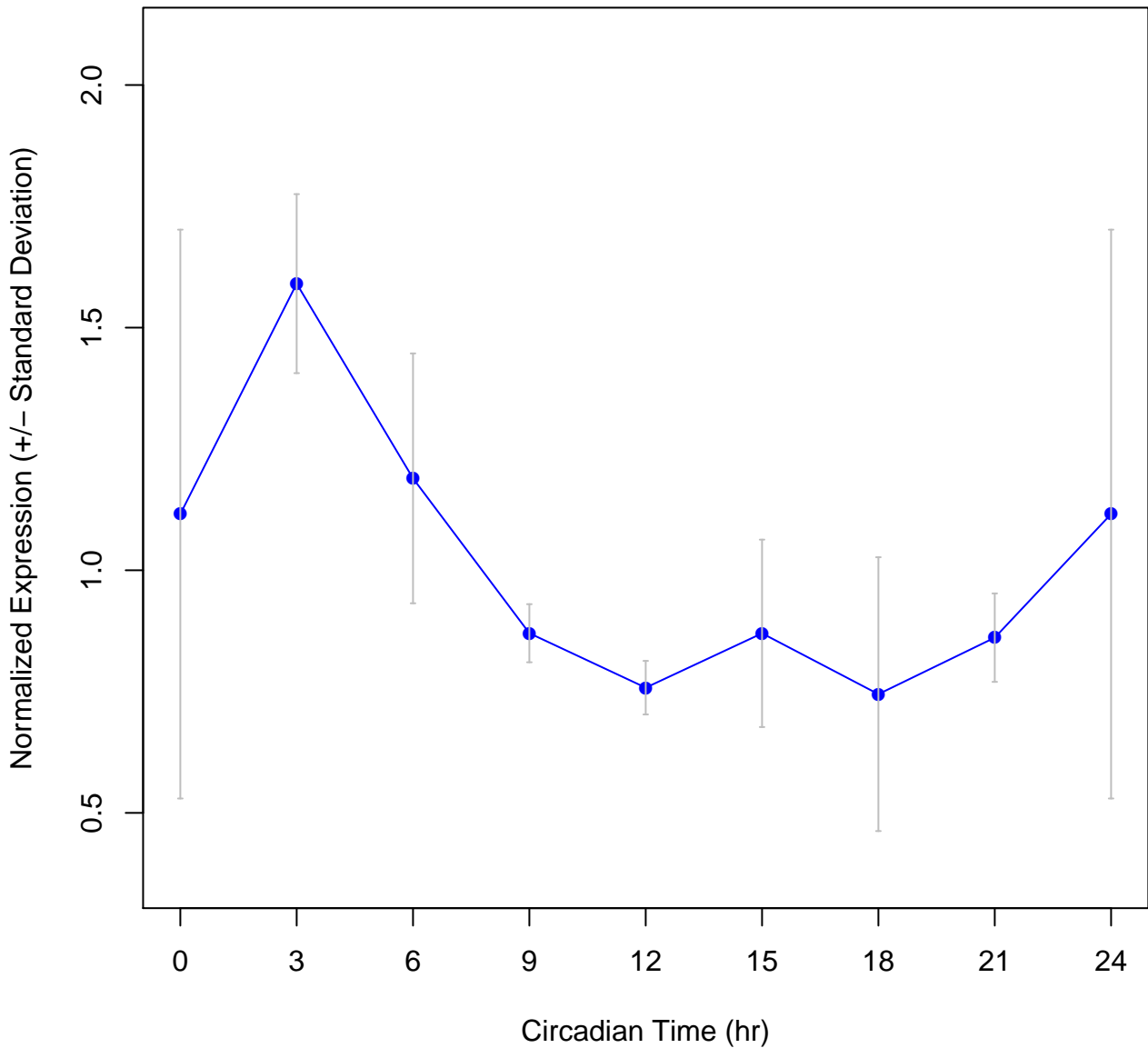
Supplement Figure 3 e2r



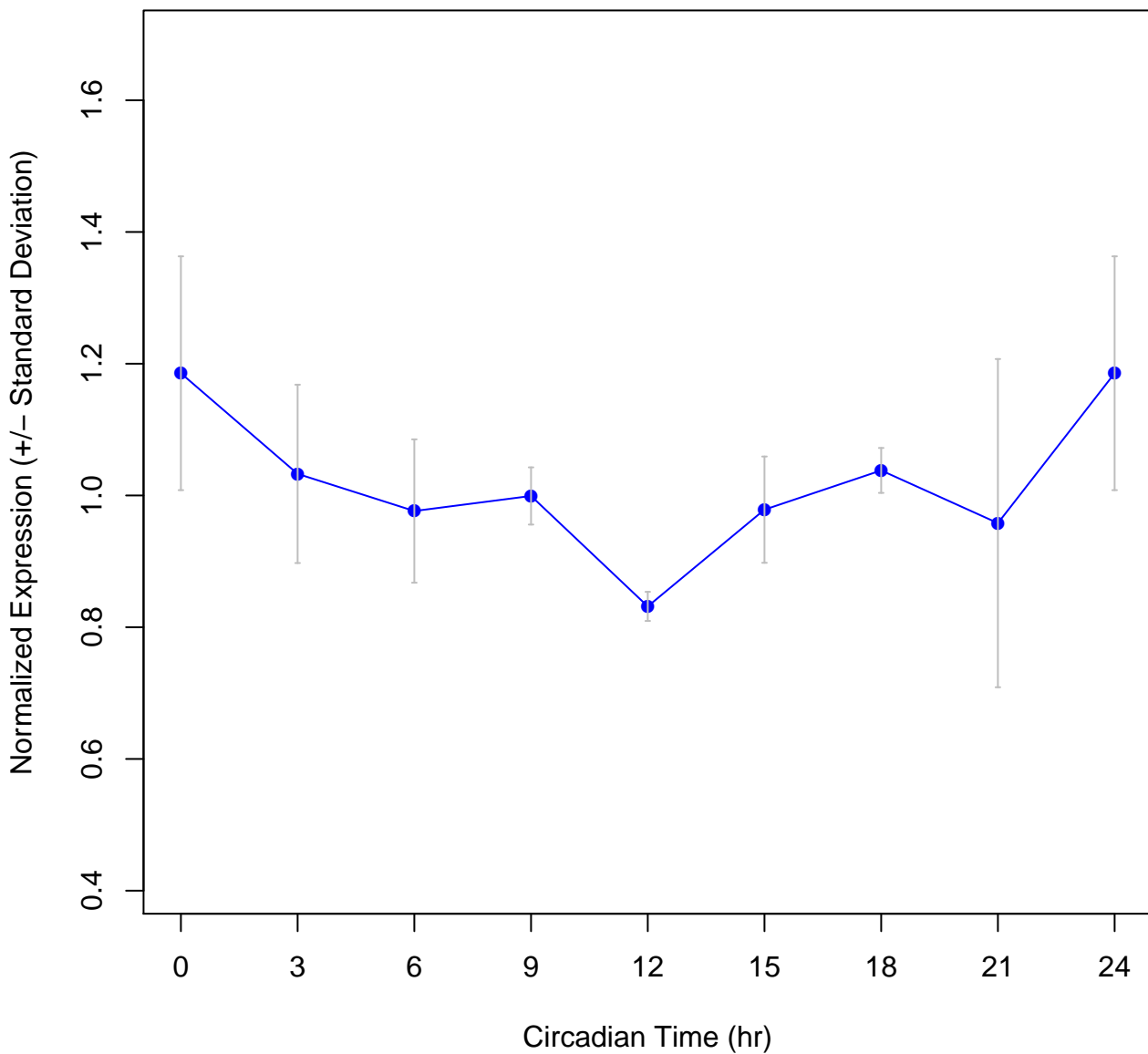
**Supplement Figure 3 fam102b**



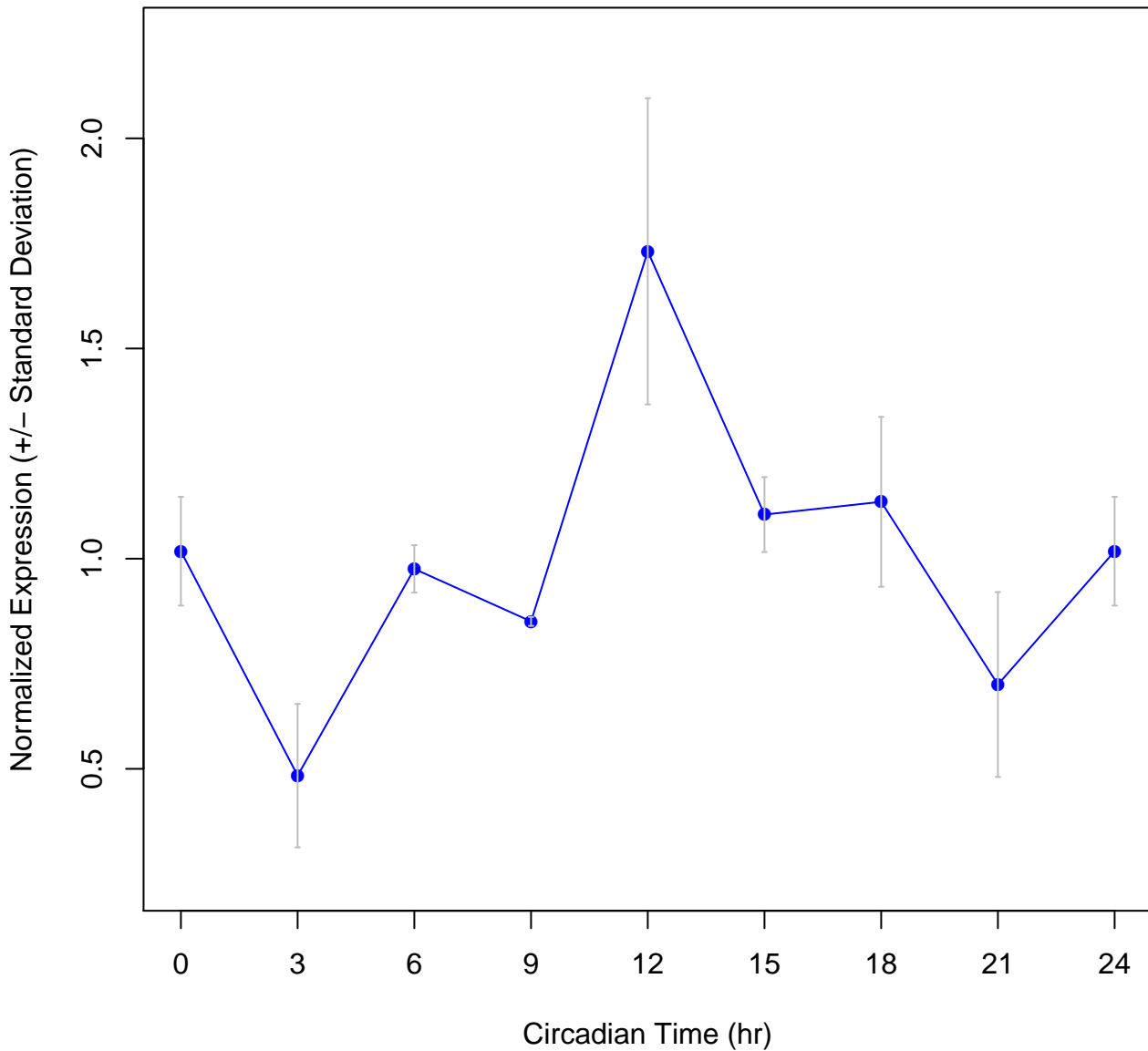
Supplement Figure 3 fasn



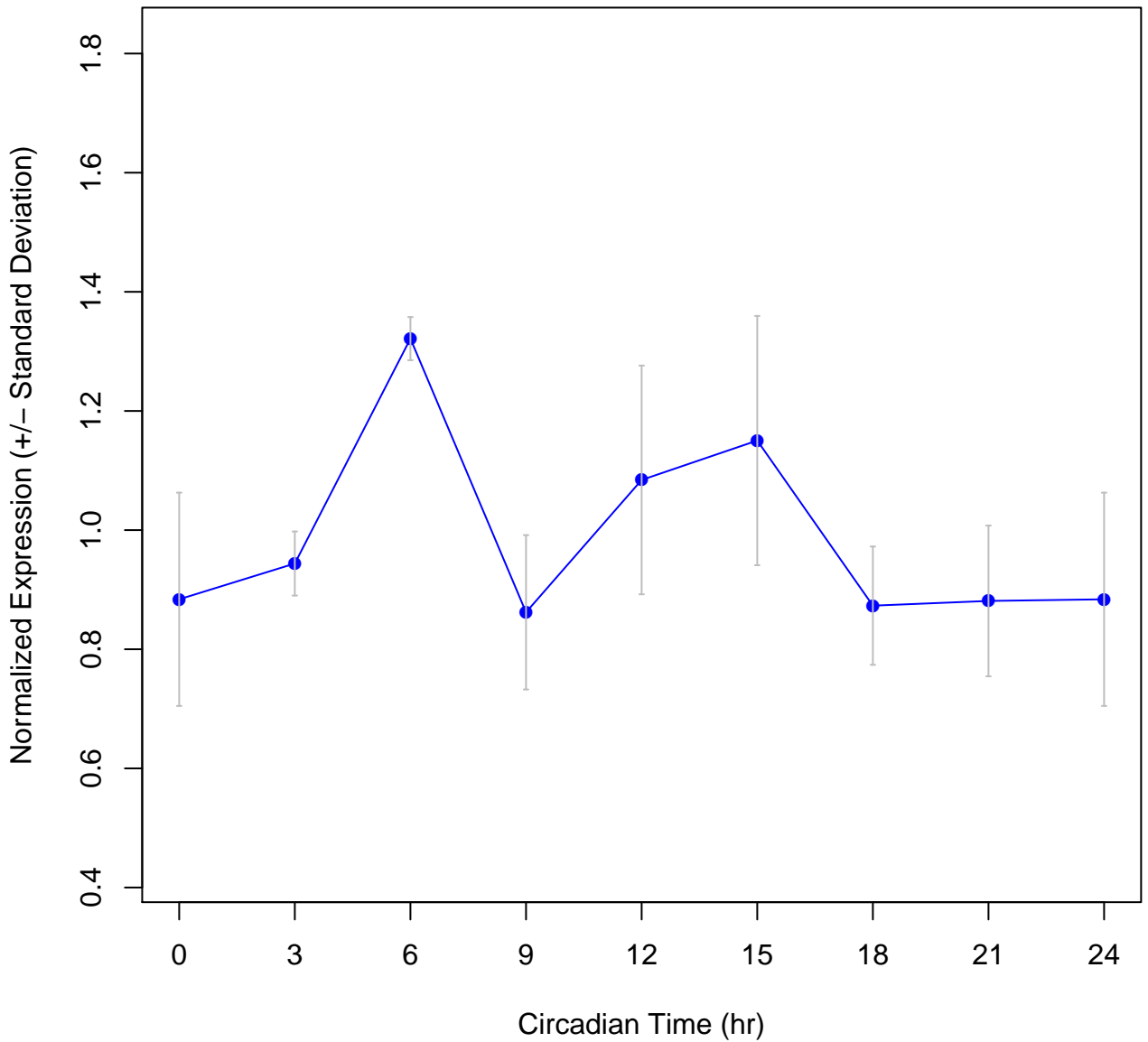
Supplement Figure 3 fbxw11



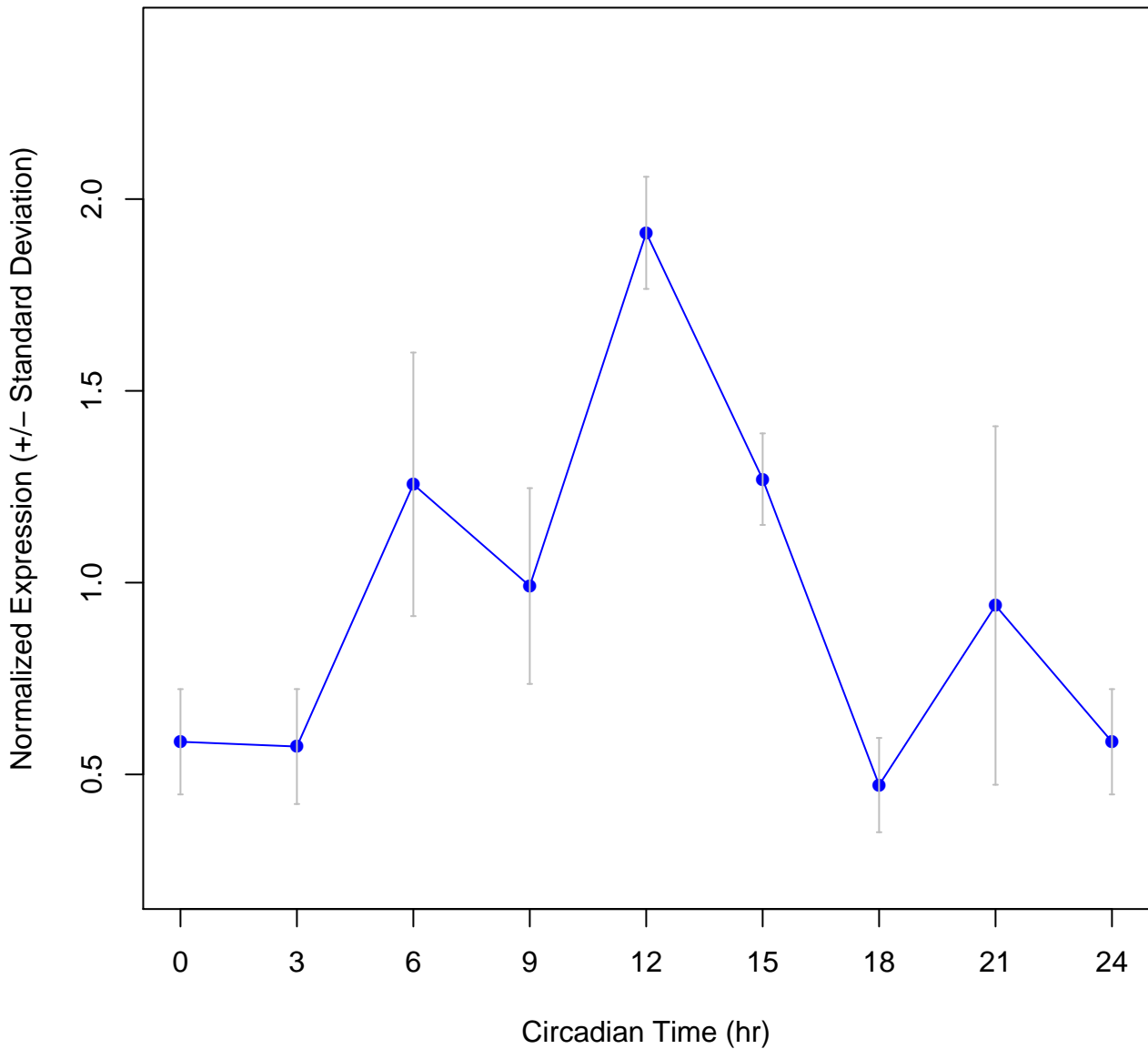
**Supplement Figure 3 fggy**



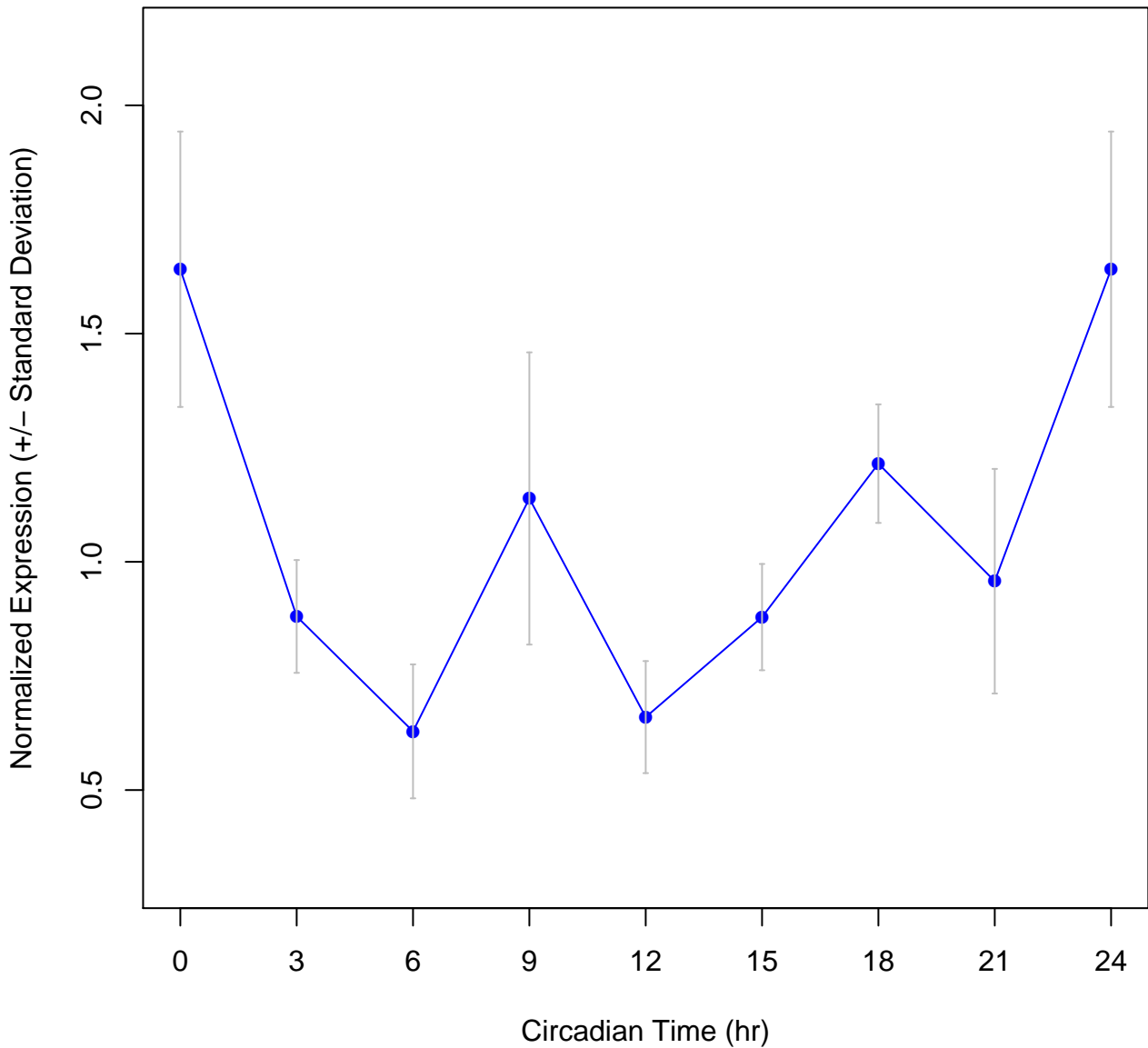
Supplement Figure 3 flt4



**Supplement Figure 3 foxn1**

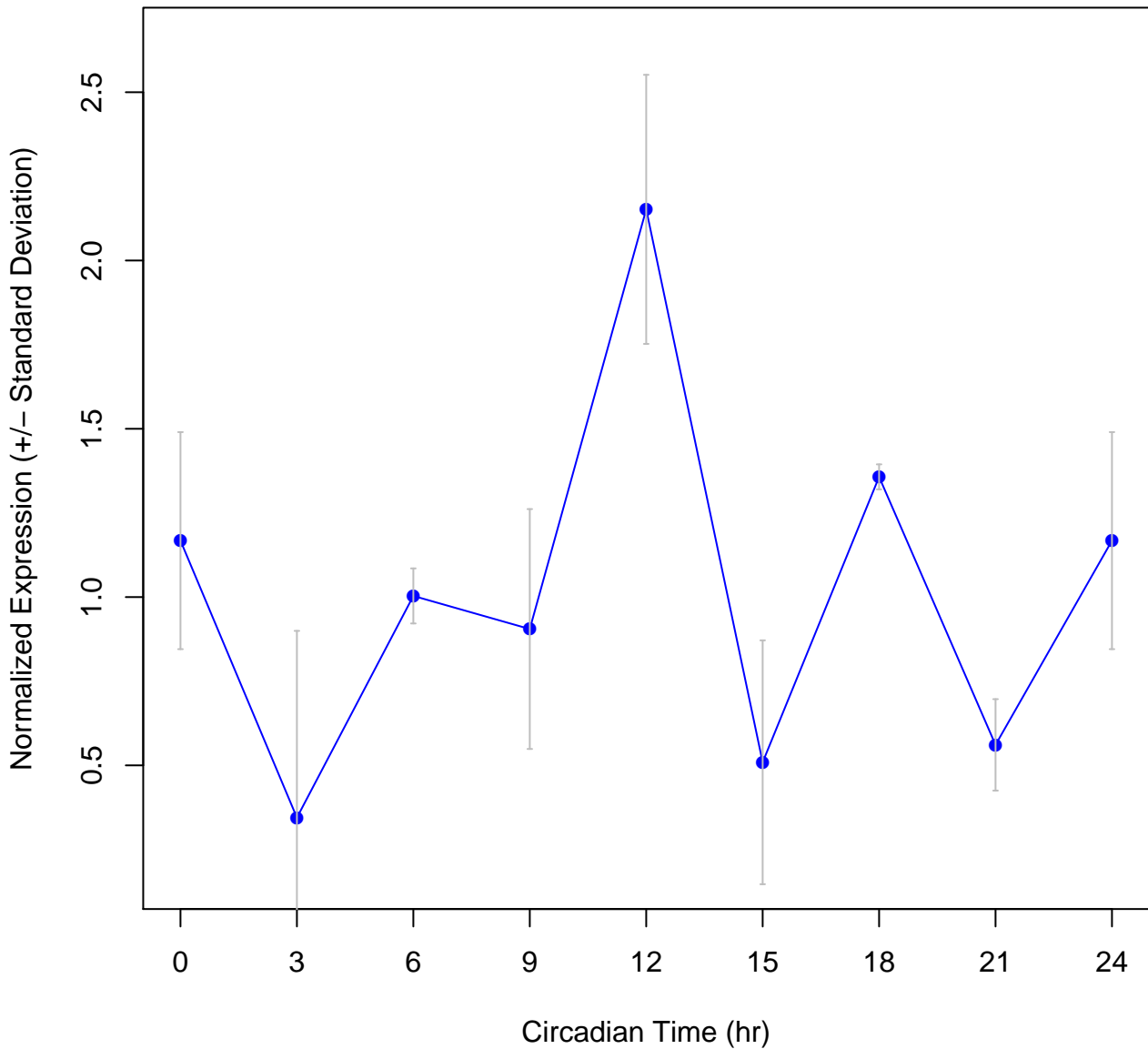


**Supplement Figure 3 foxo4**

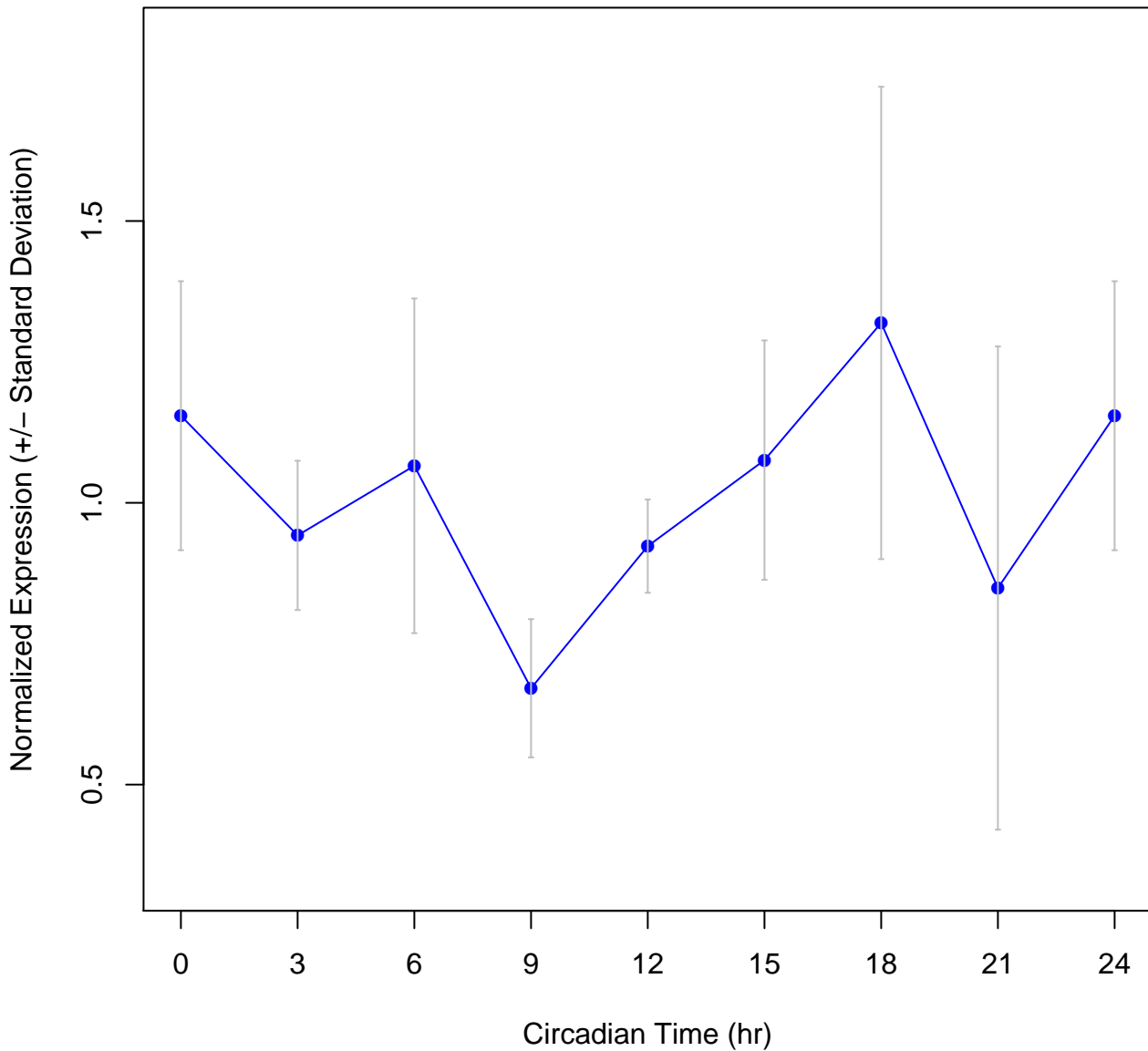




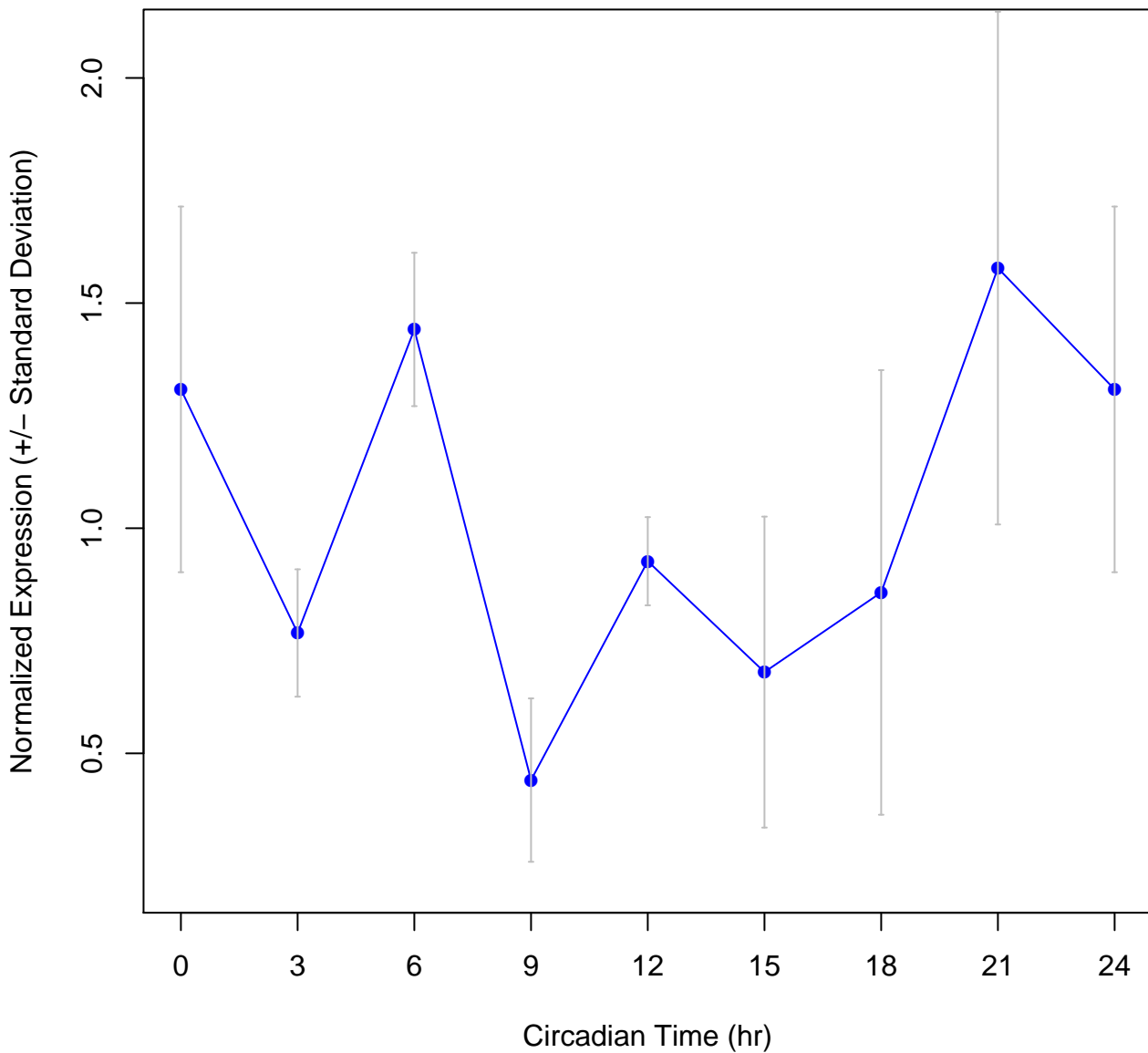
**Supplement Figure 3 g2e3**



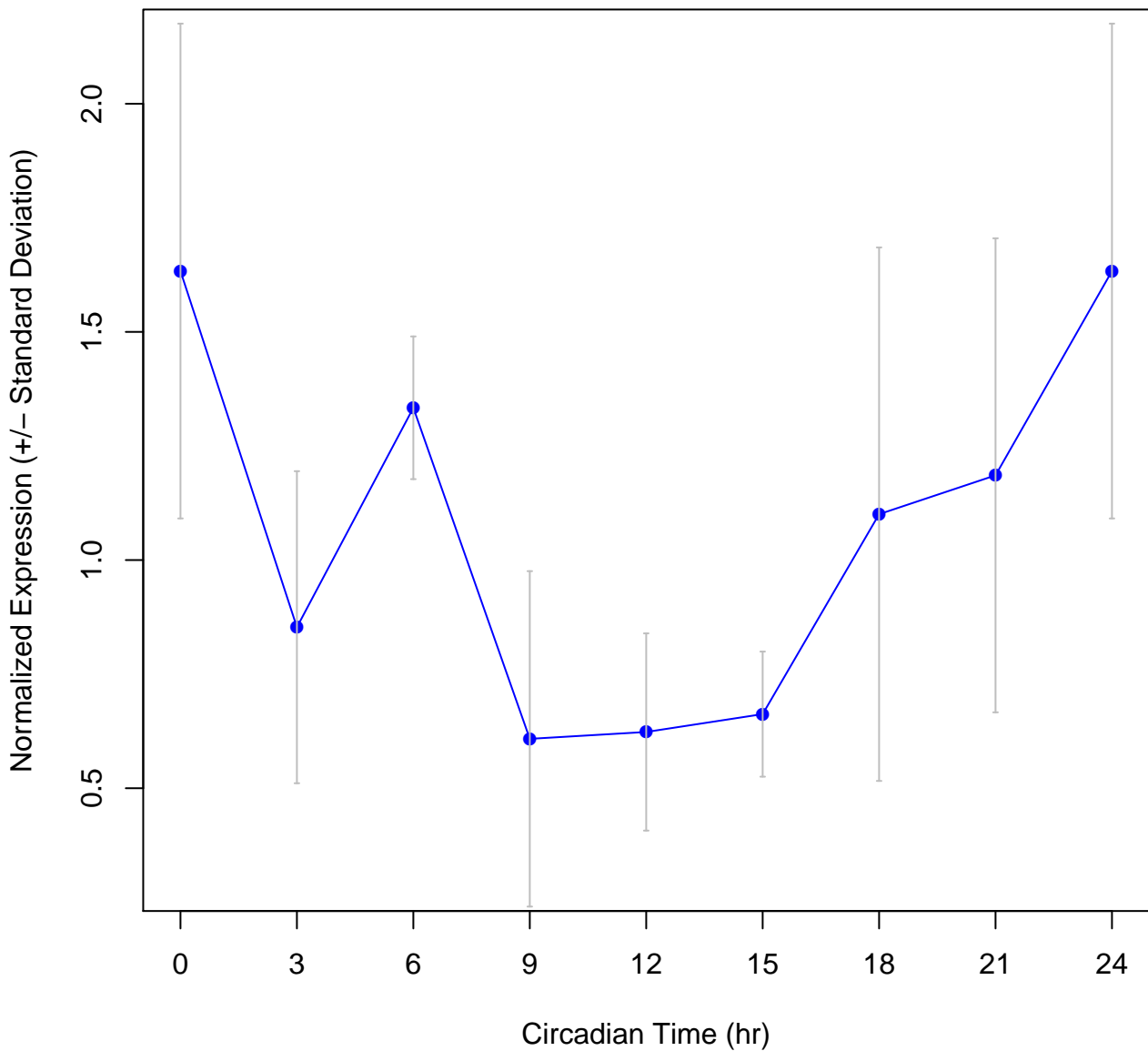
**Supplement Figure 3 gadd45aa**



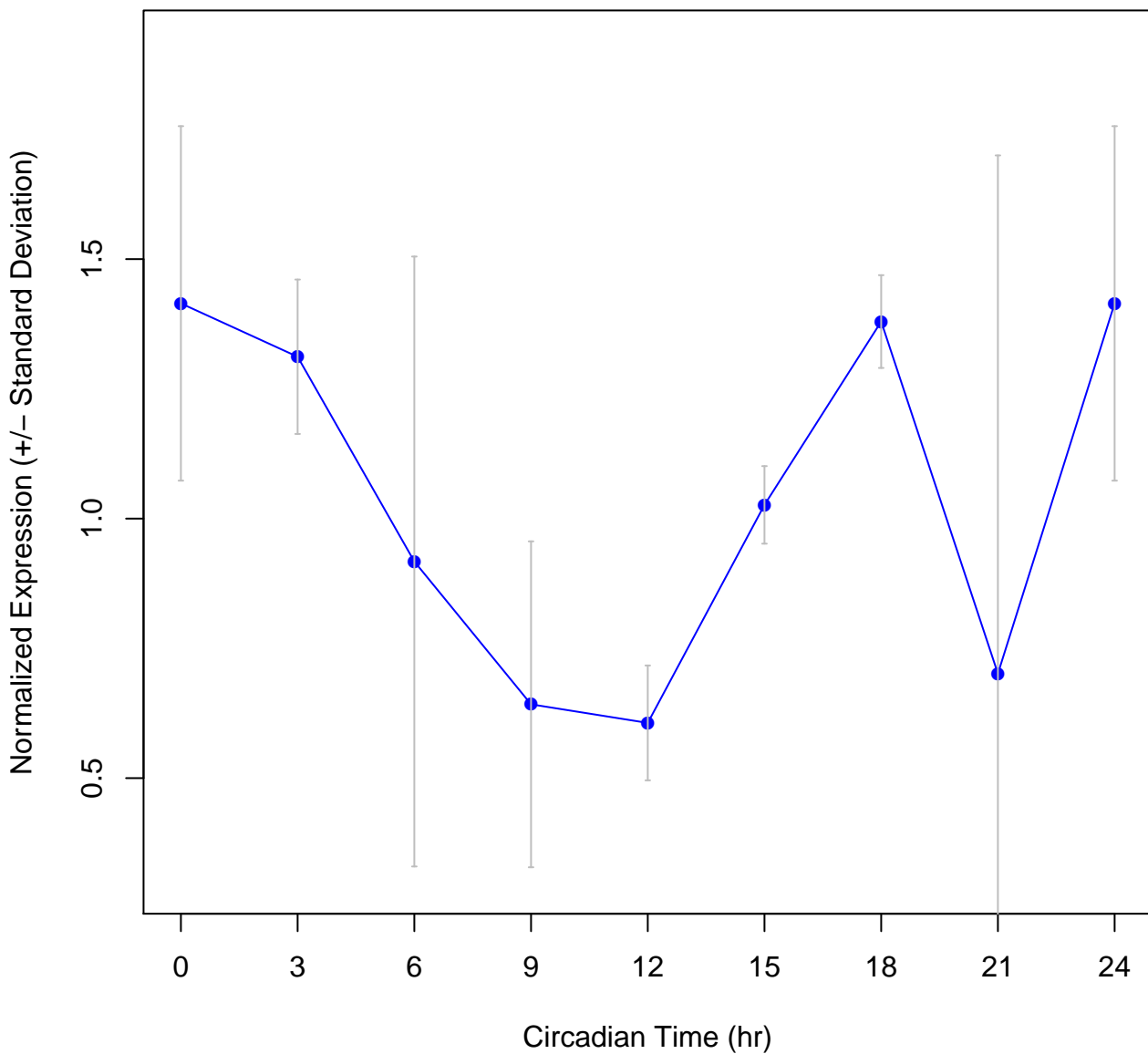
**Supplement Figure 3 gadd45ab**



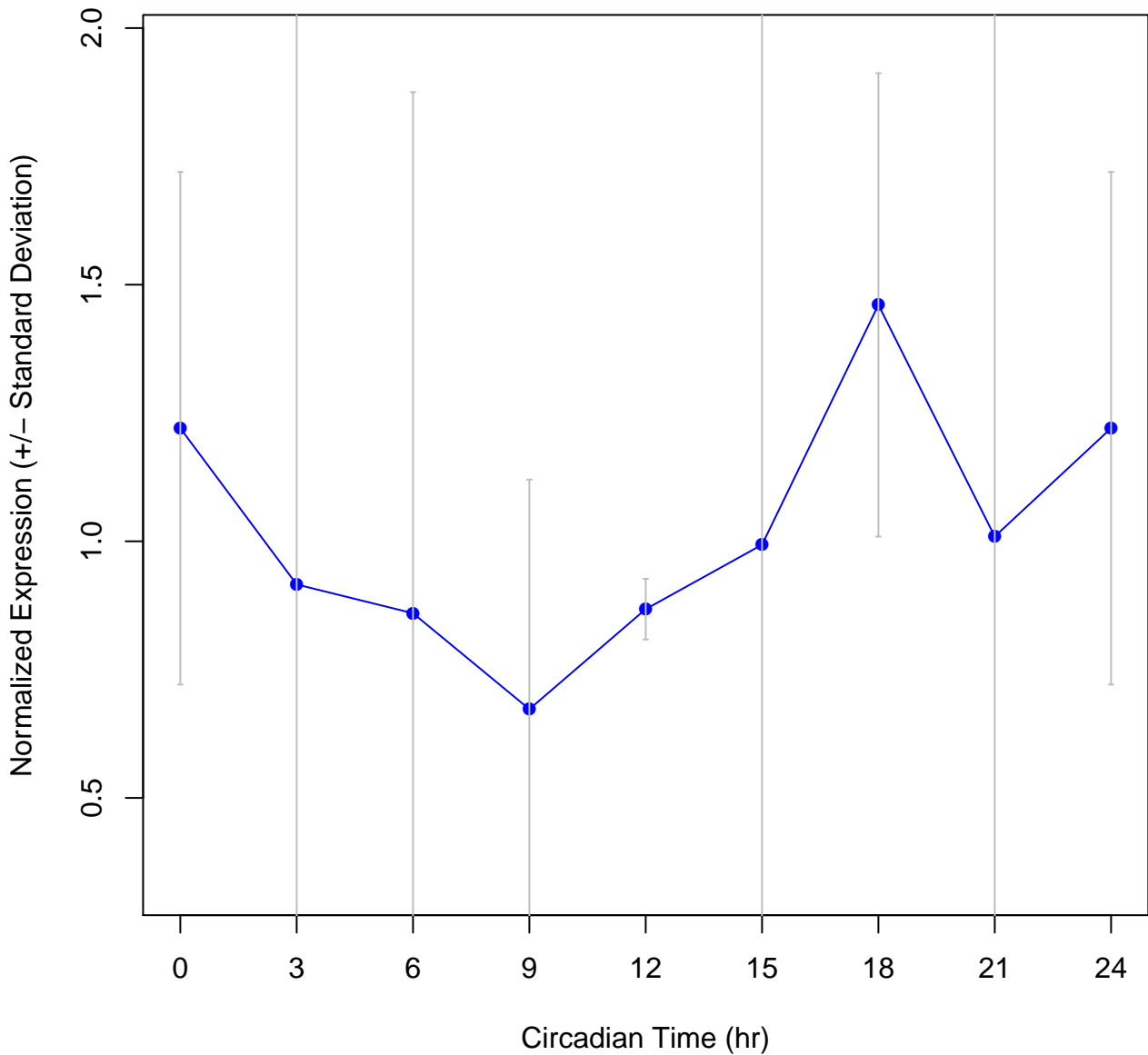
### Supplement Figure 3 gadd45b



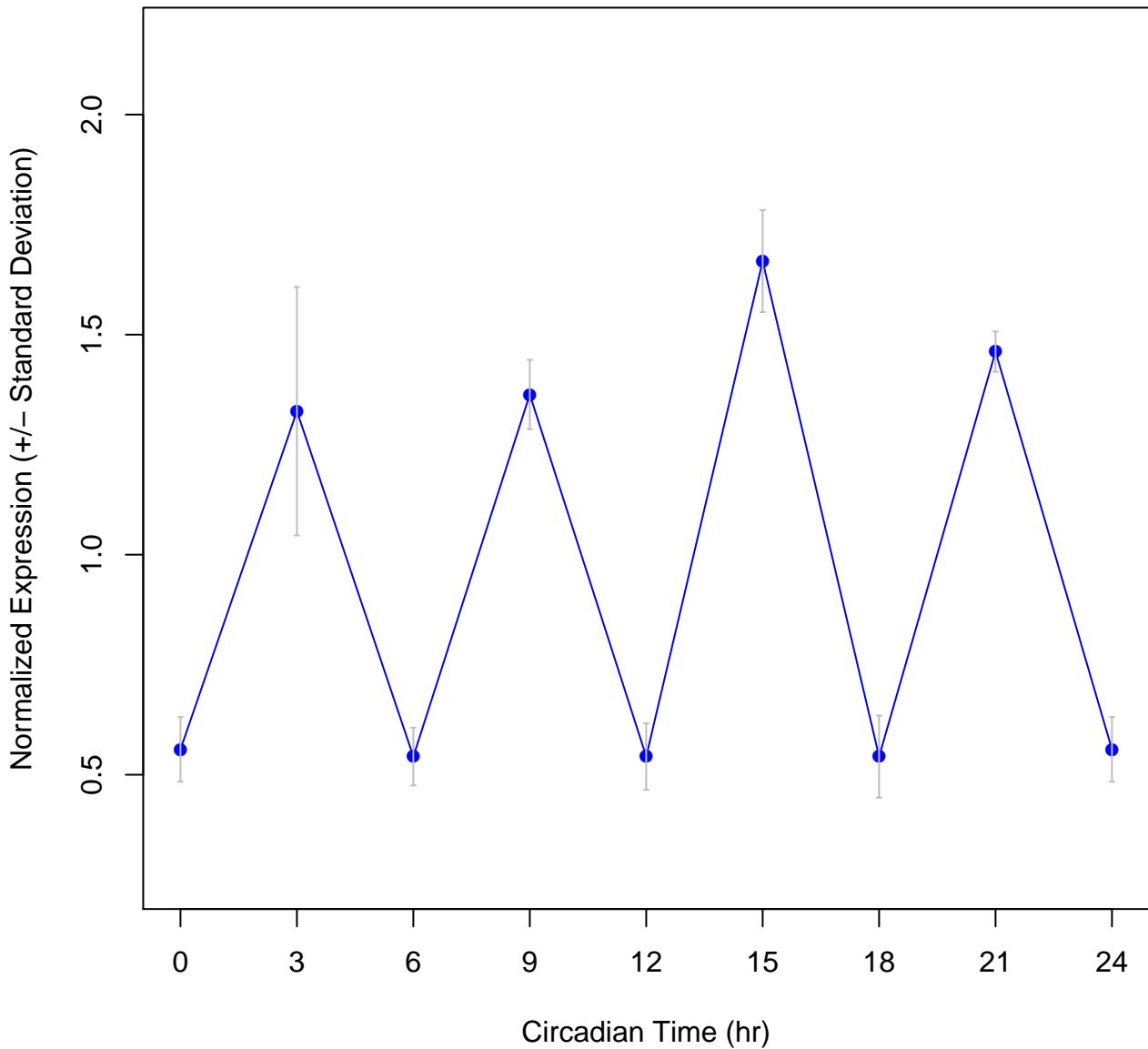
Supplement Figure 3 gna15



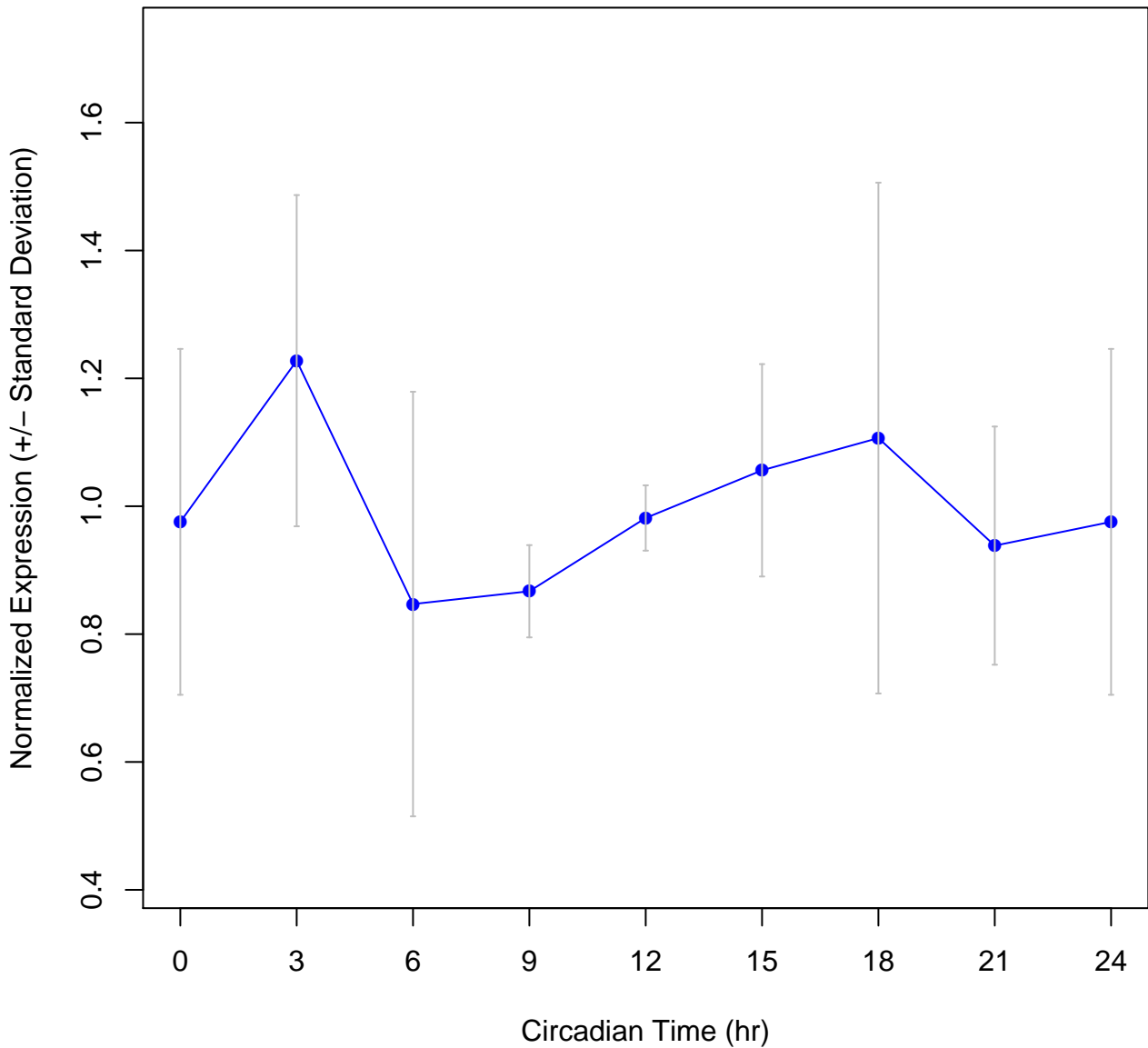
Supplement Figure 3 grin1



### Supplement Figure 3 grin2a

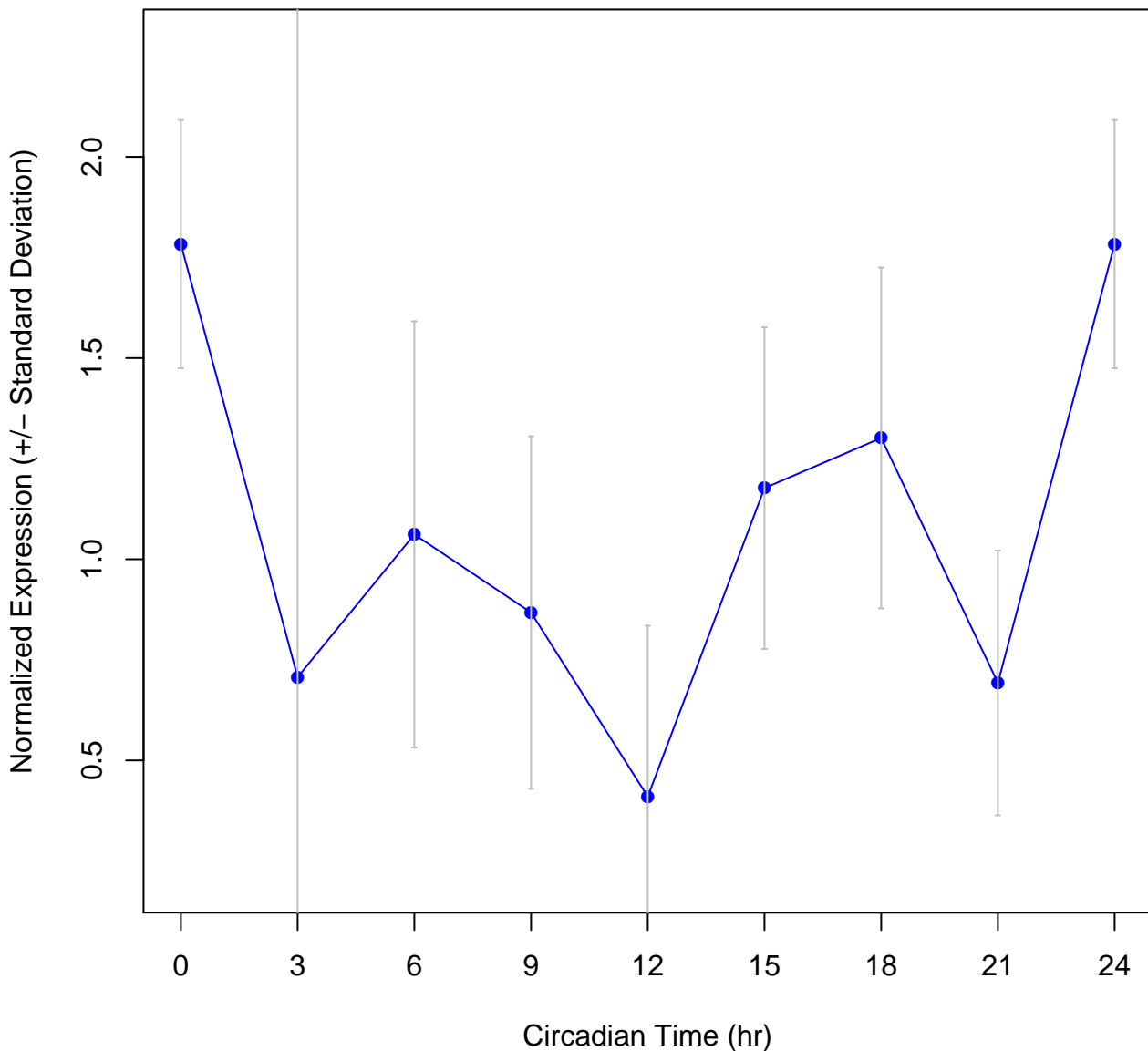


### Supplement Figure 3 hdac3

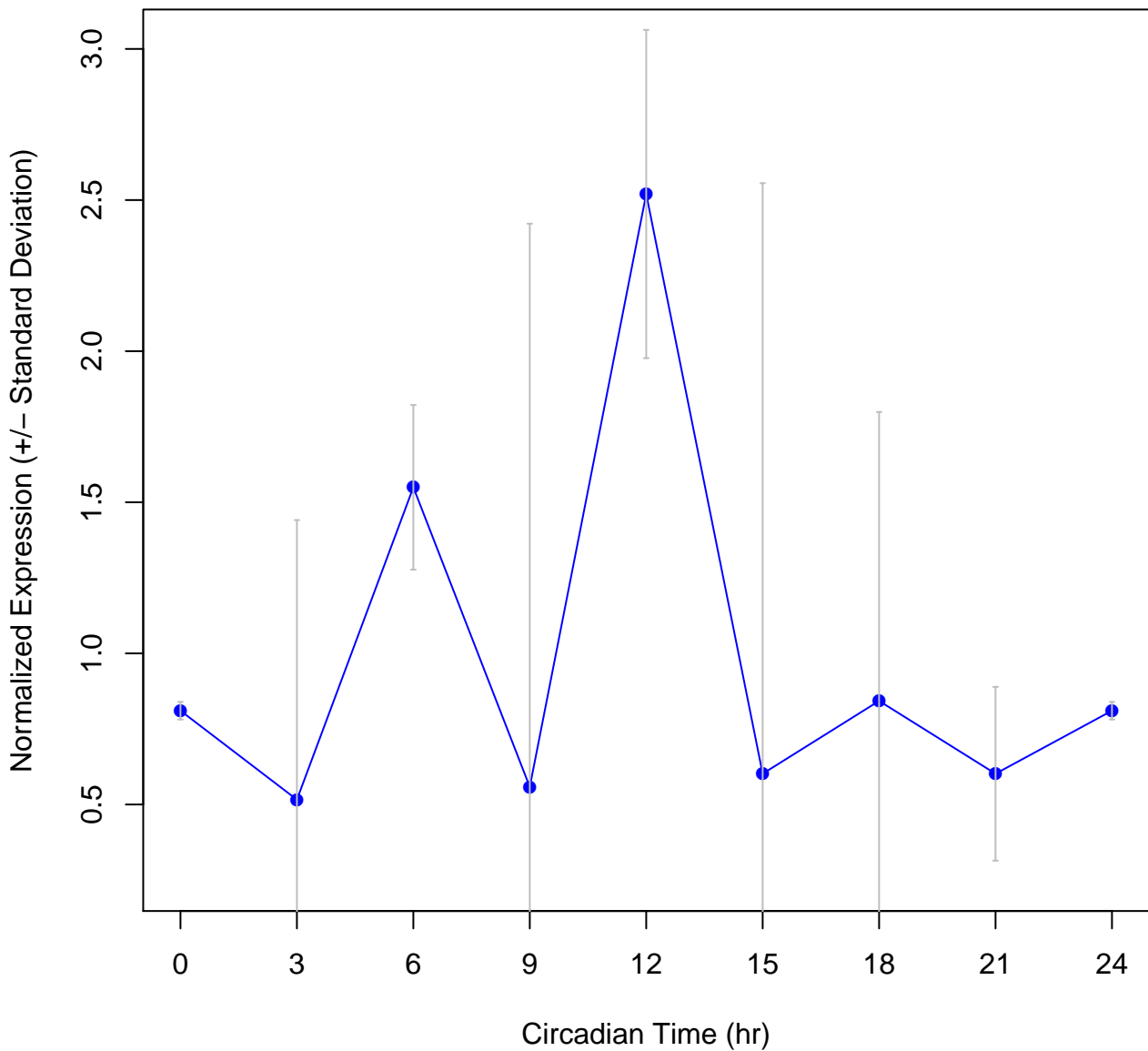




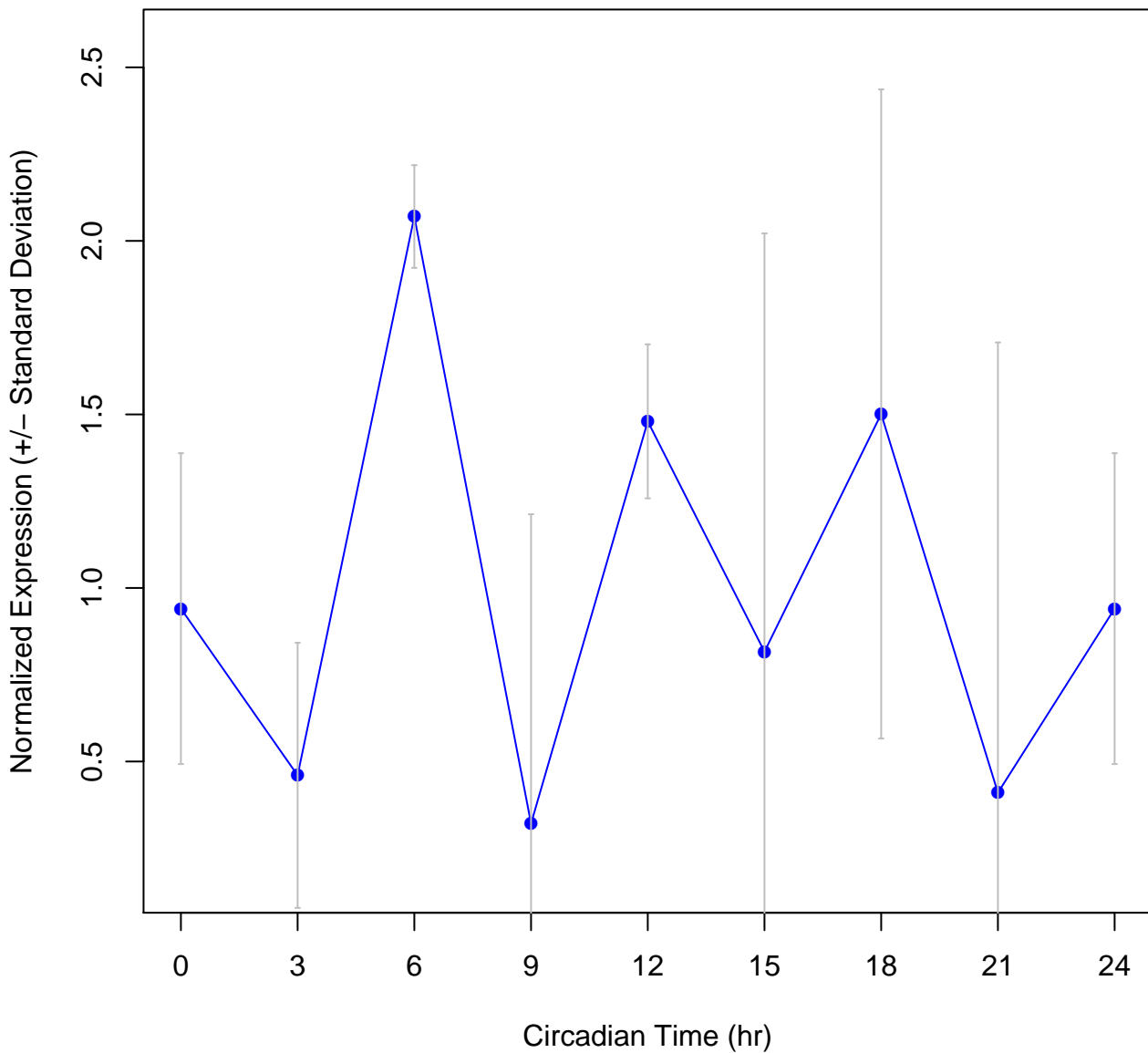
Supplement Figure 3 hmox1



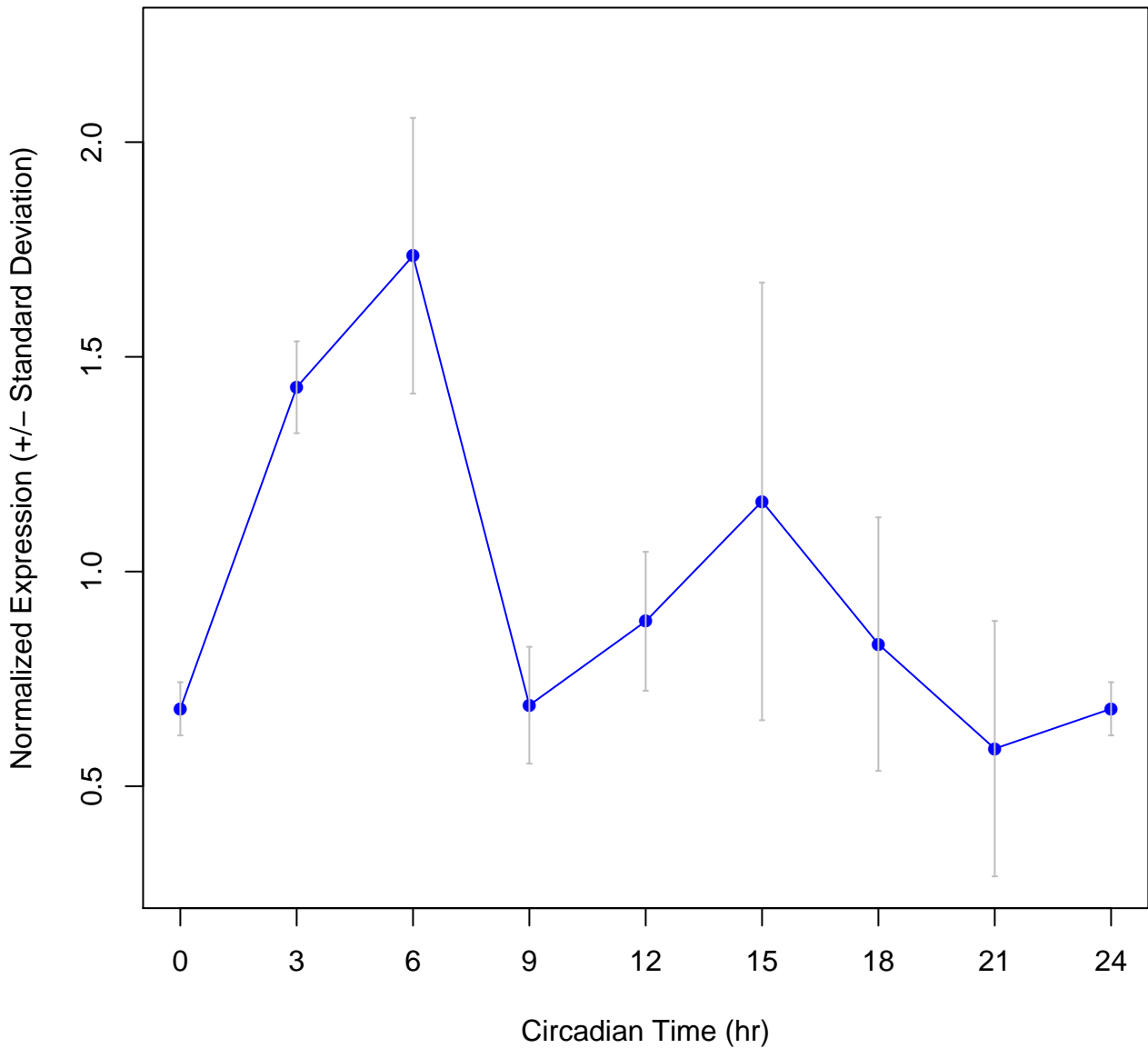
### Supplement Figure 3 hp



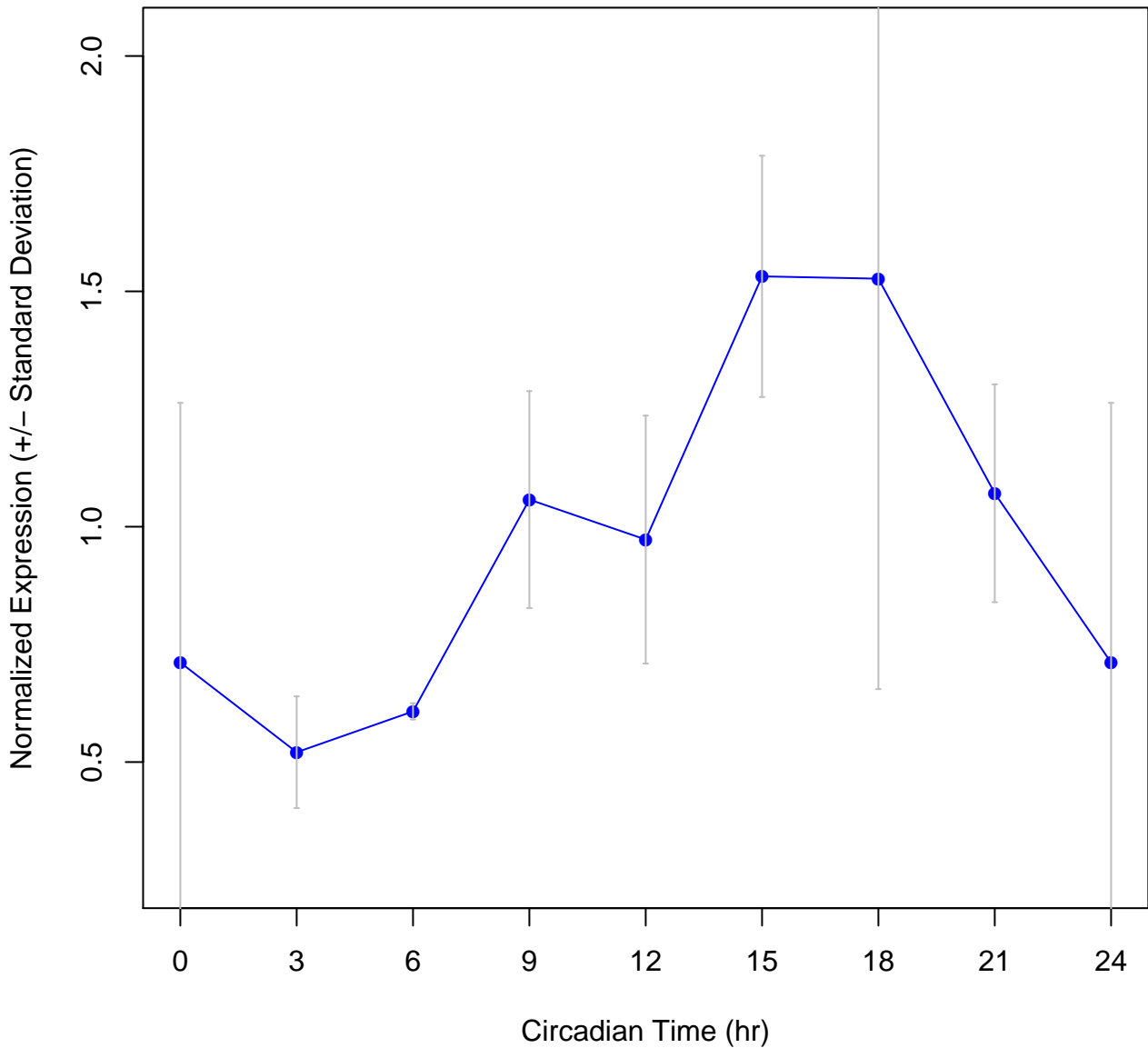
**Supplement Figure 3 hsp90aa1**



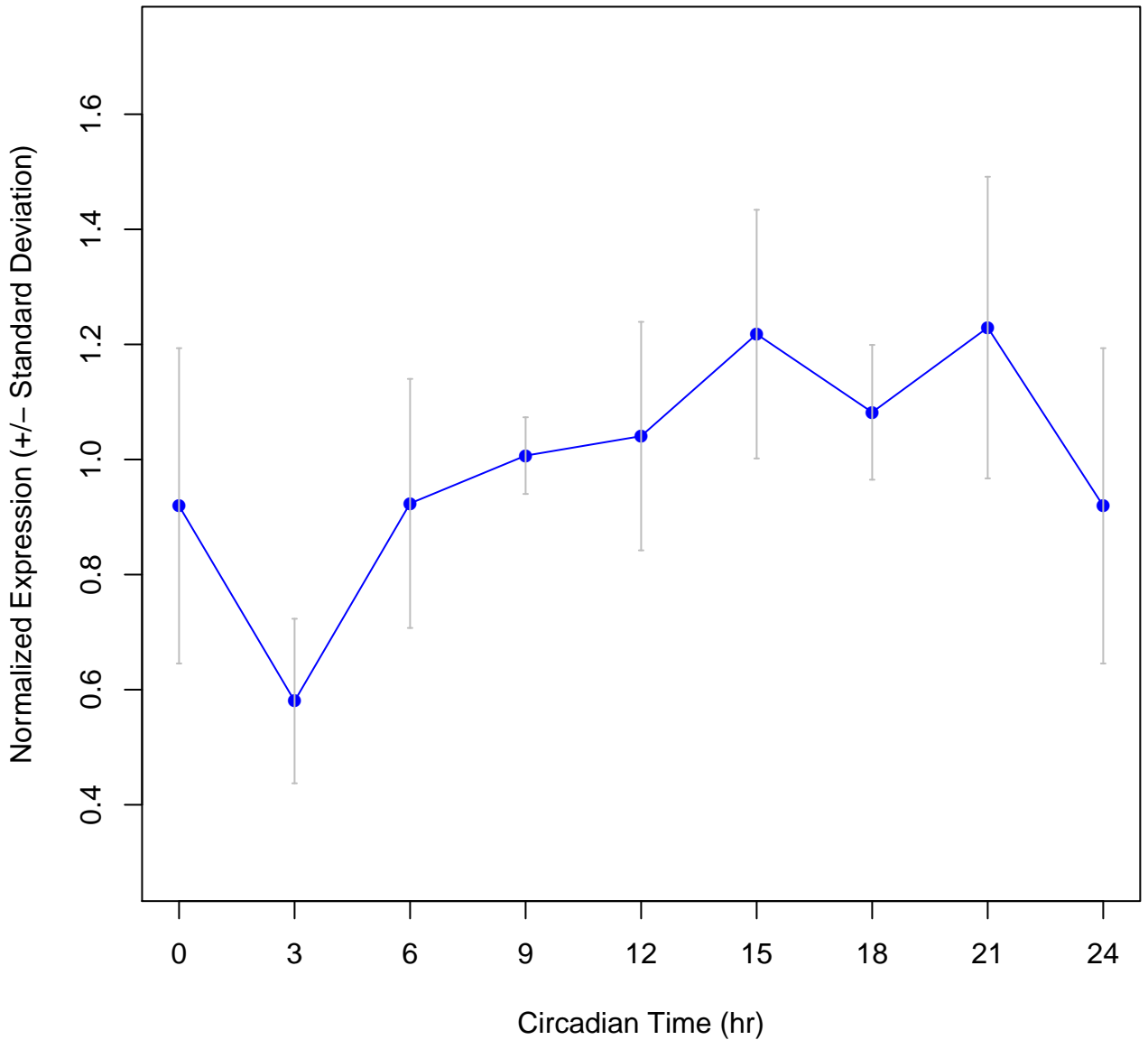
**Supplement Figure 3 hspa4**



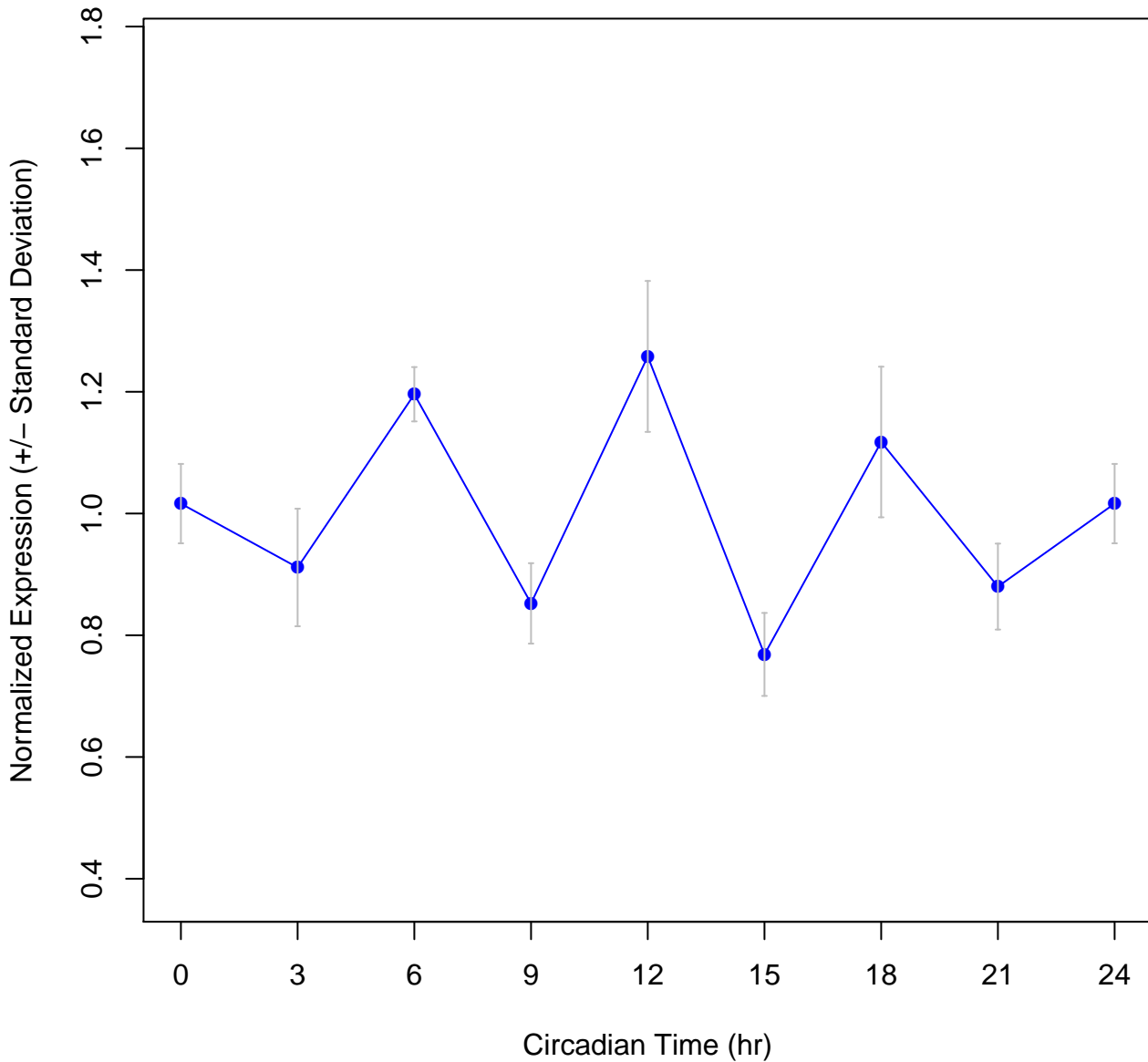
### Supplement Figure 3 hunk



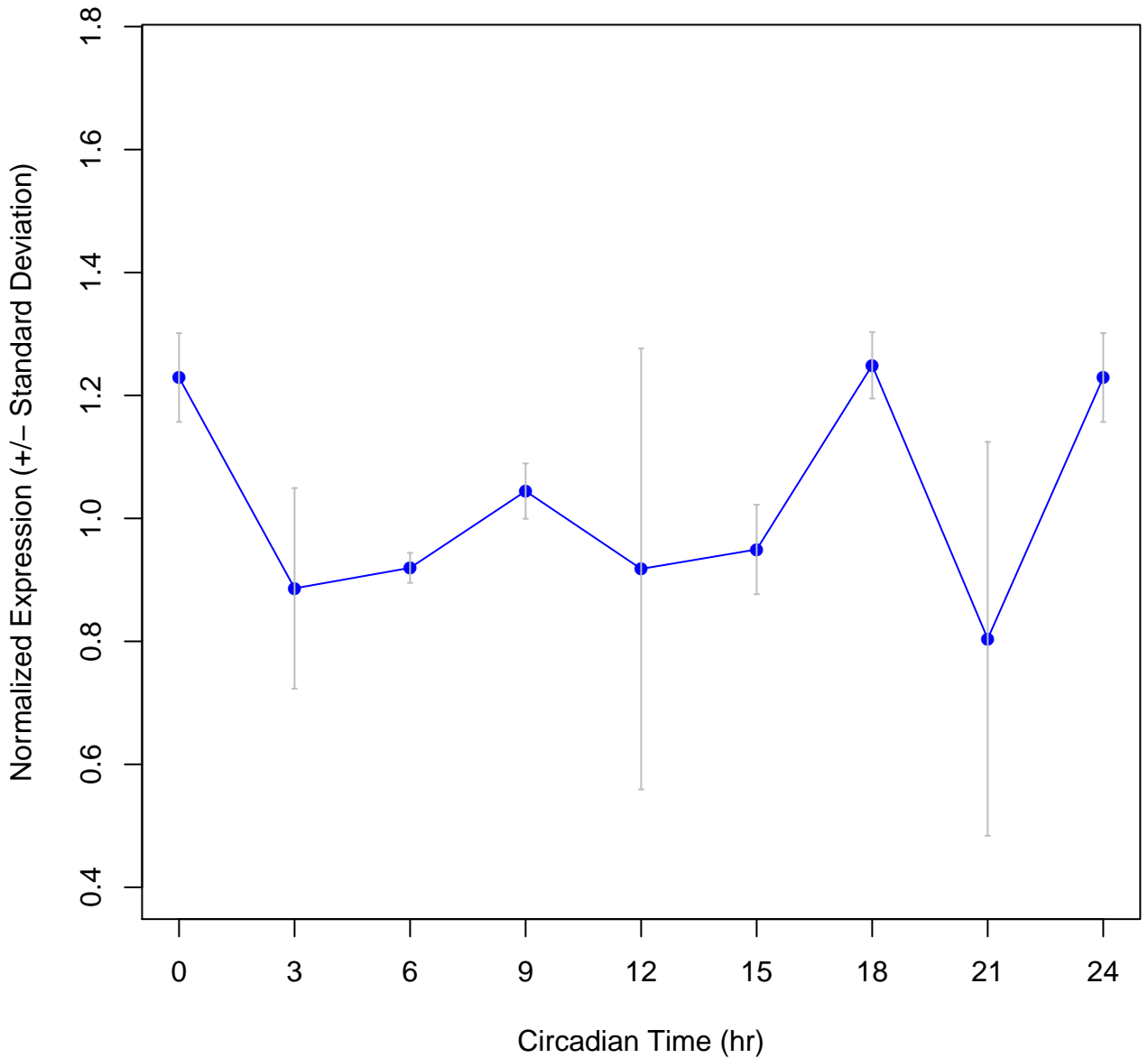
Supplement Figure 3 igf1



### Supplement Figure 3 ints9

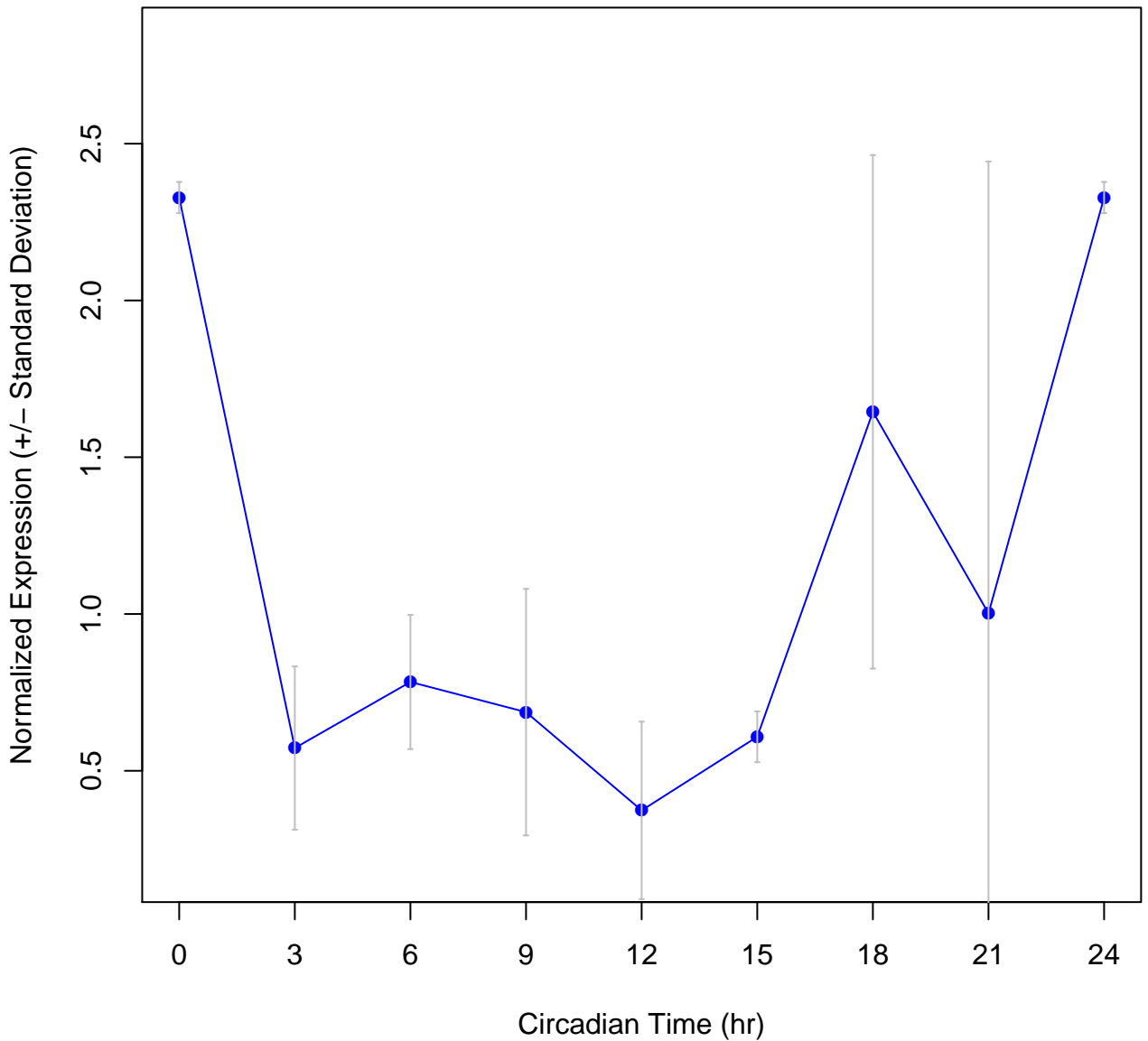


Supplement Figure 3 *irs1*

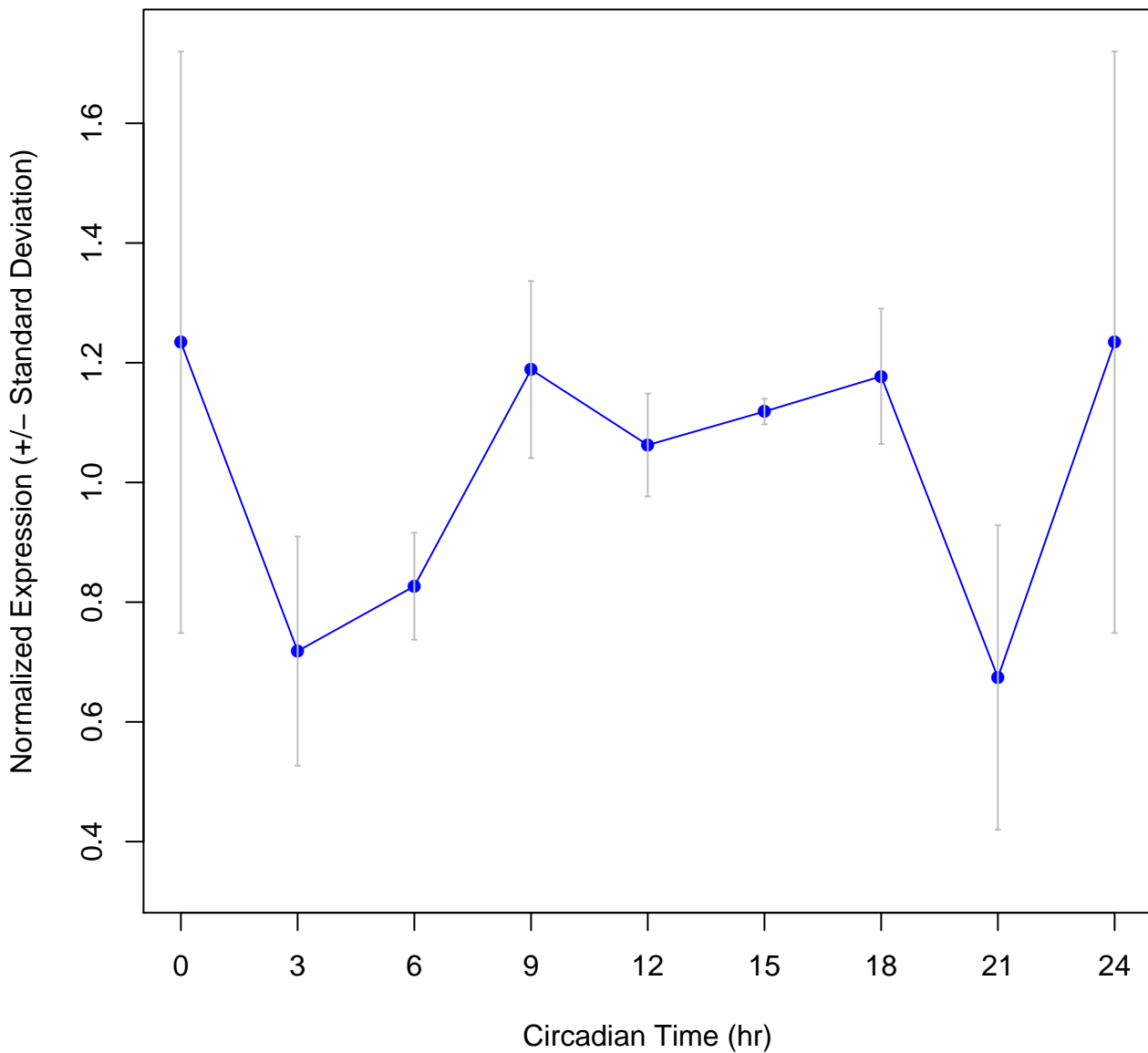




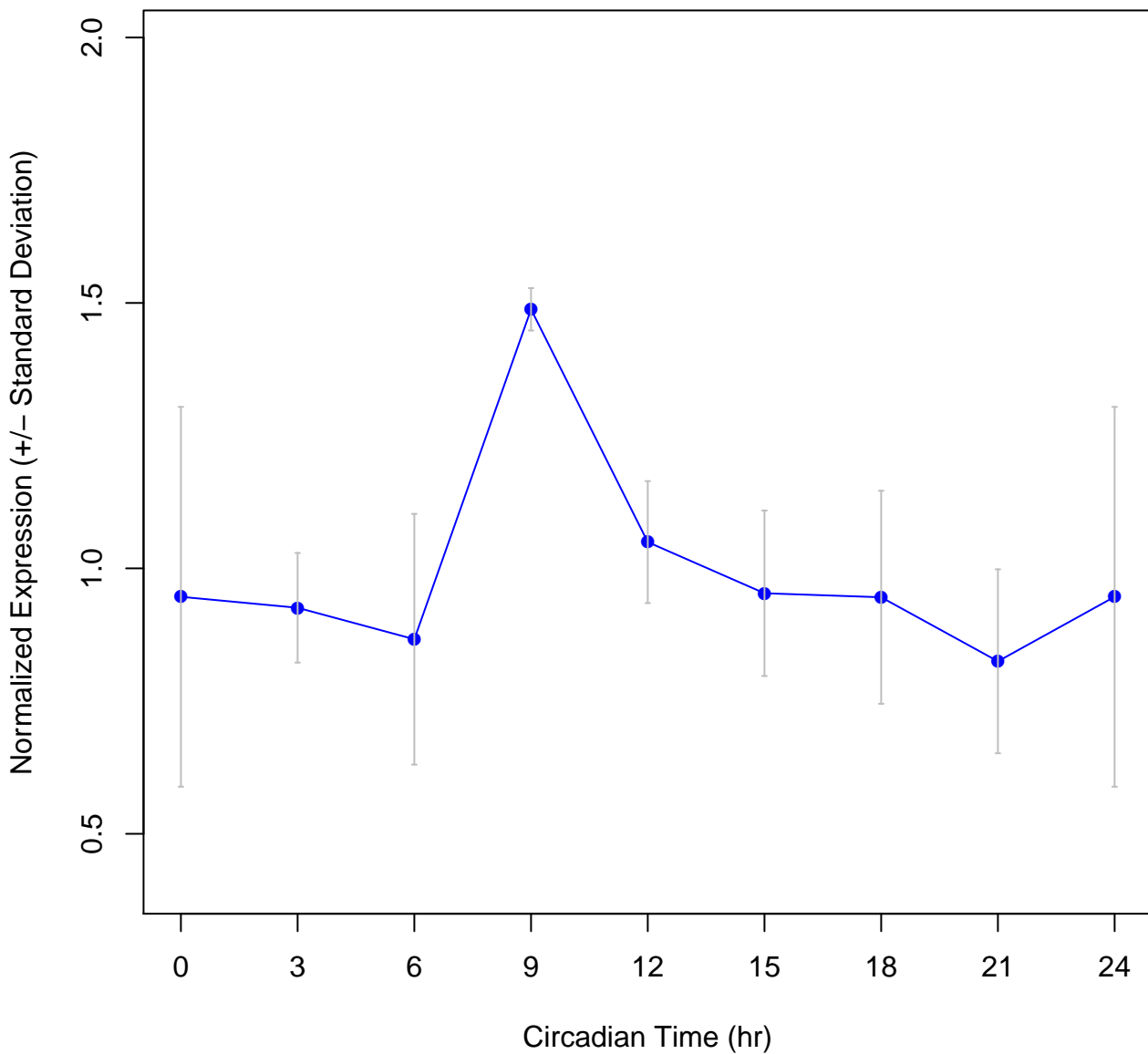
Supplement Figure 3 *irs2*



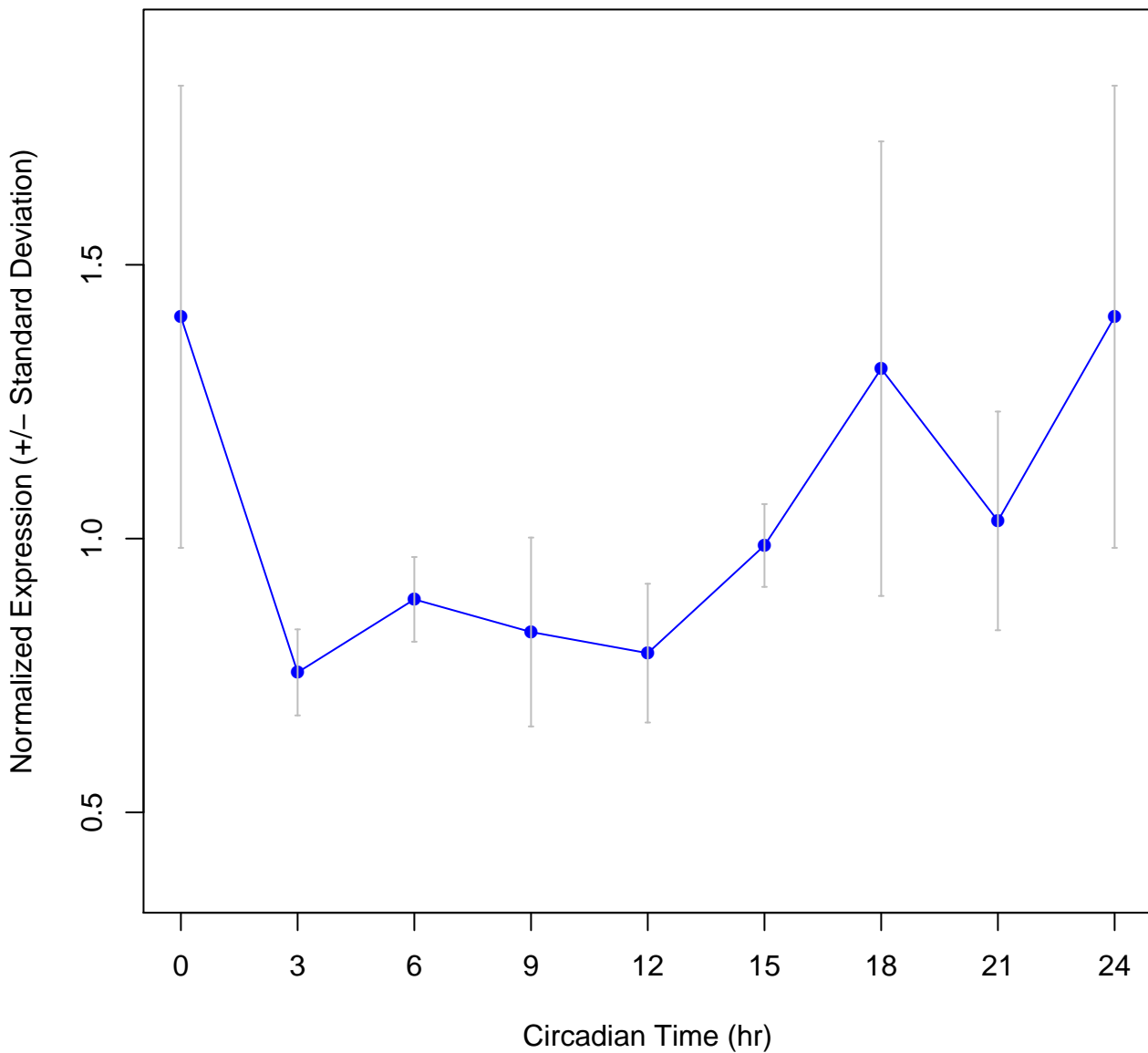
### Supplement Figure 3 itpr1



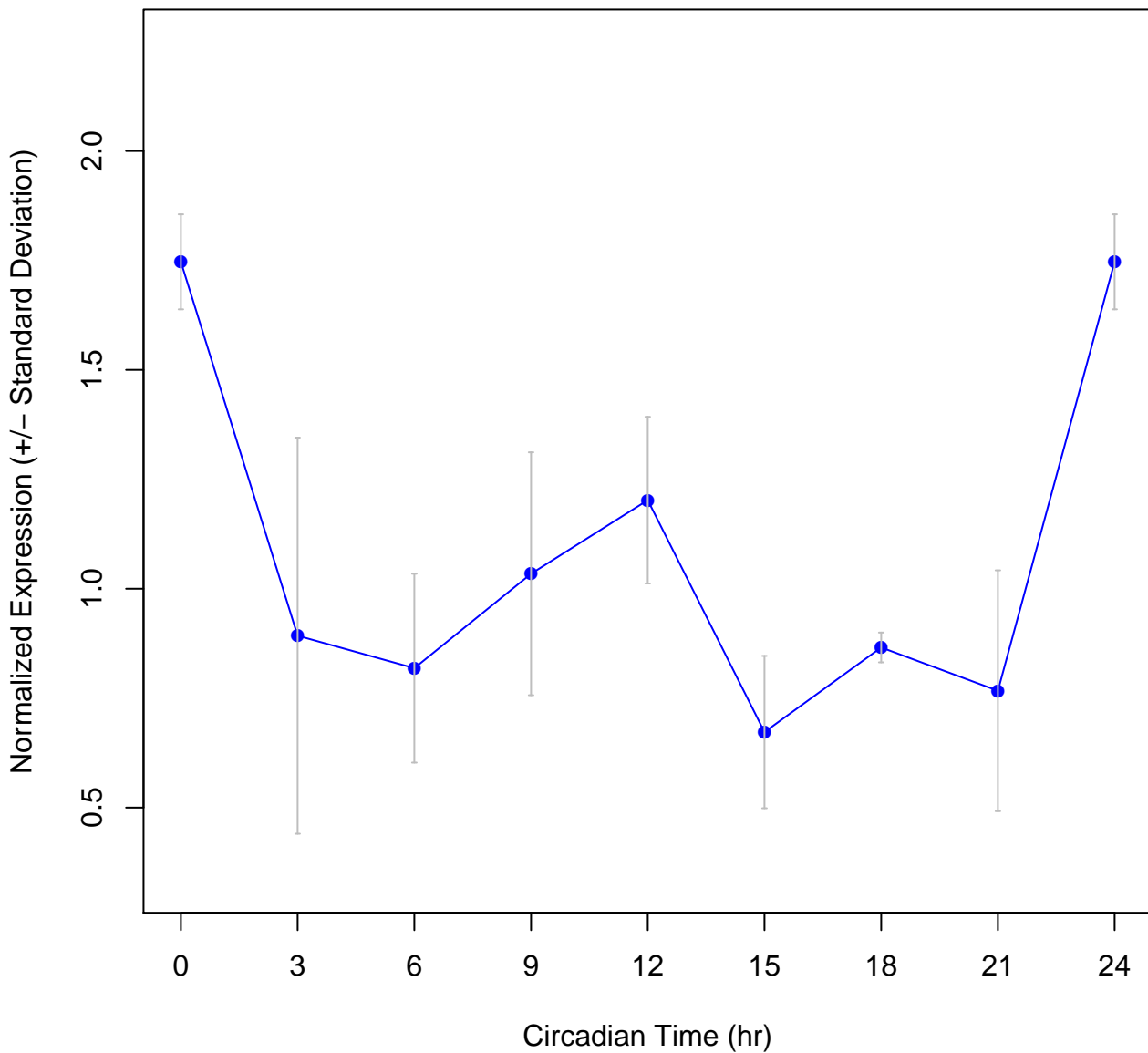
**Supplement Figure 3 itpr3**



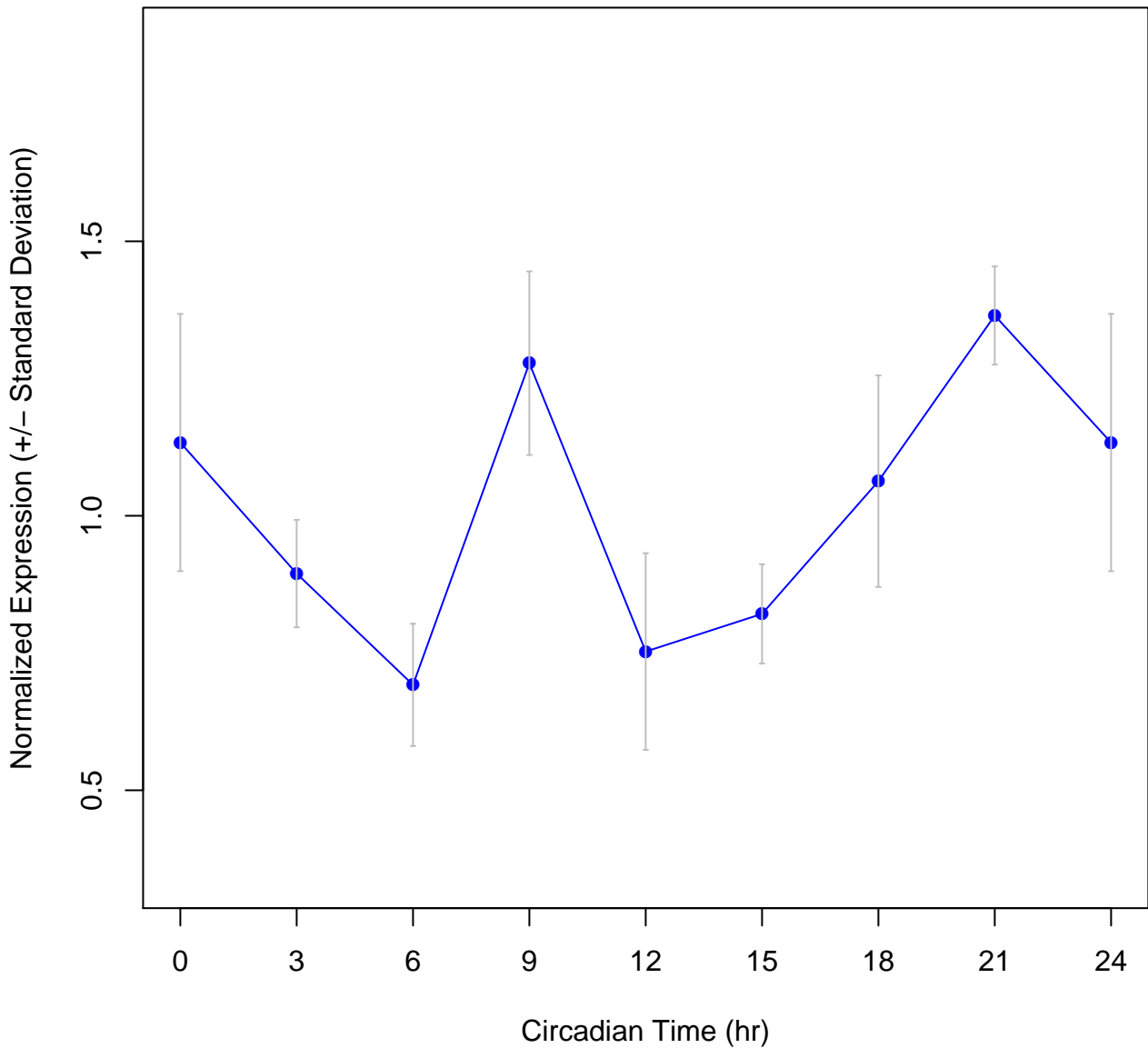
Supplement Figure 3 jun\_1



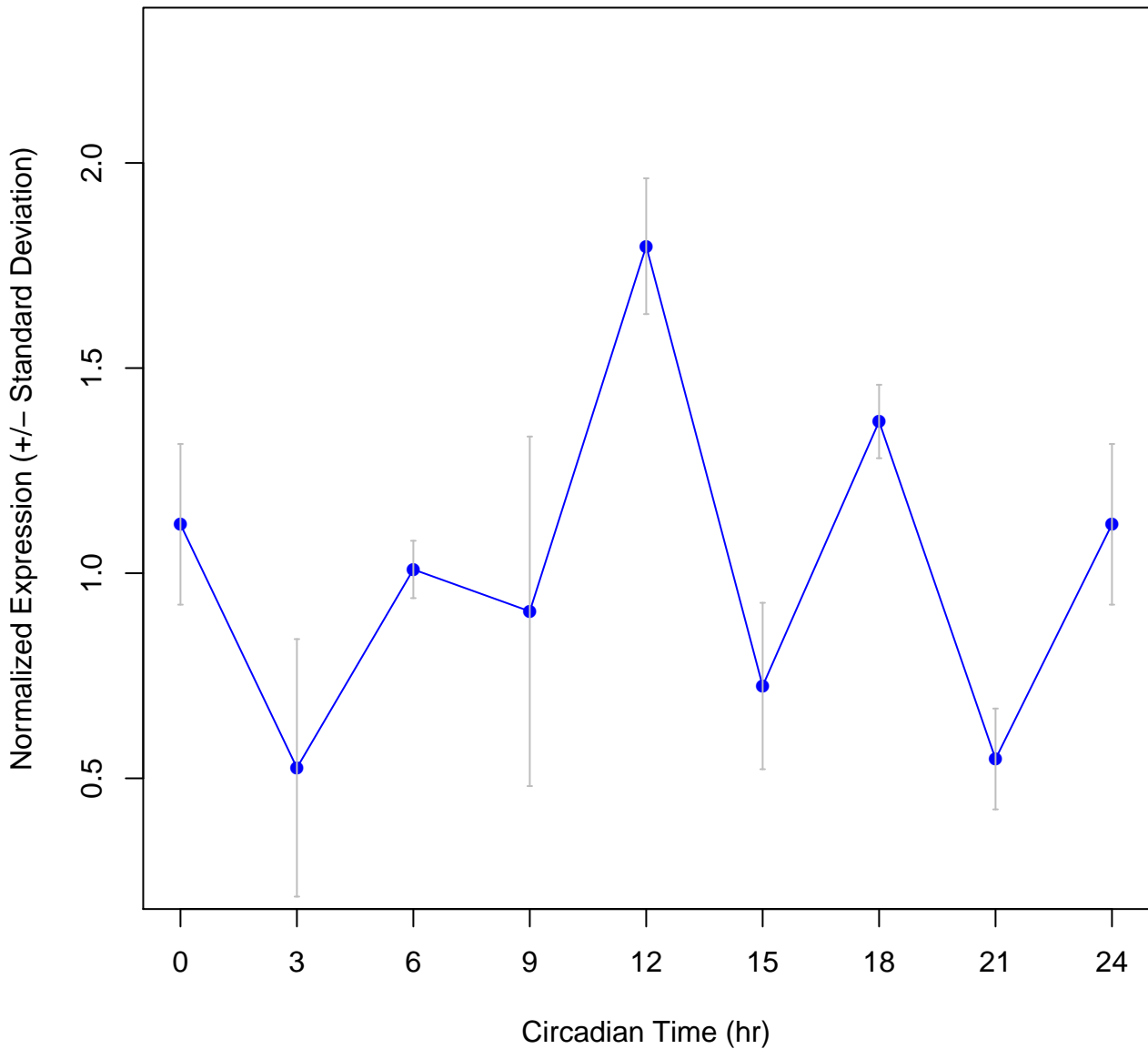
Supplement Figure 3 jun\_2



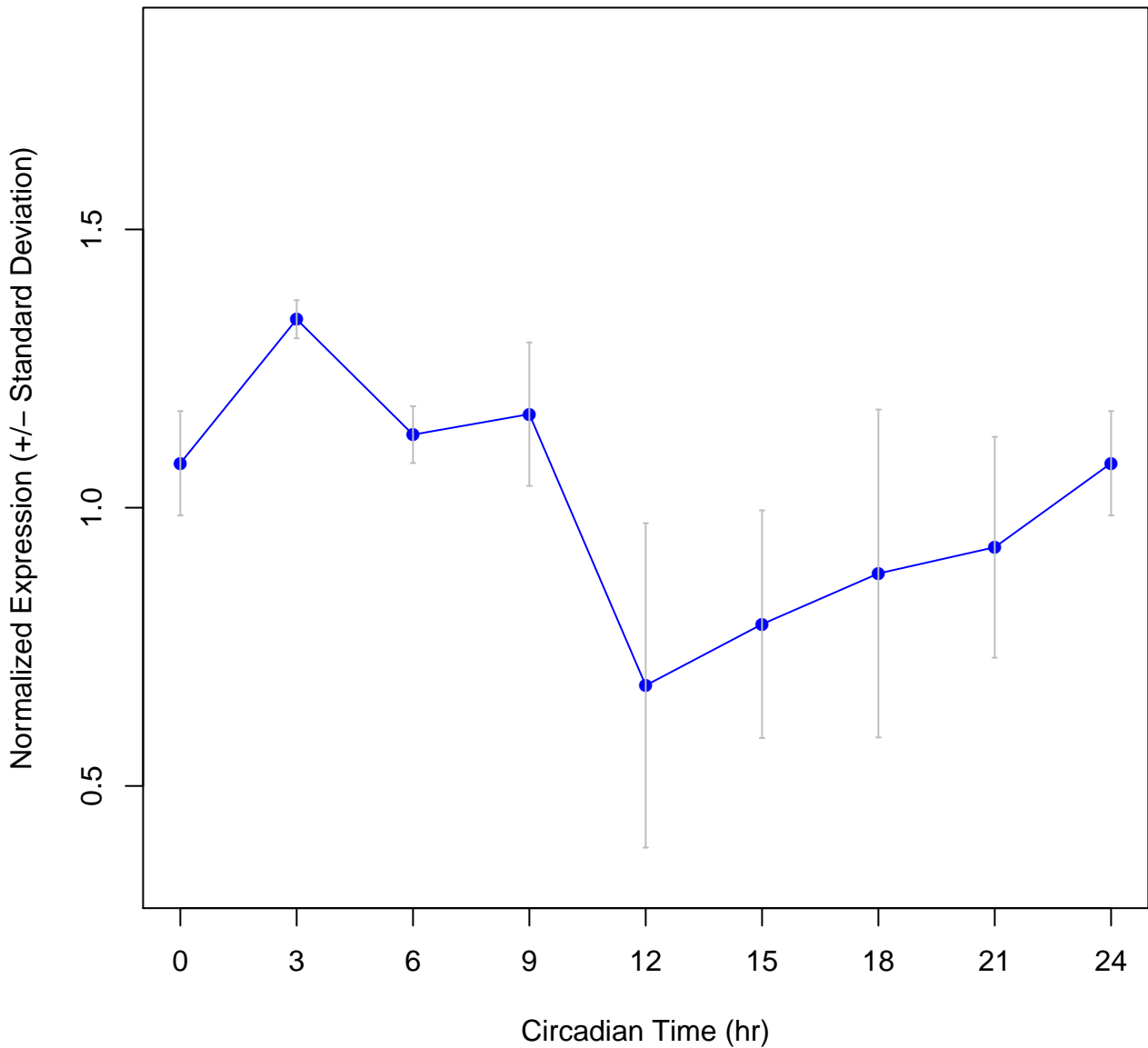
**Supplement Figure 3 kat2b**



### Supplement Figure 3 kifc1

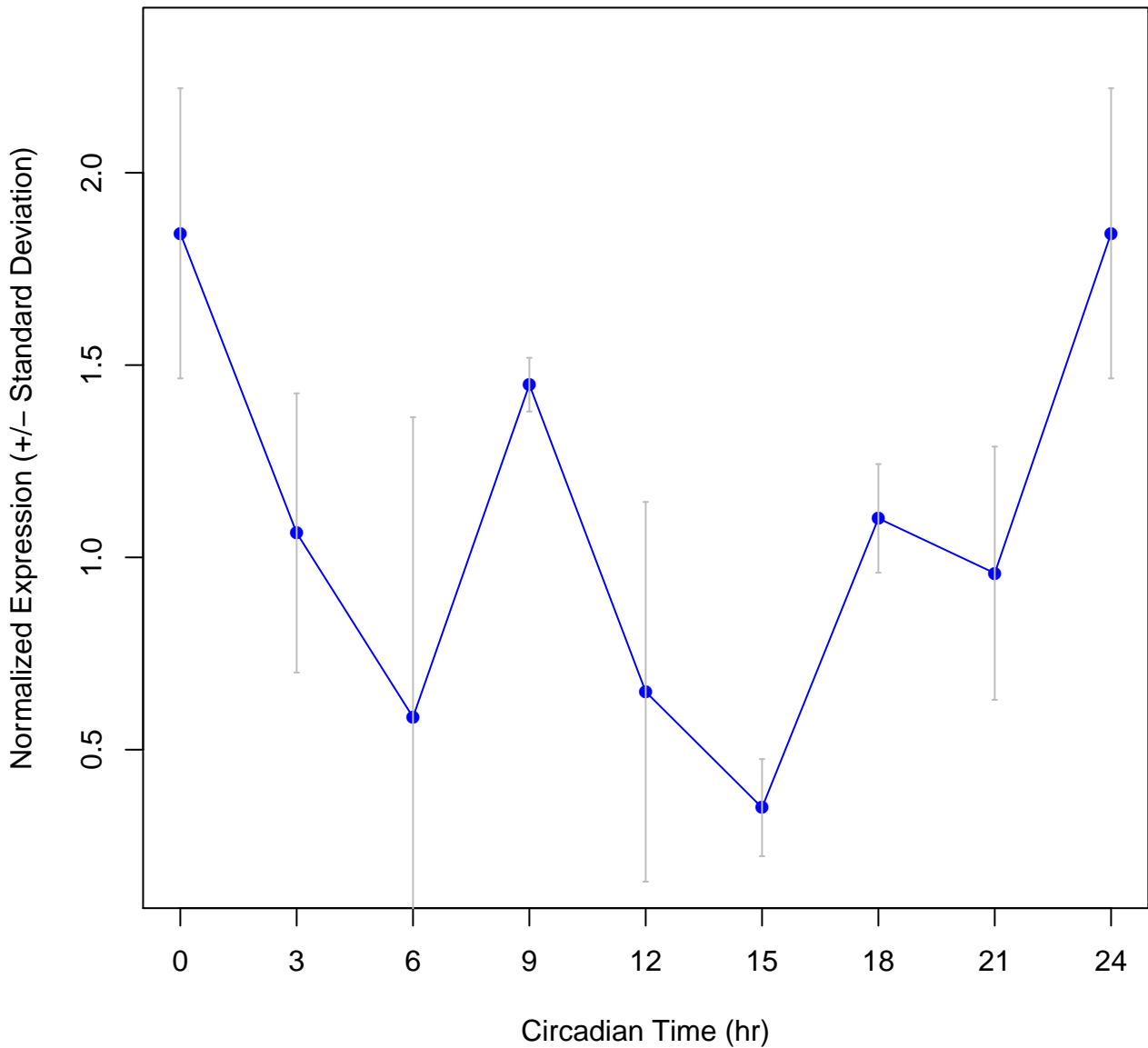


### Supplement Figure 3 kit

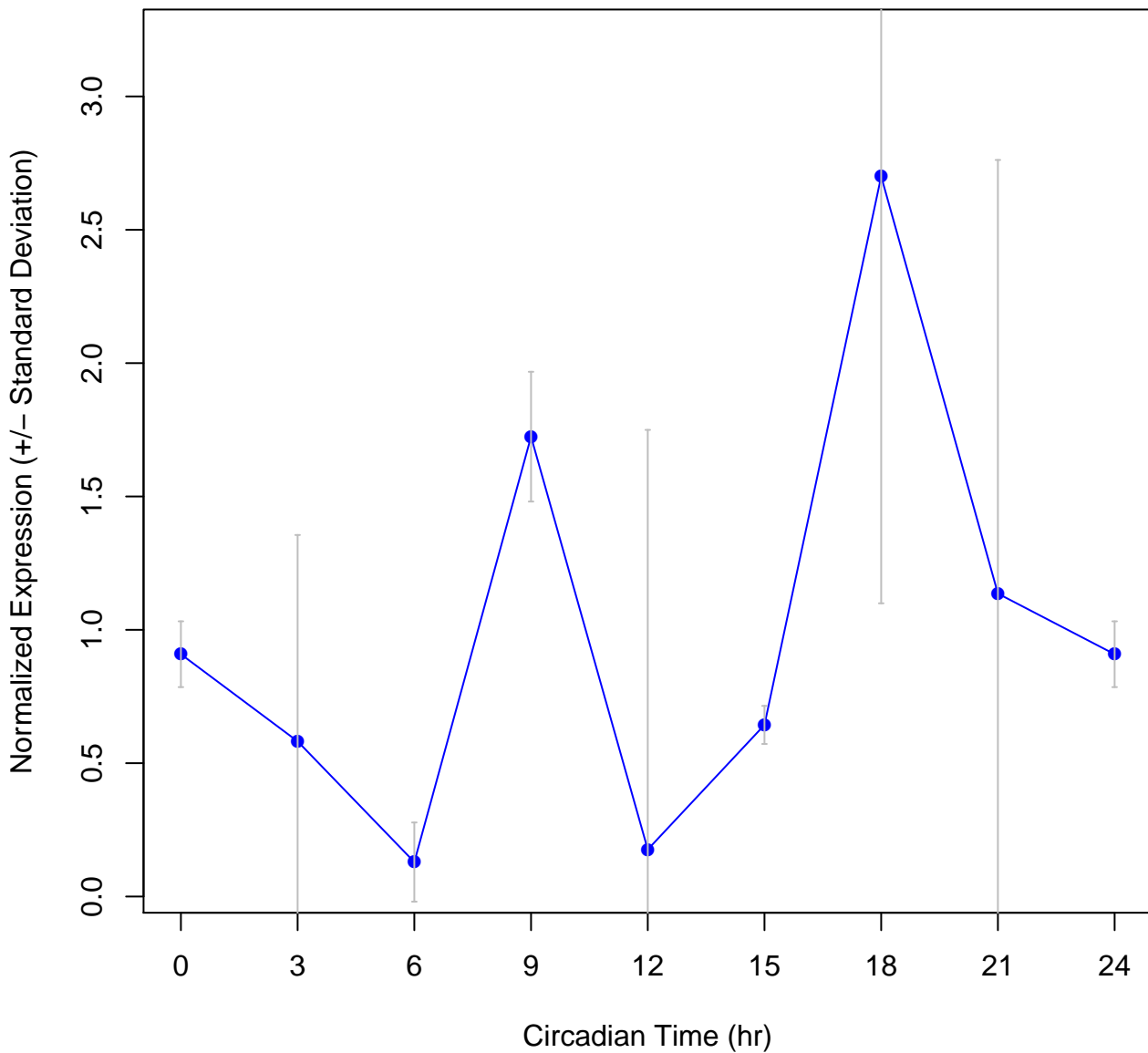




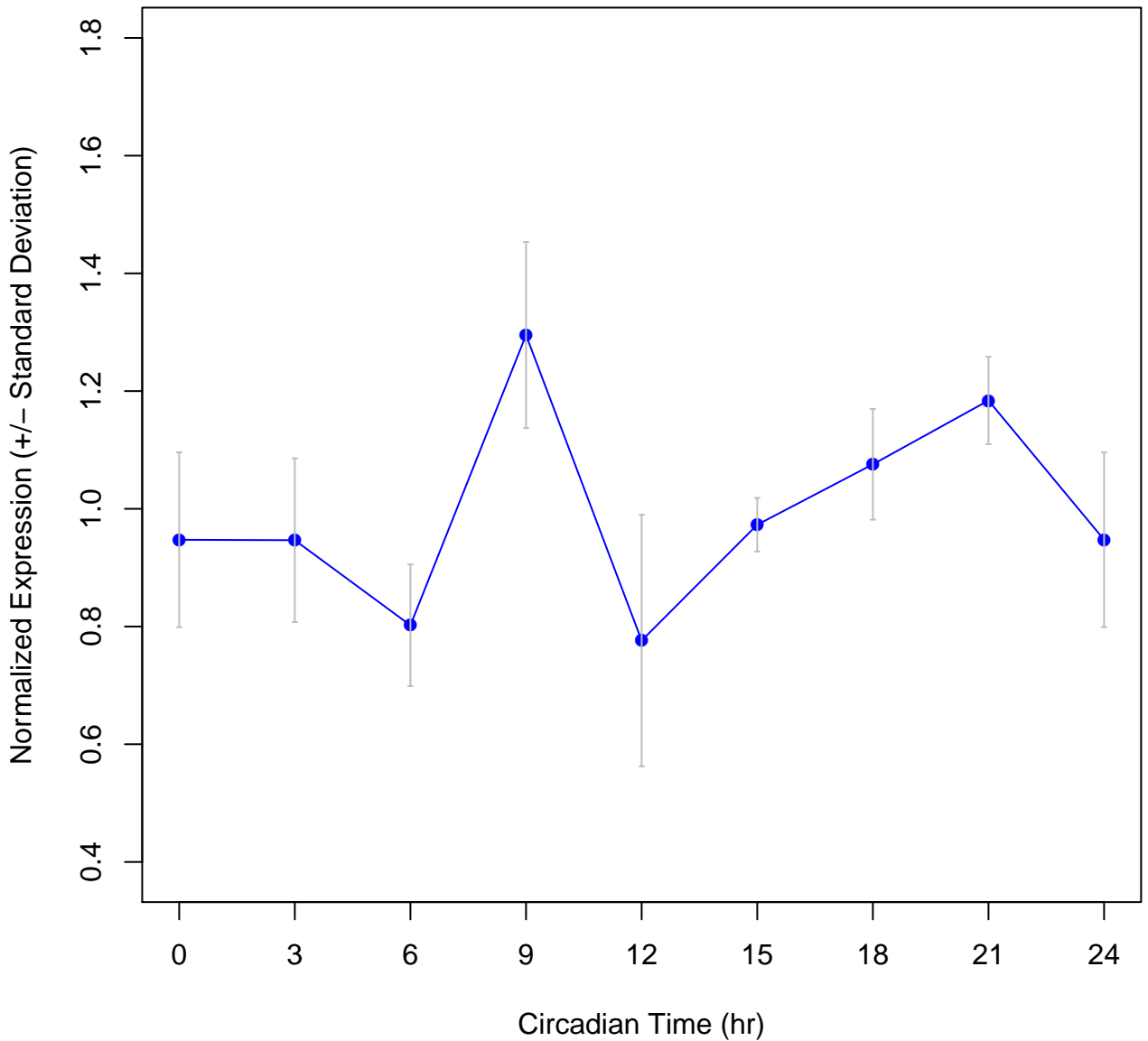
### Supplement Figure 3 klf10



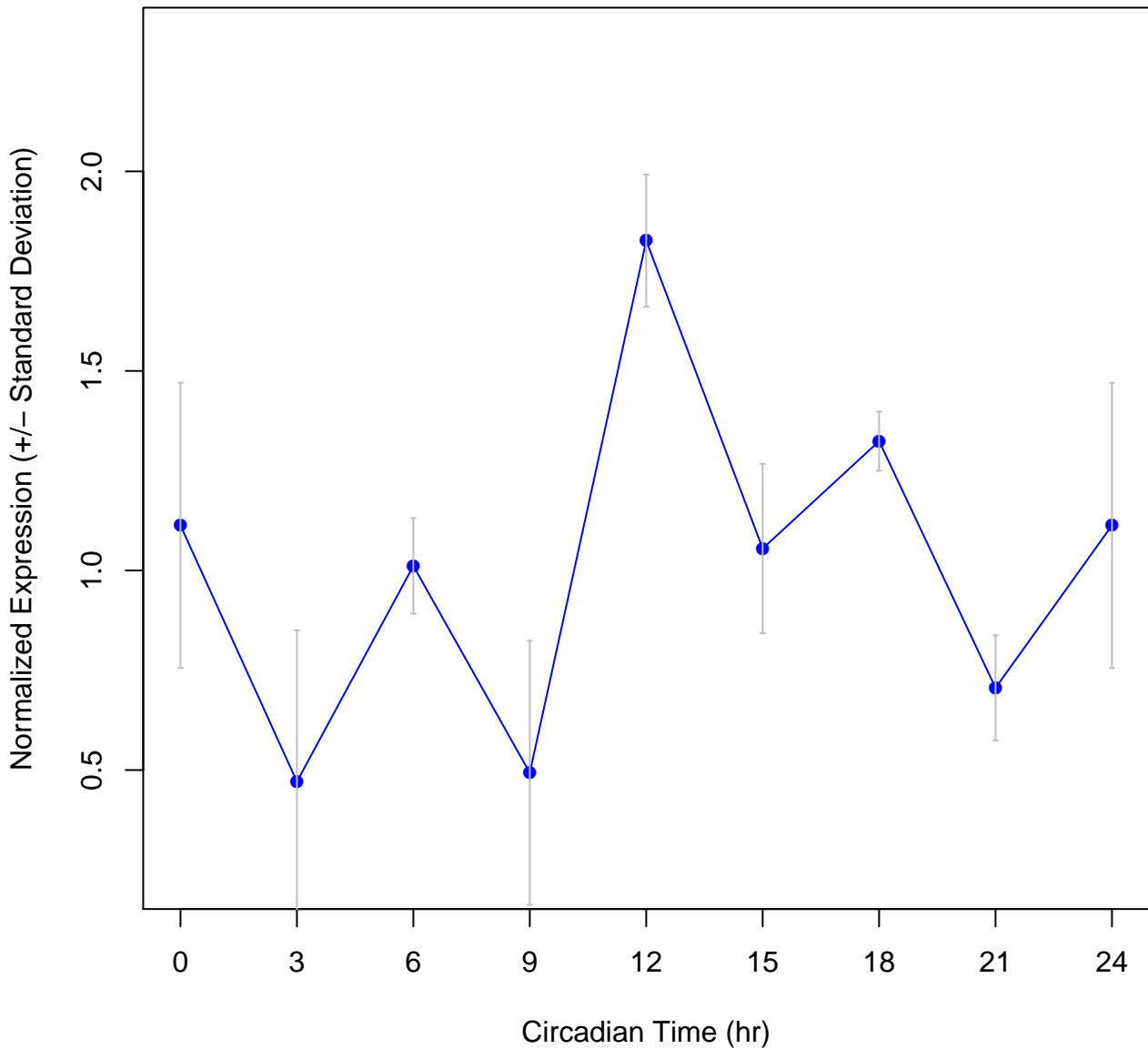
**Supplement Figure 3 klh138**



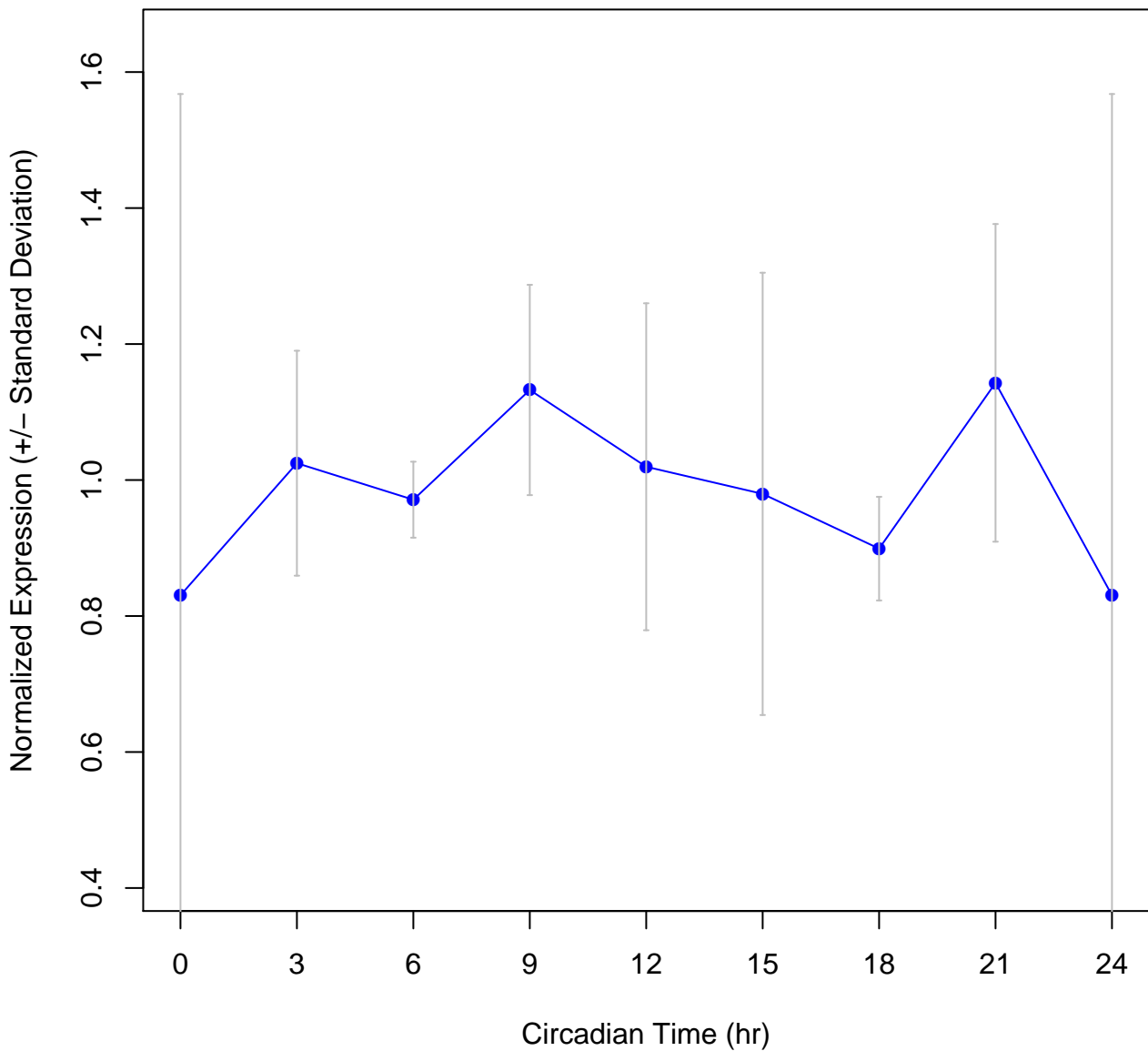
Supplement Figure 3 kmt2a



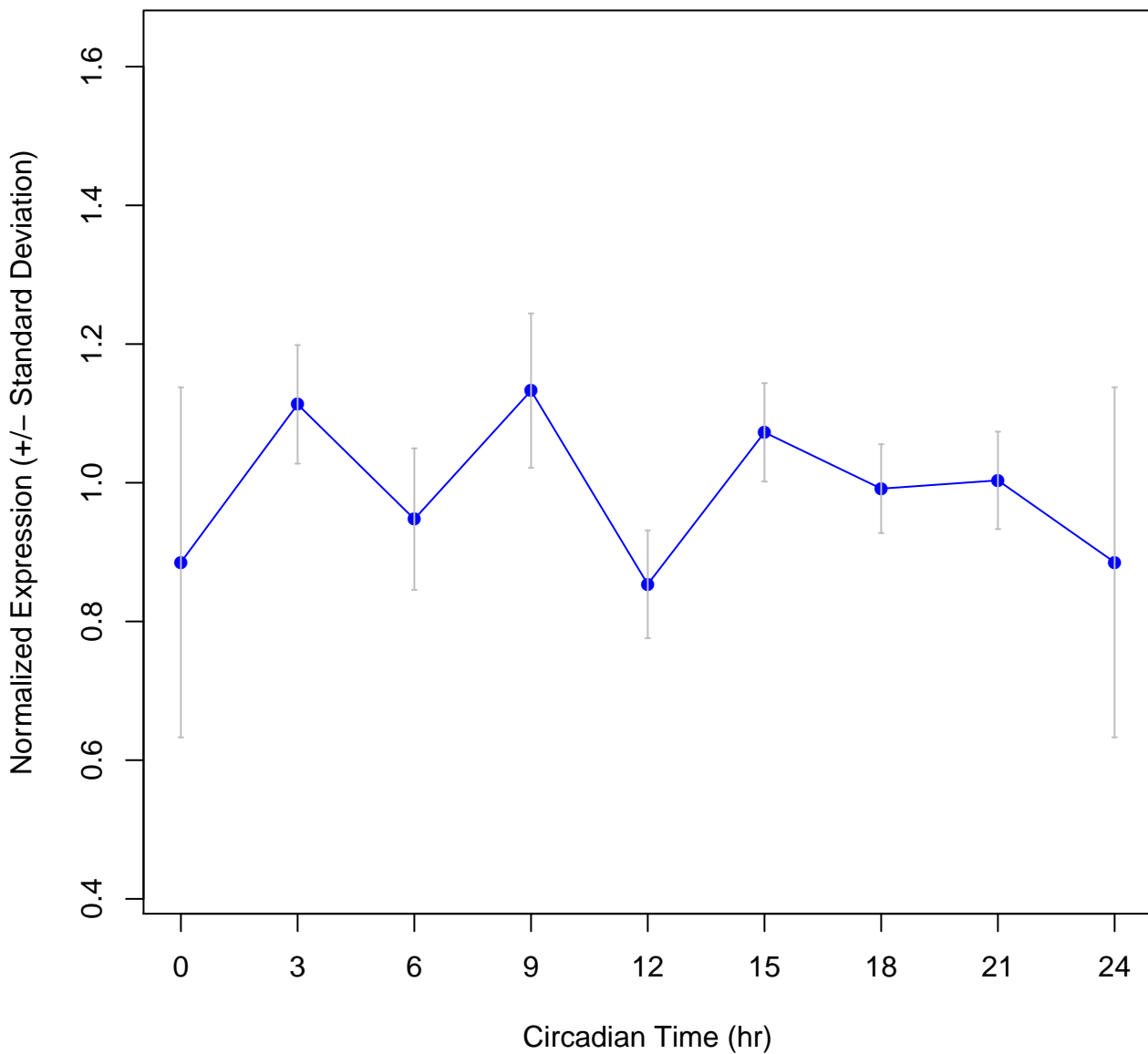
**Supplement Figure 3 kpna2**



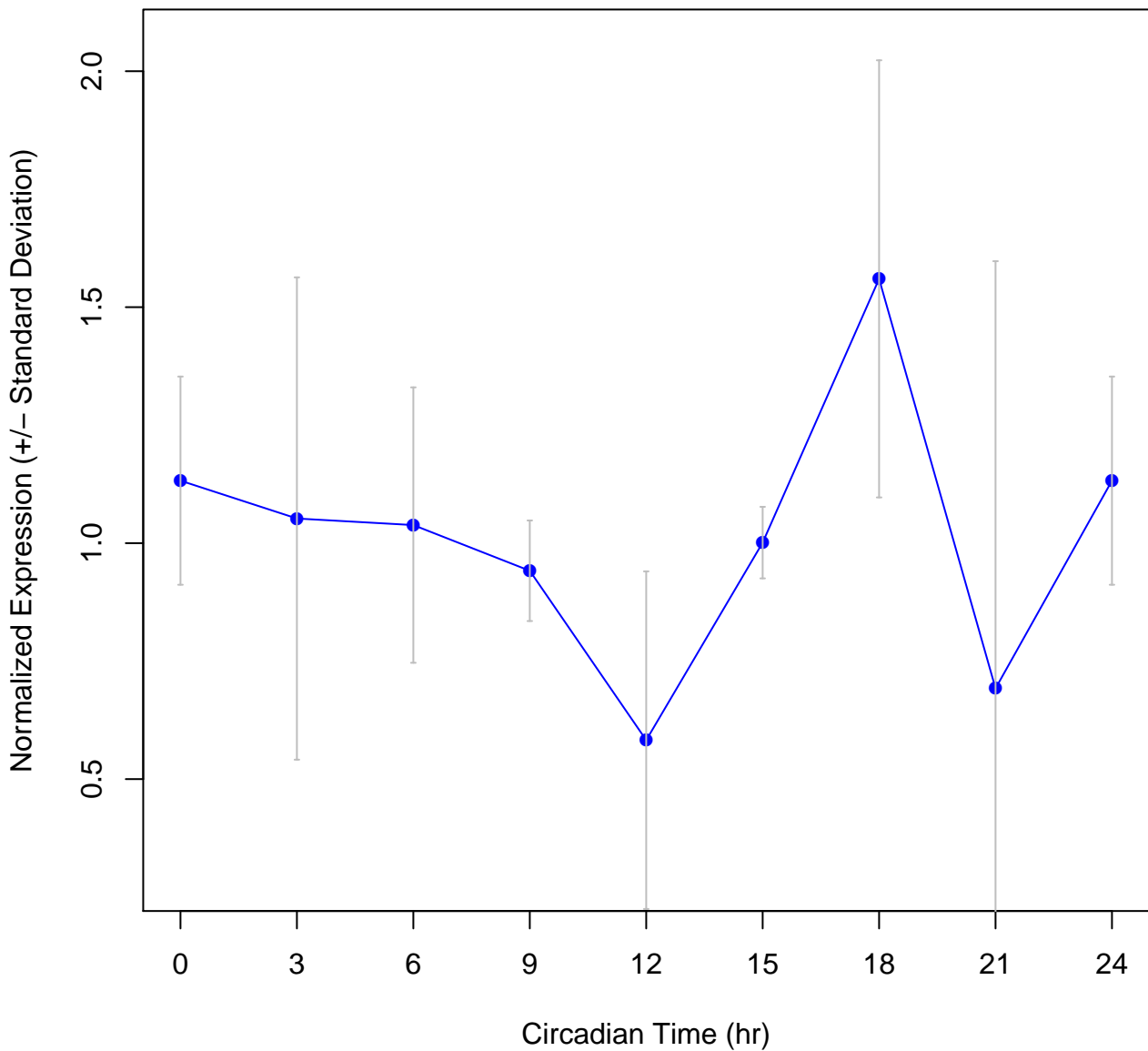
Supplement Figure 3 lcp2



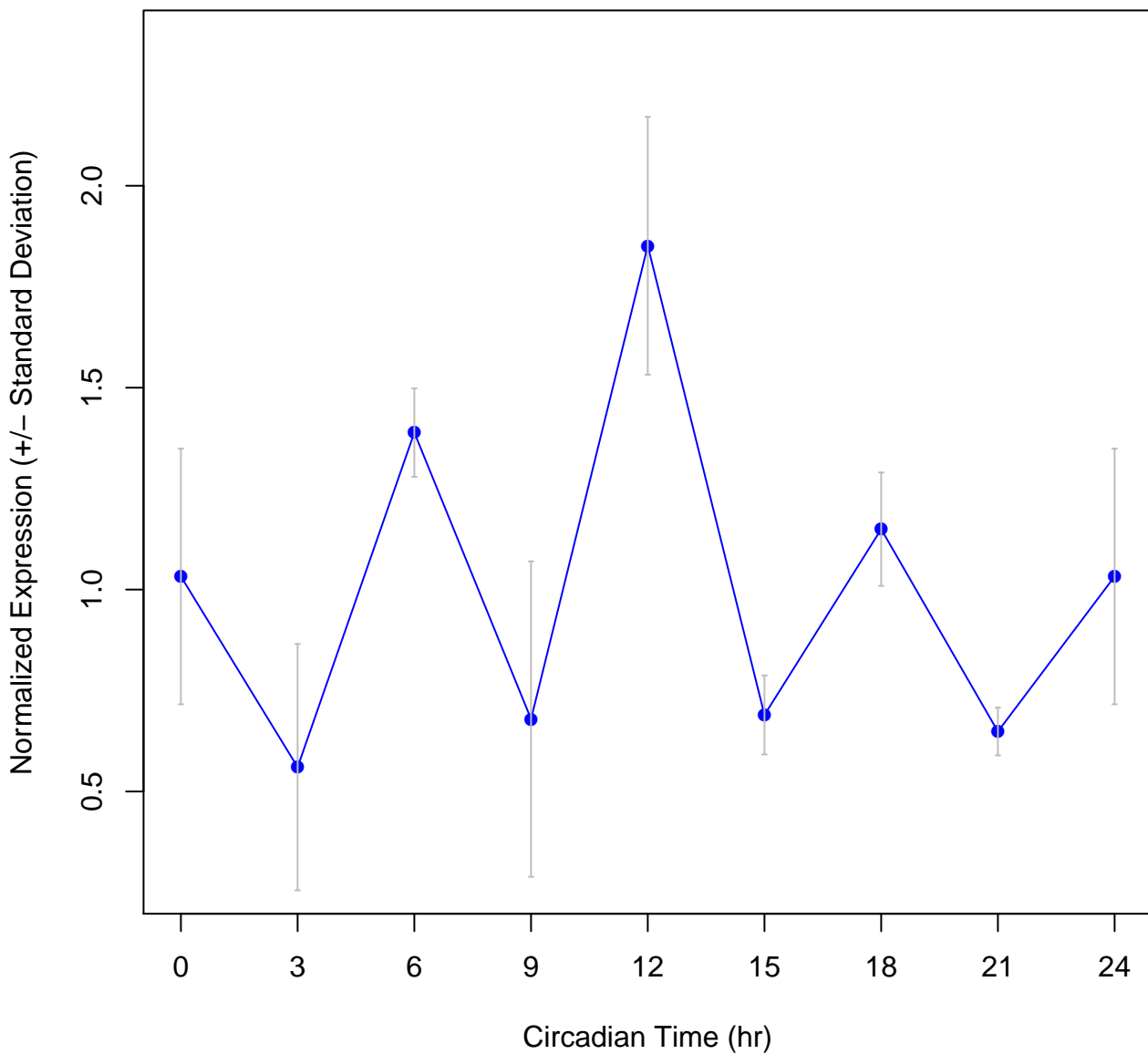
**Supplement Figure 3 Ikb1**



**Supplement Figure 3 Ipin1**

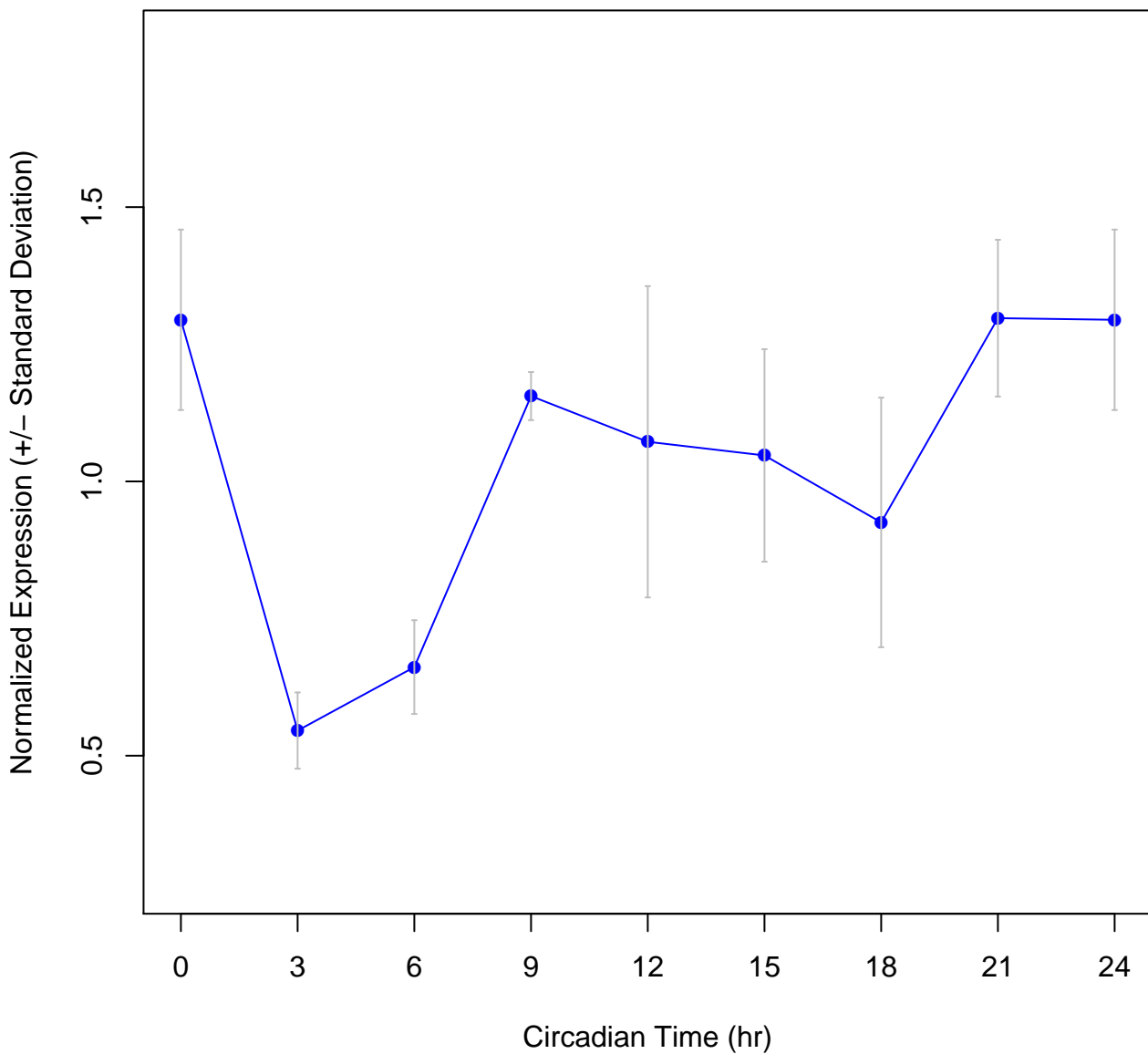


**Supplement Figure 3 mad211**

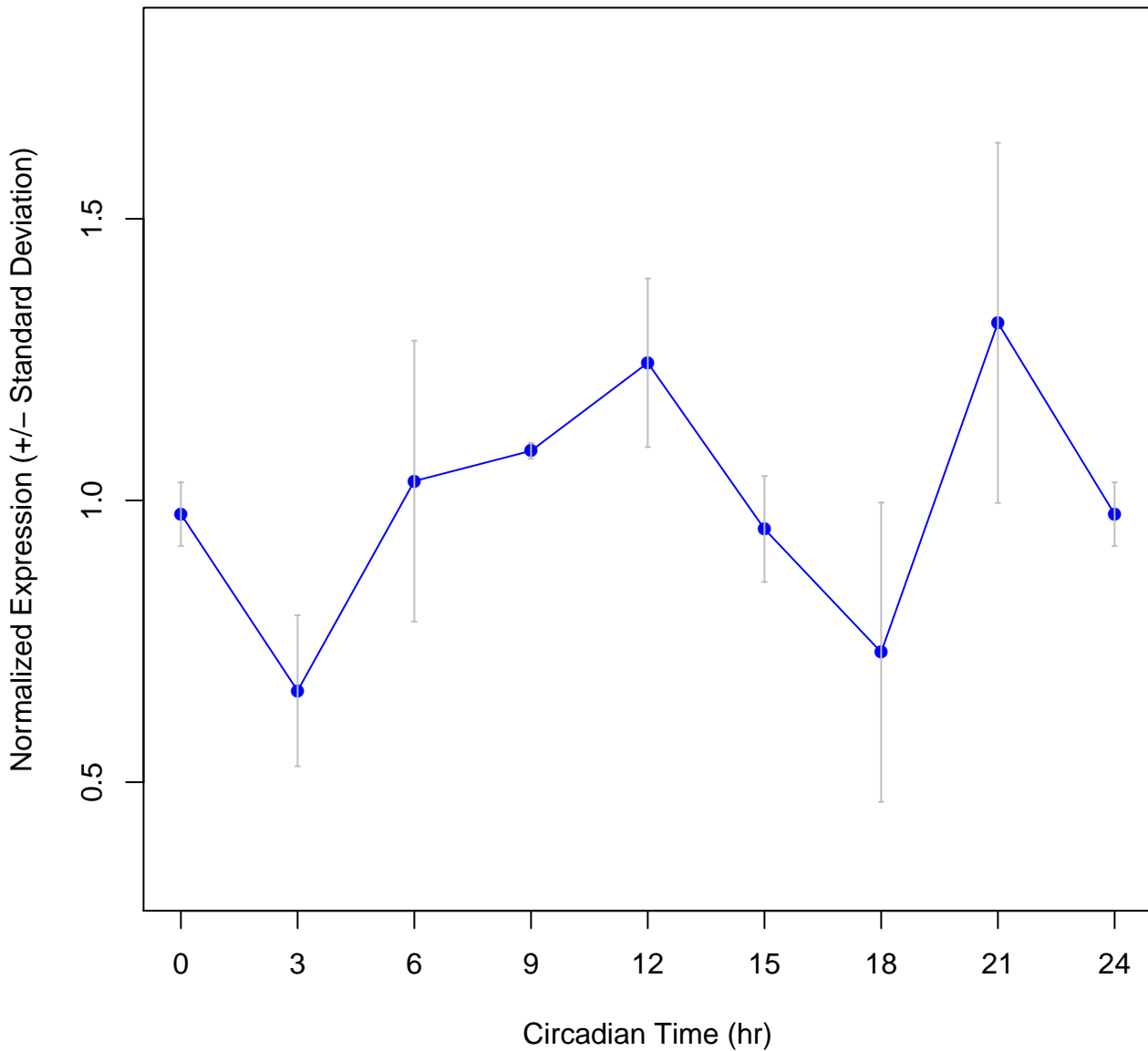




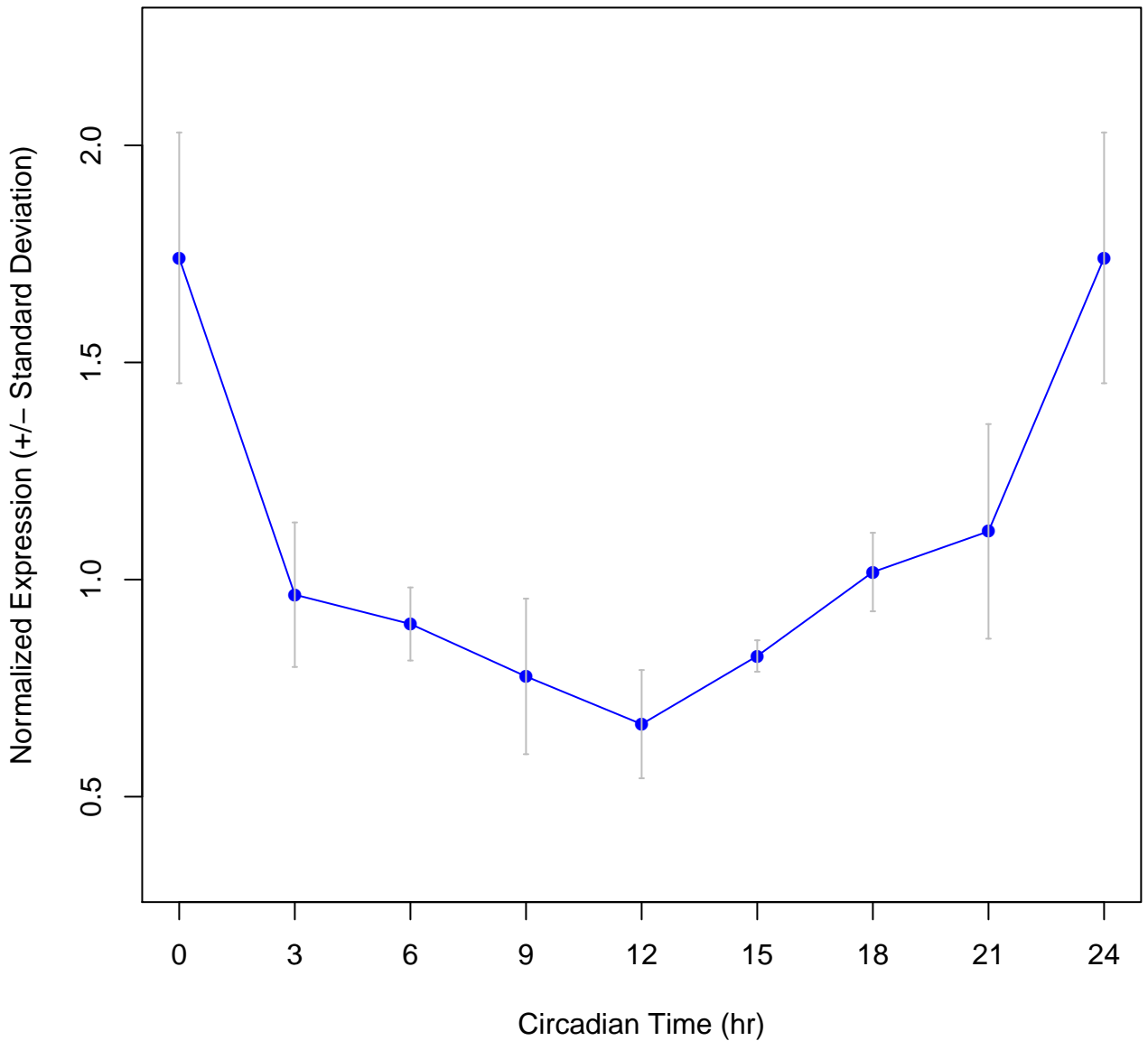
Supplement Figure 3 map2k1



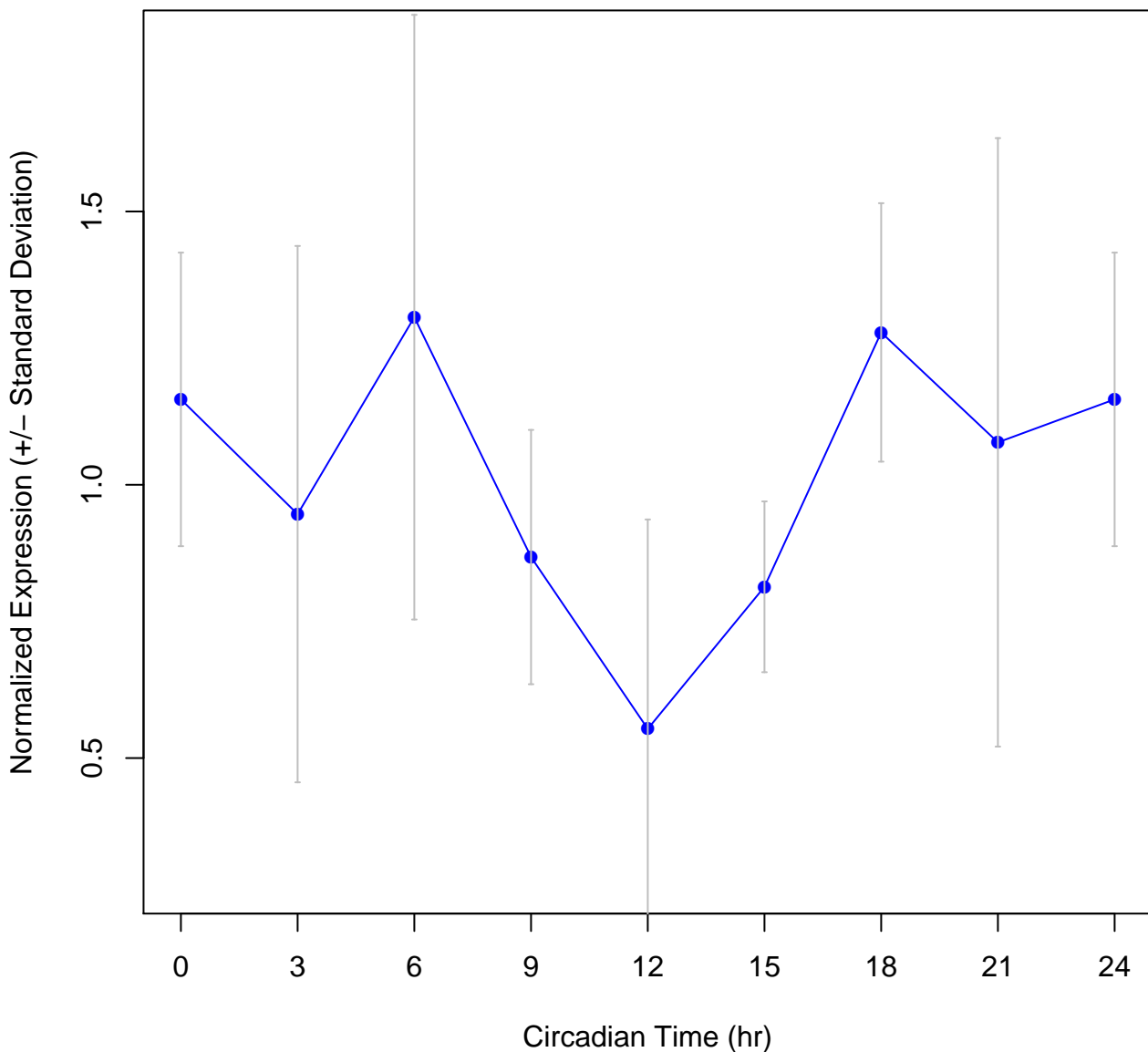
Supplement Figure 3 map2k6



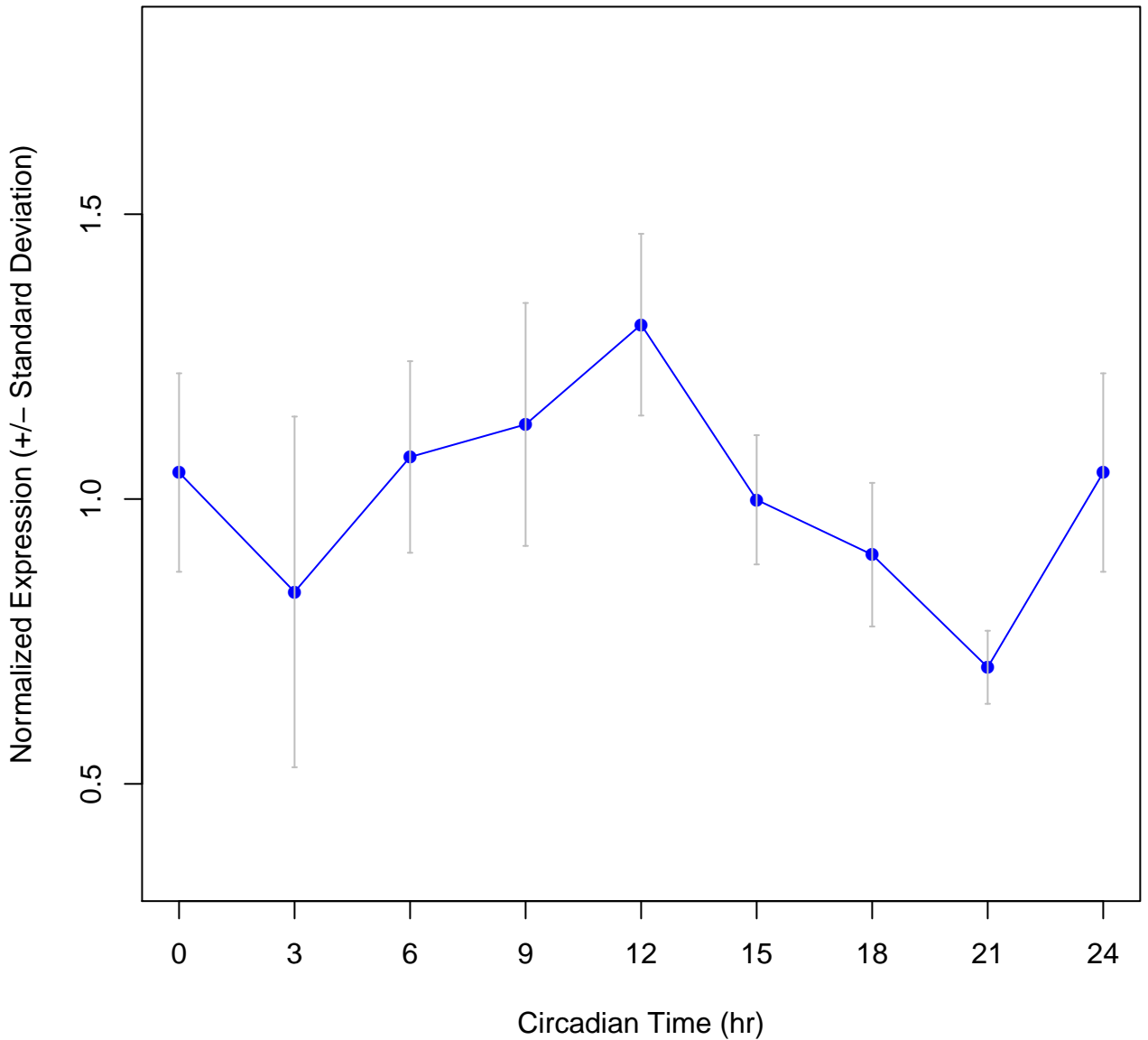
**Supplement Figure 3 mcl1**



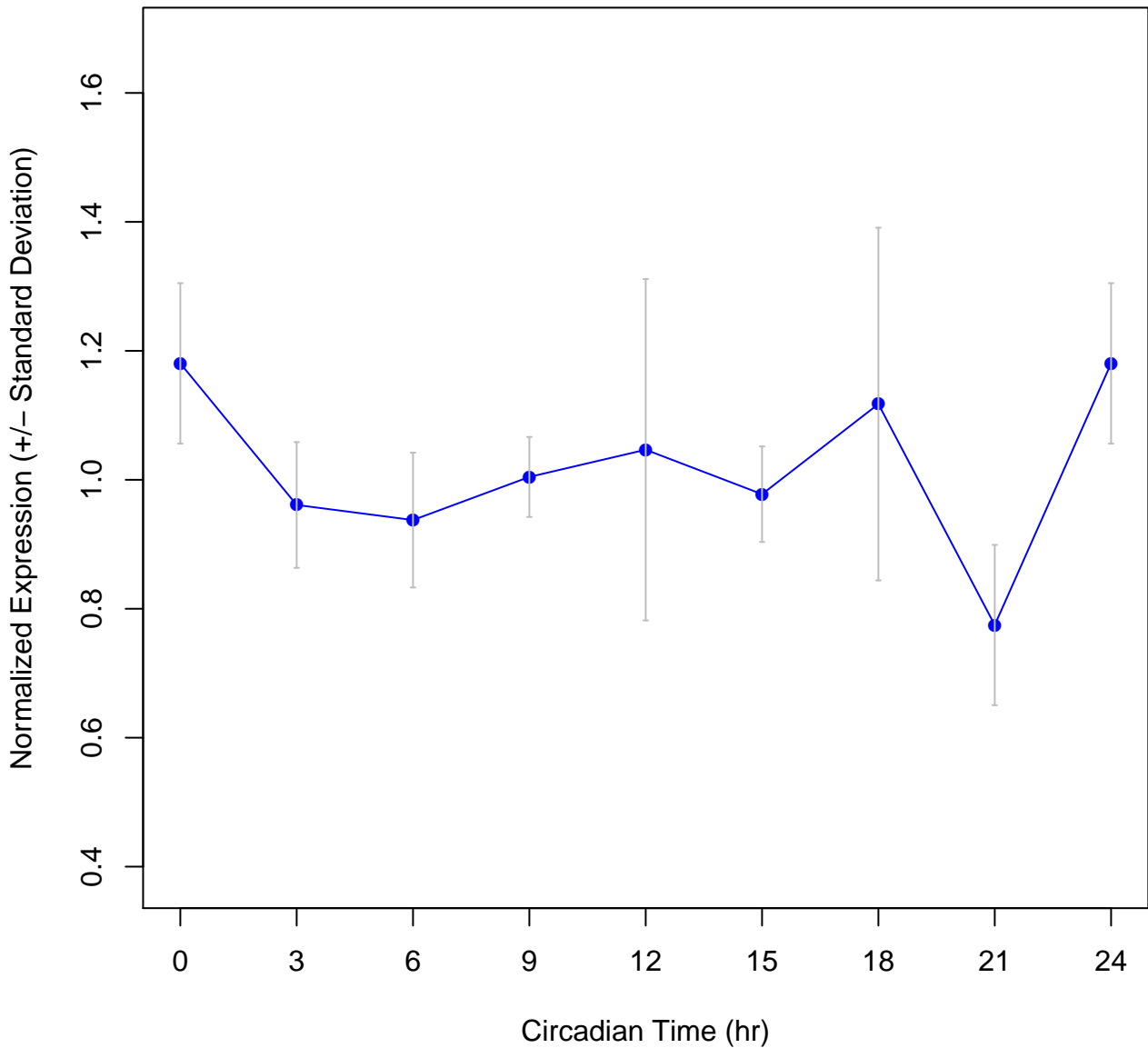
Supplement Figure 3 me1



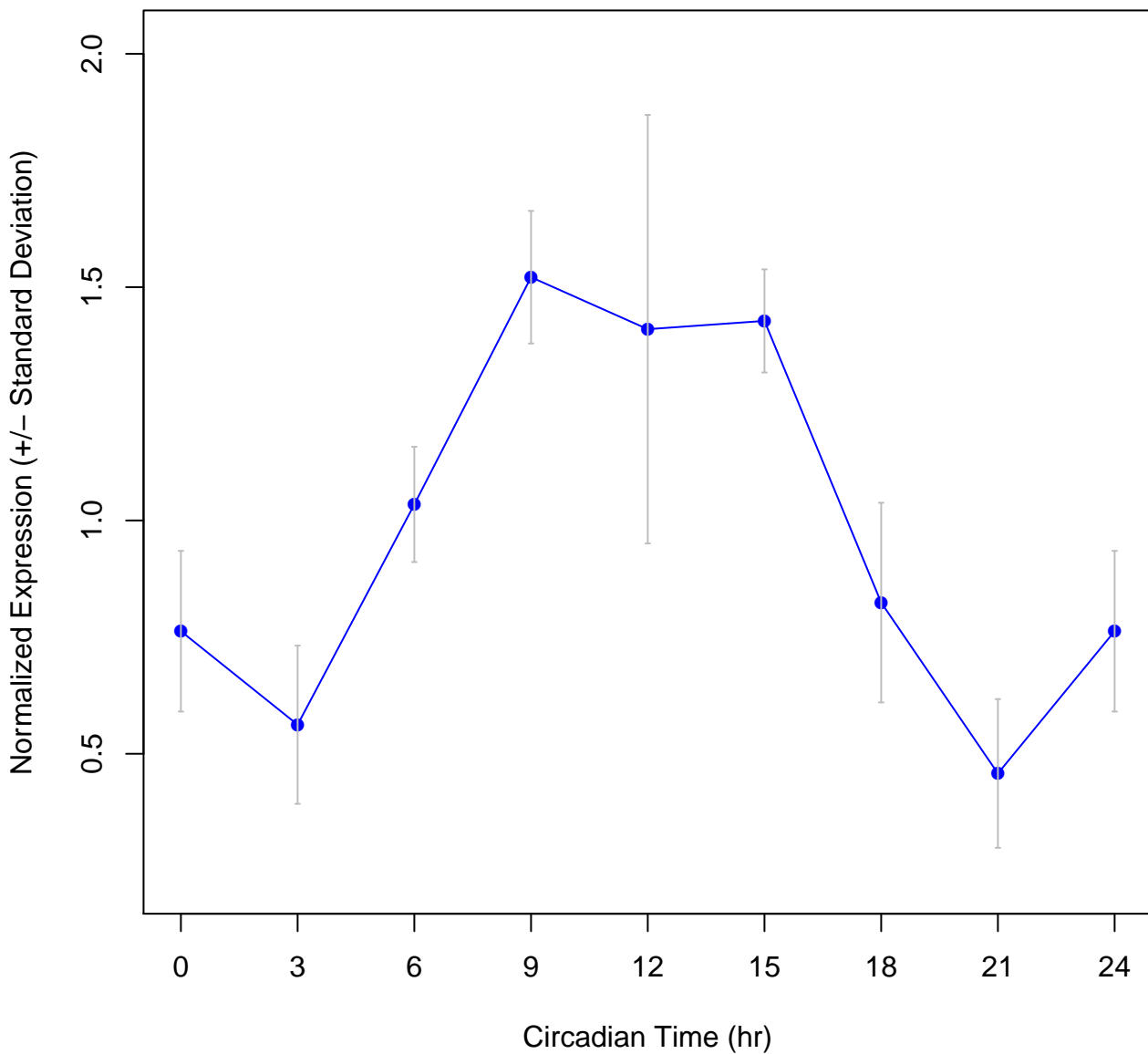
Supplement Figure 3 mgst1



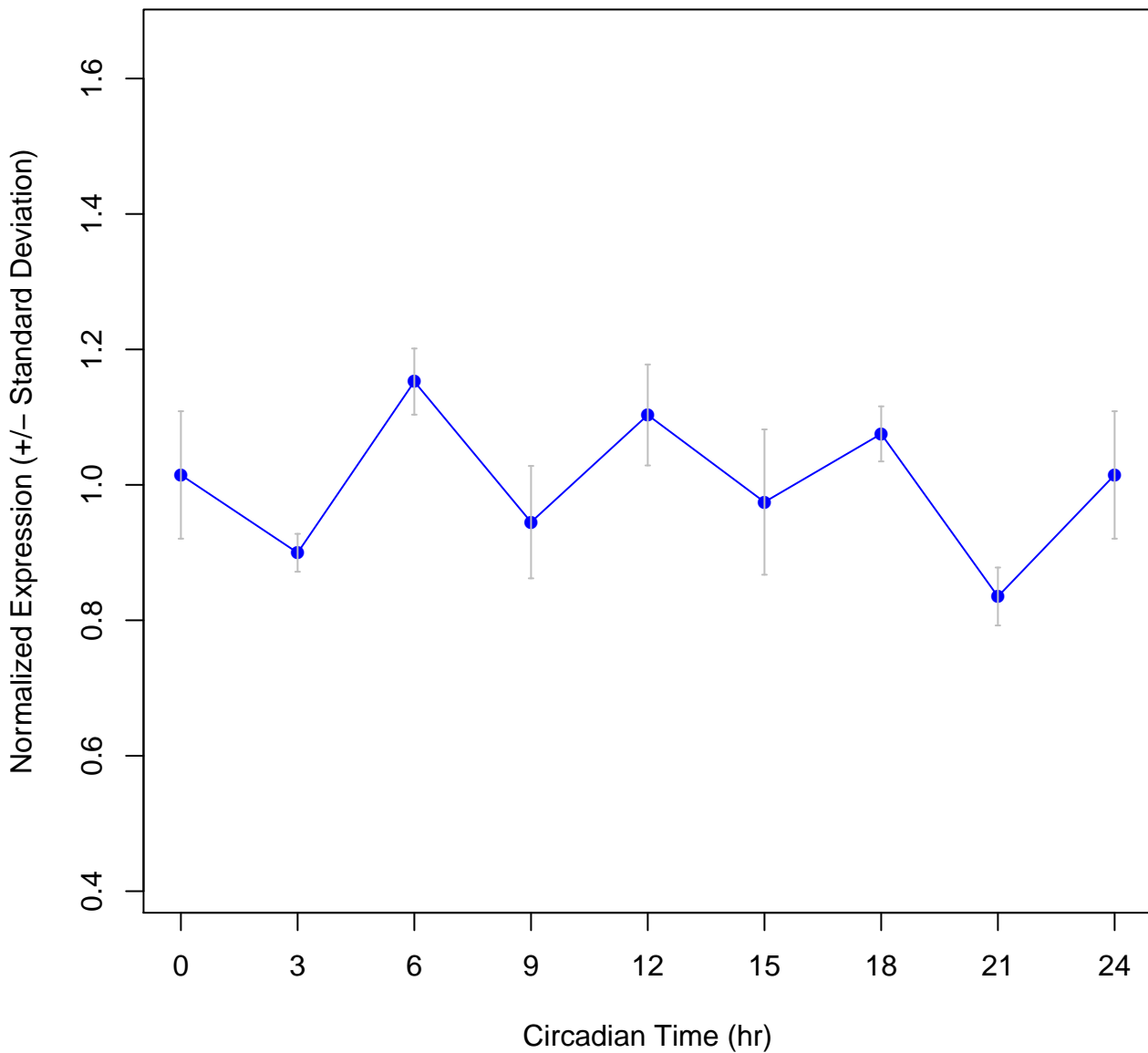
Supplement Figure 3 mitf



Supplement Figure 3 mtcl

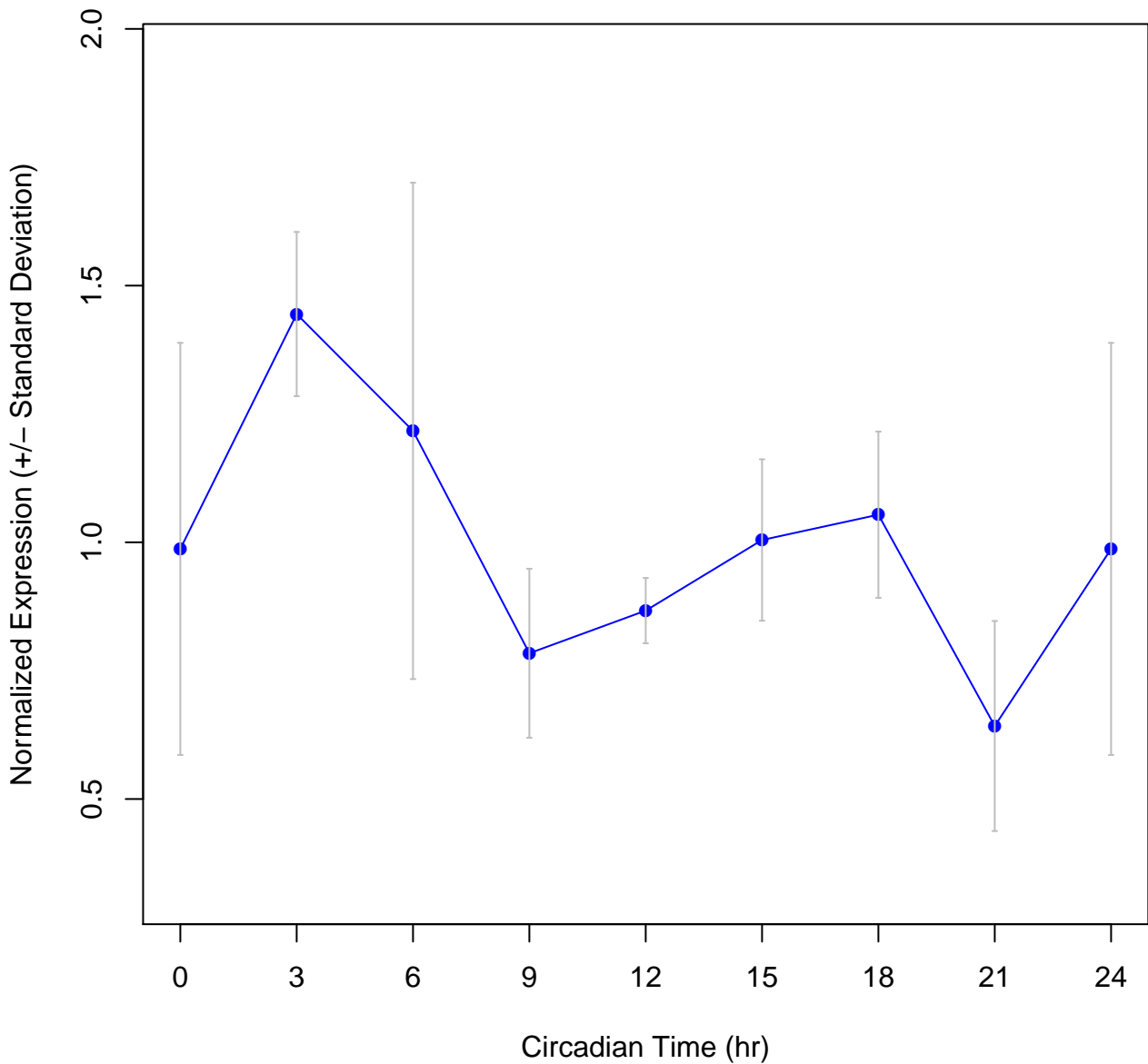


### Supplement Figure 3 mtor

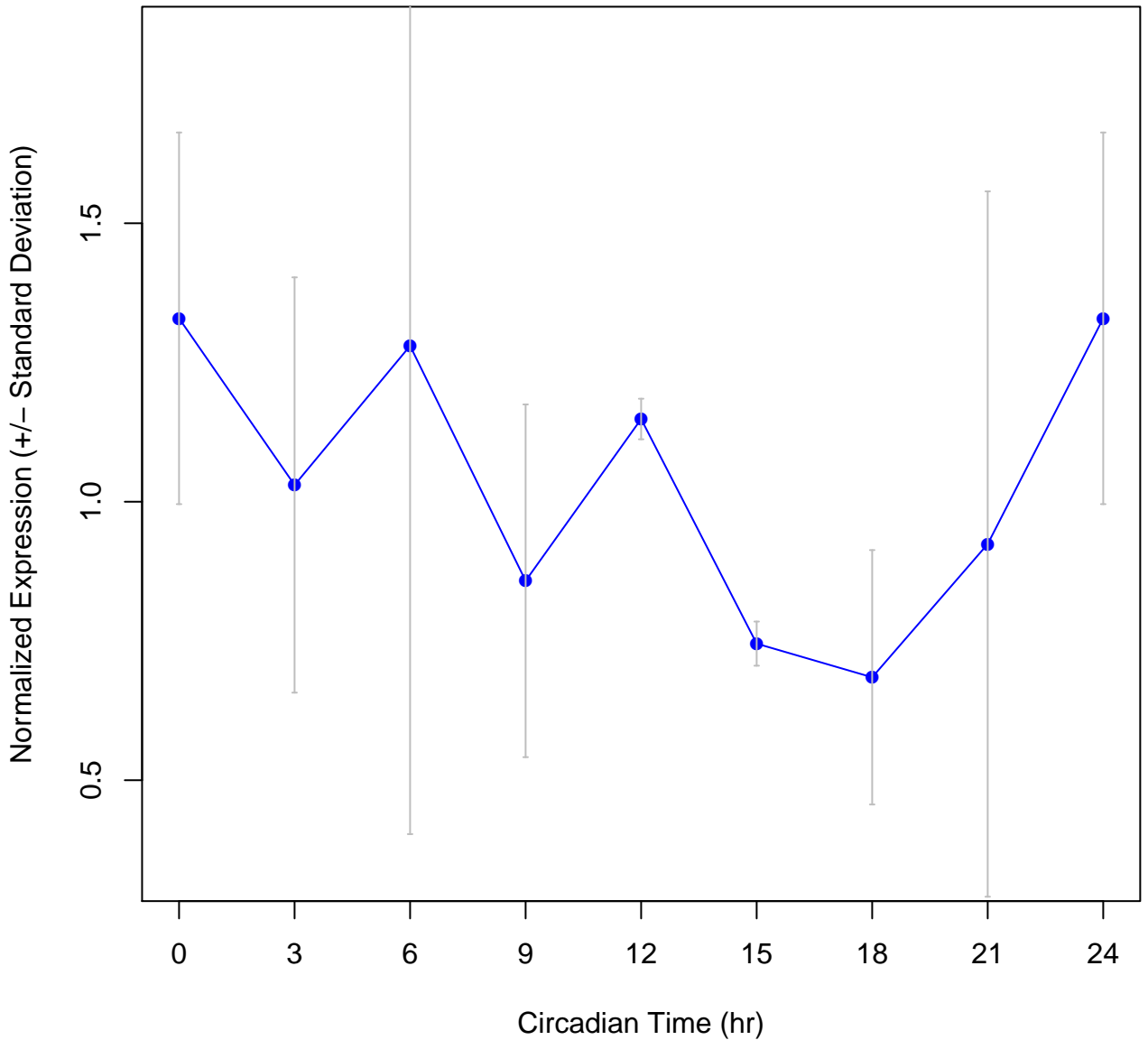




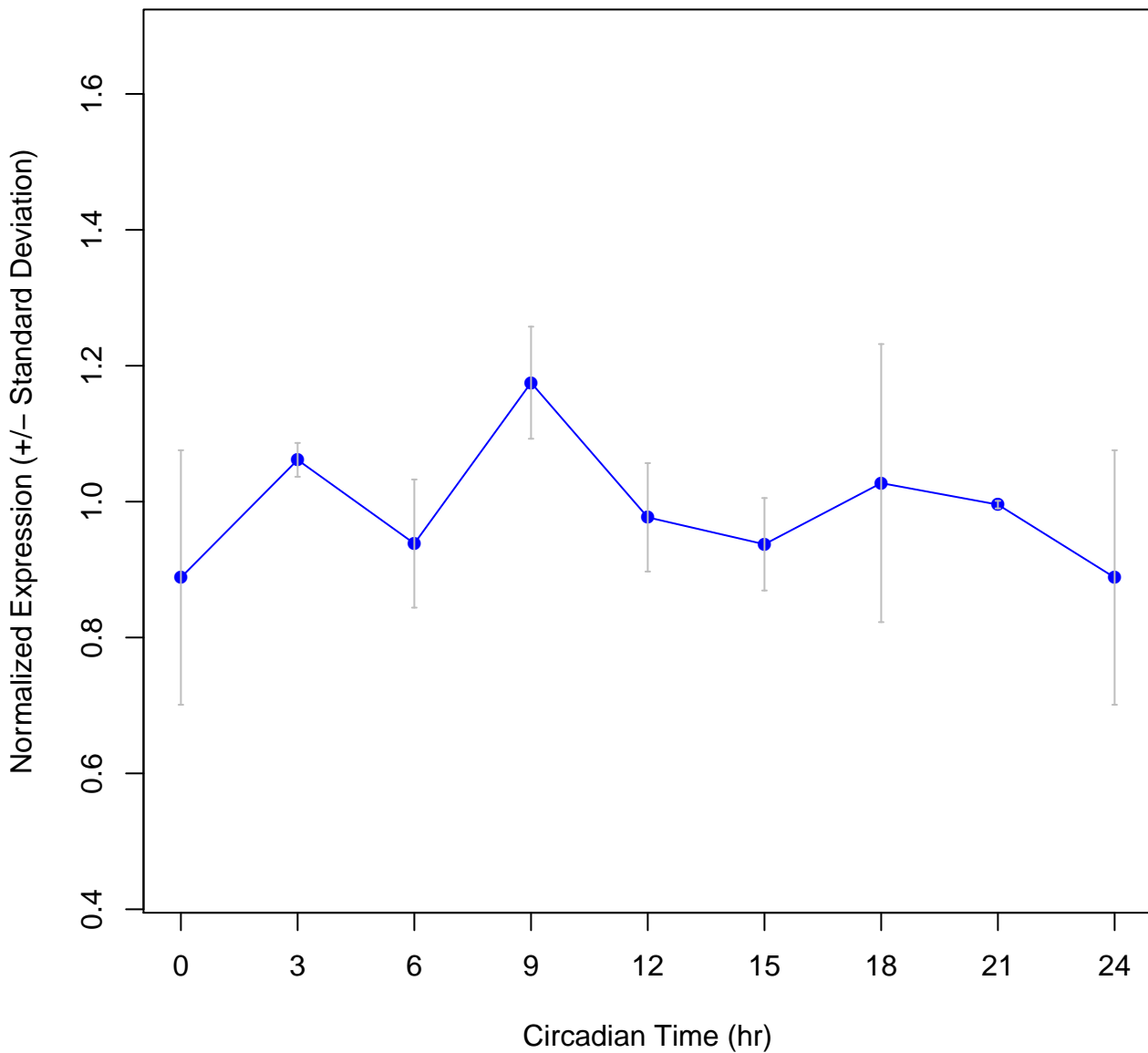
Supplement Figure 3 myh14



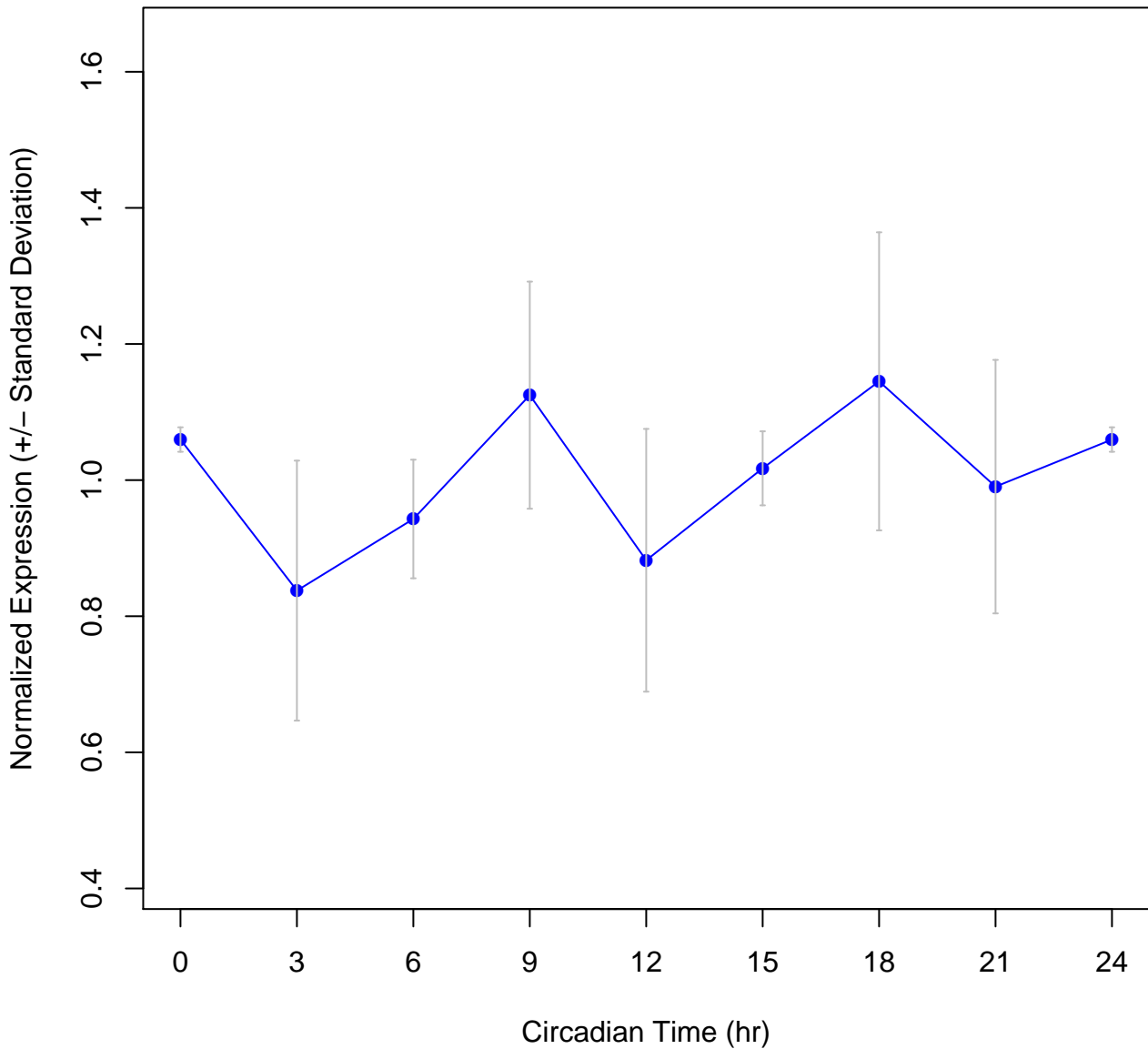
Supplement Figure 3 myl2b



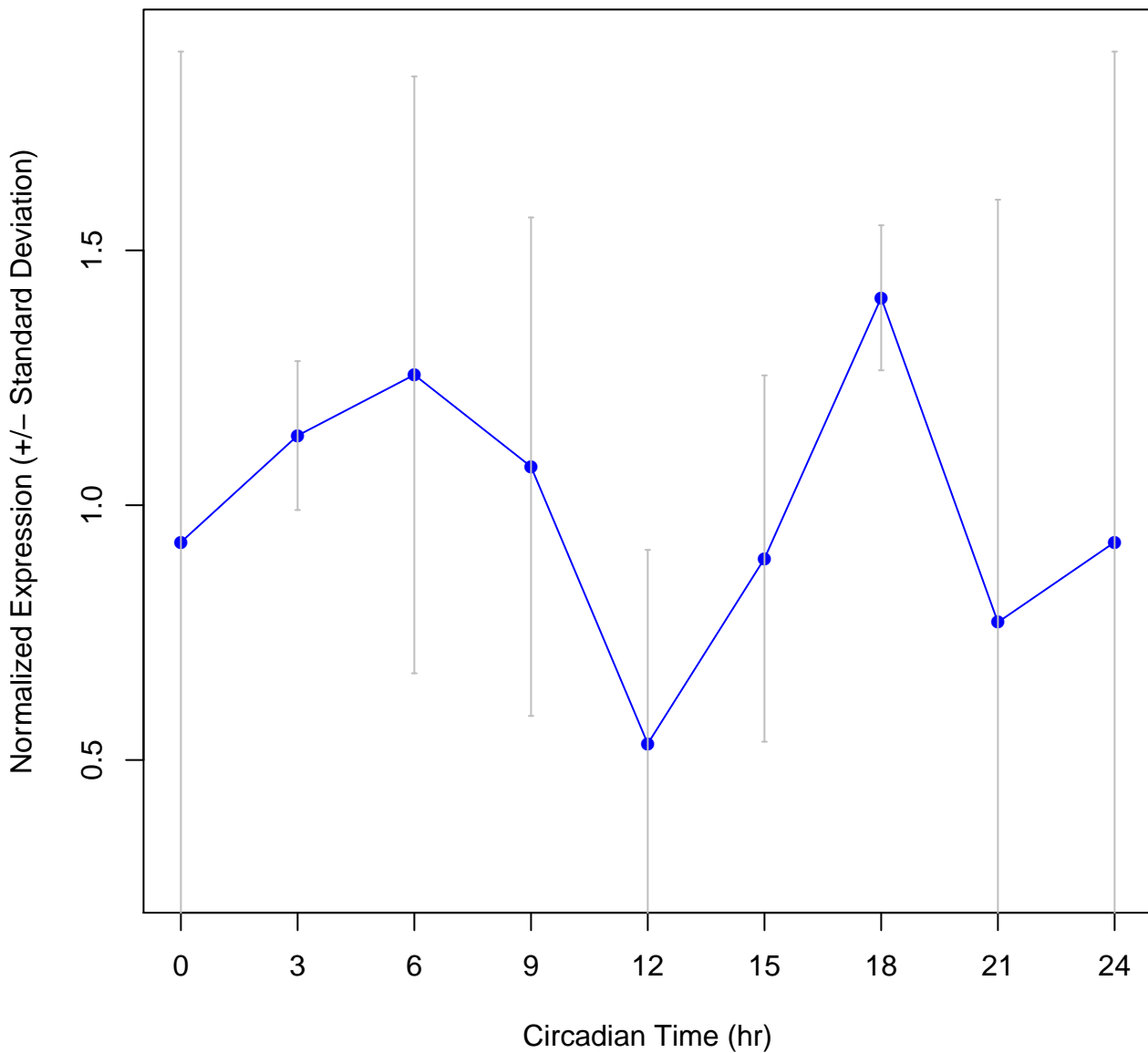
### Supplement Figure 3 nadsyn1



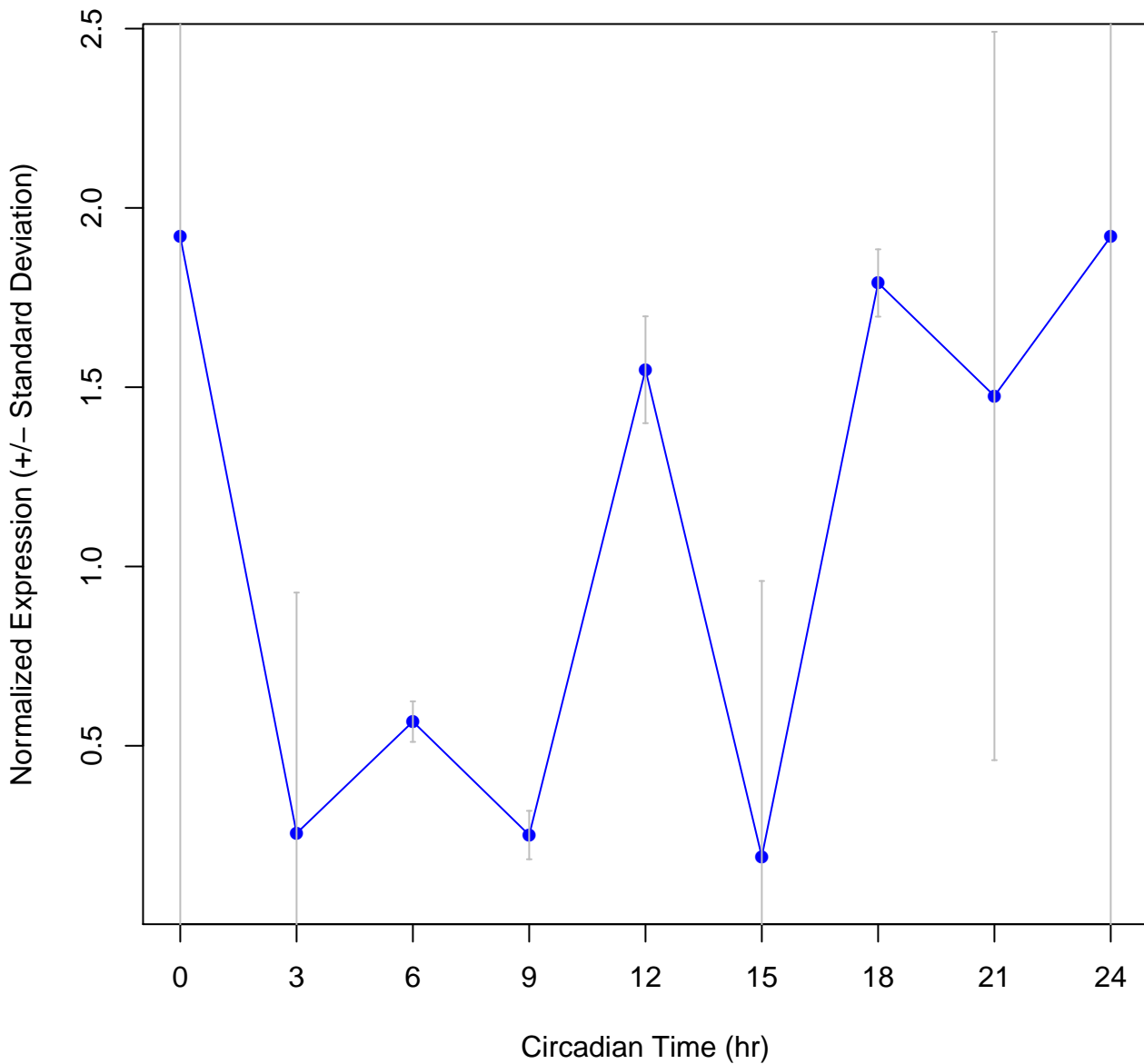
**Supplement Figure 3 ncor1**



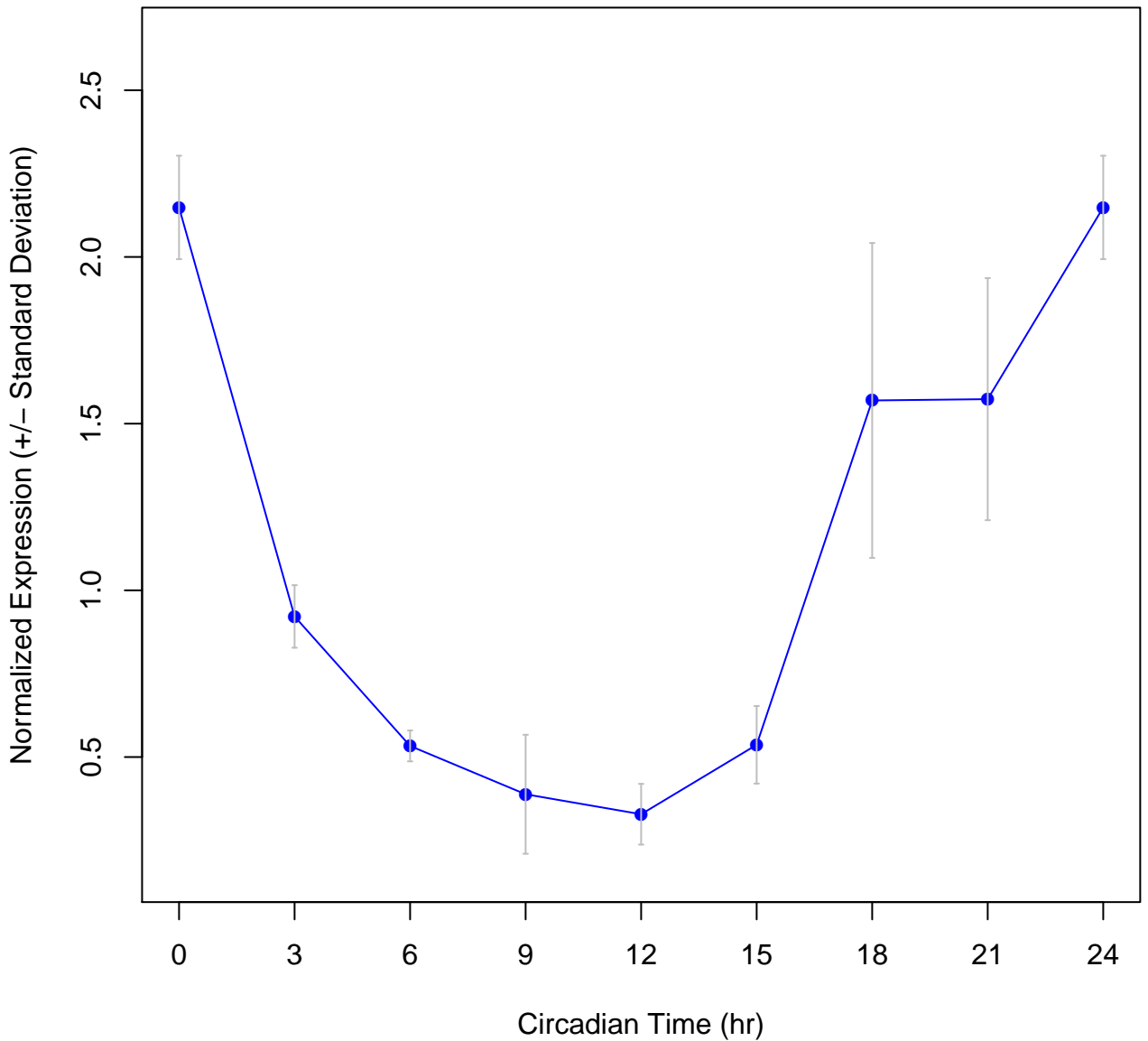
**Supplement Figure 3 ncor2**



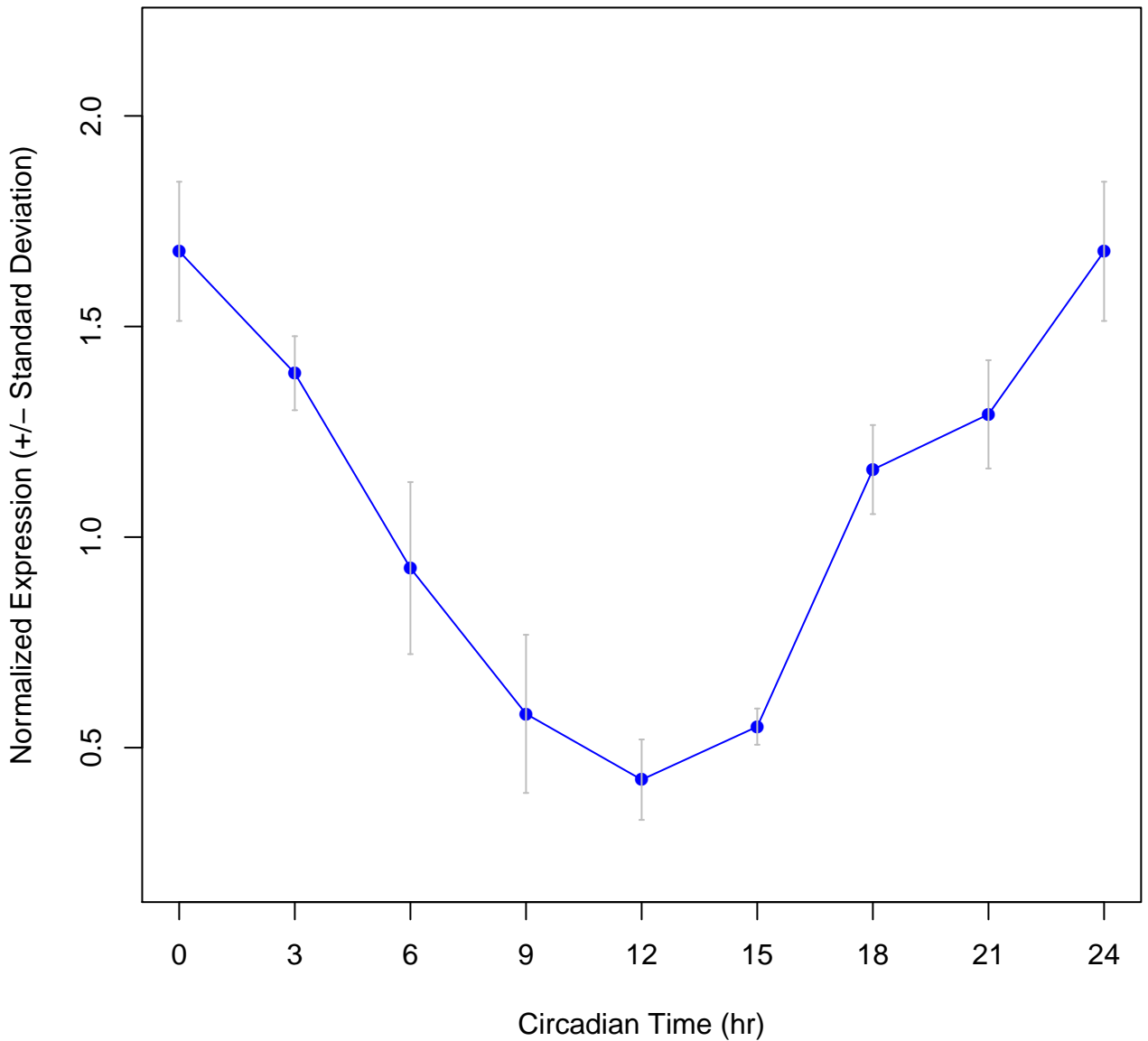
### Supplement Figure 3 nos2



Supplement Figure 3 nr1d1

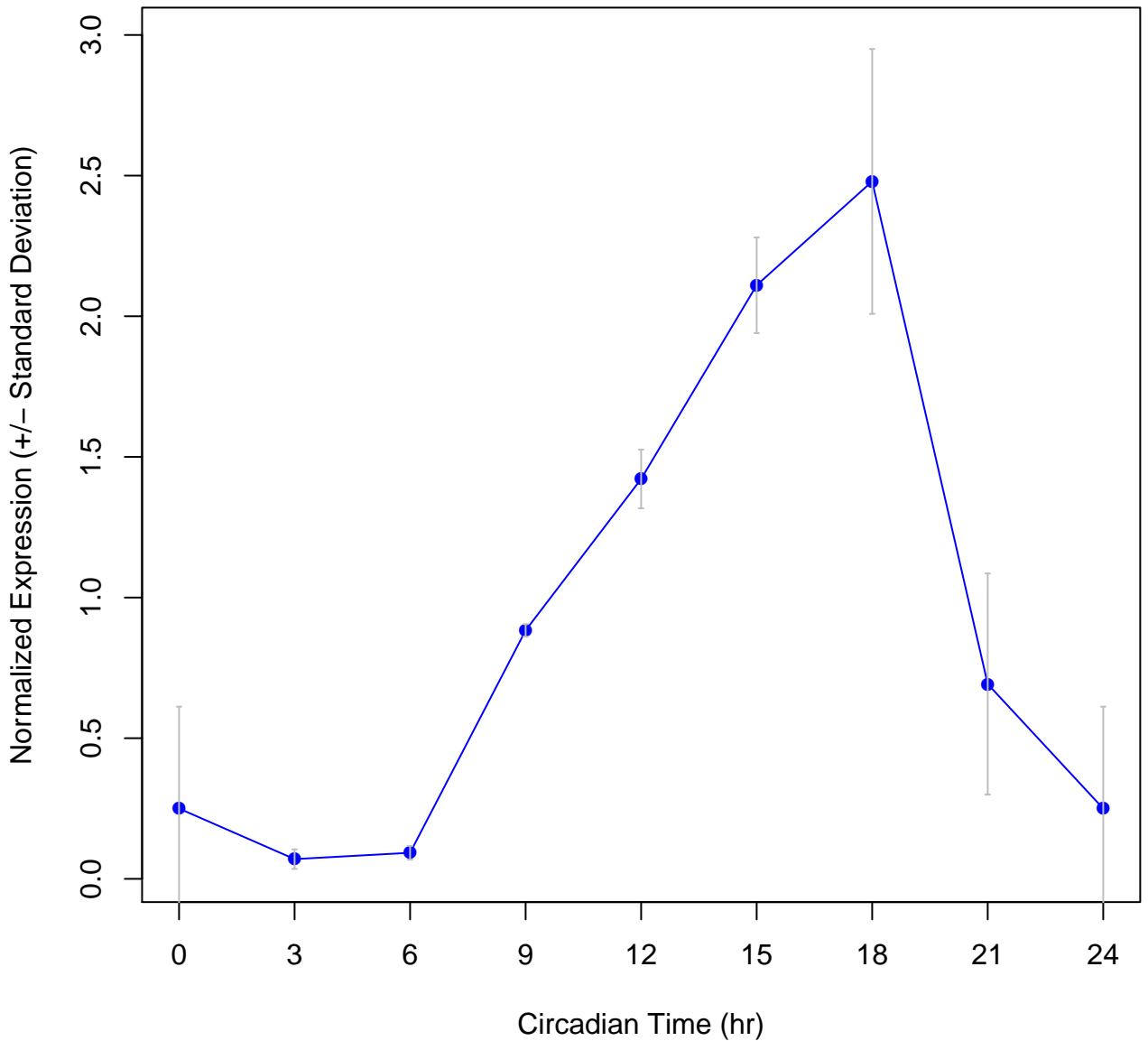


**Supplement Figure 3 nr1d2**

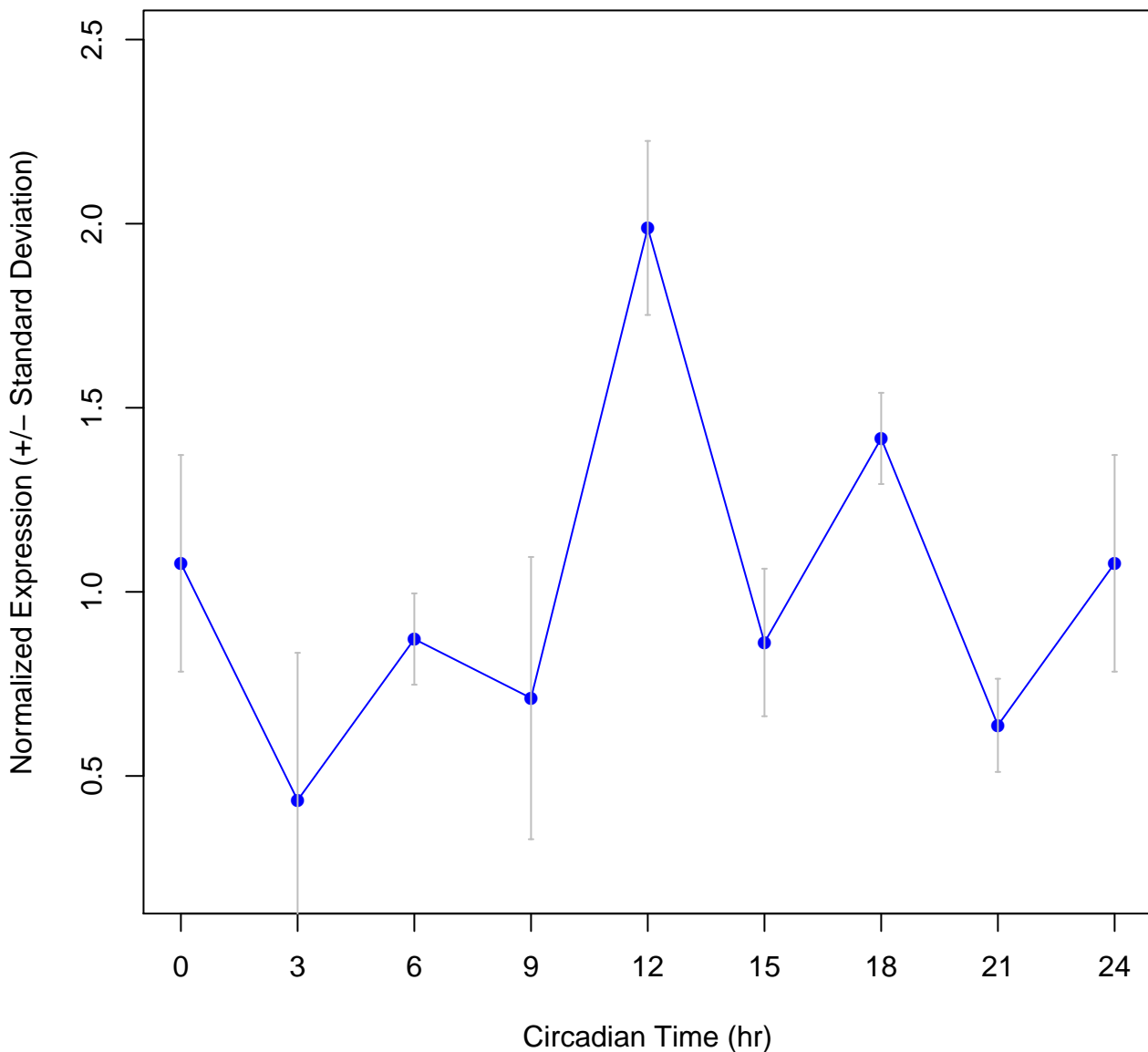




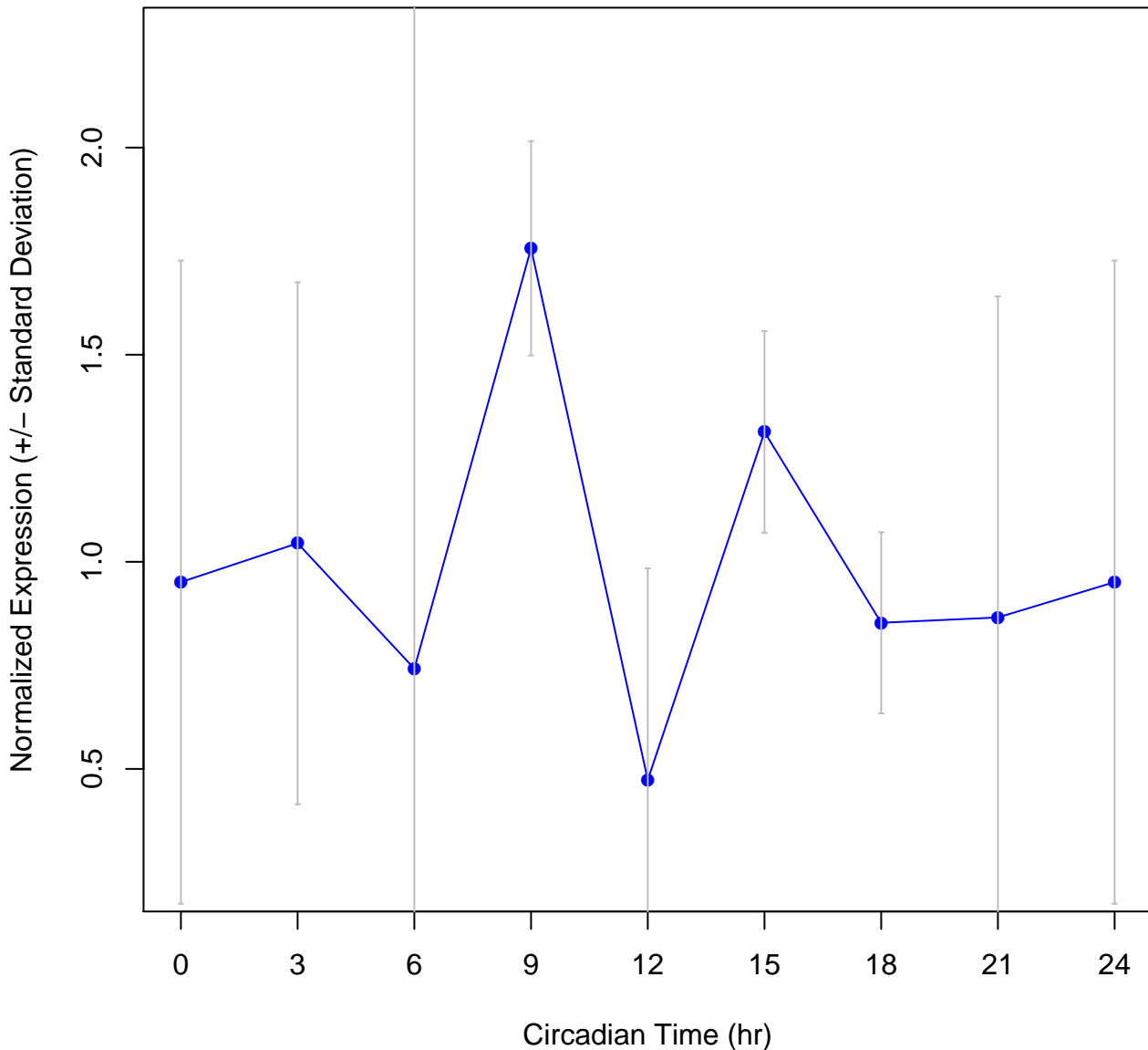
**Supplement Figure 3 nr1d4**



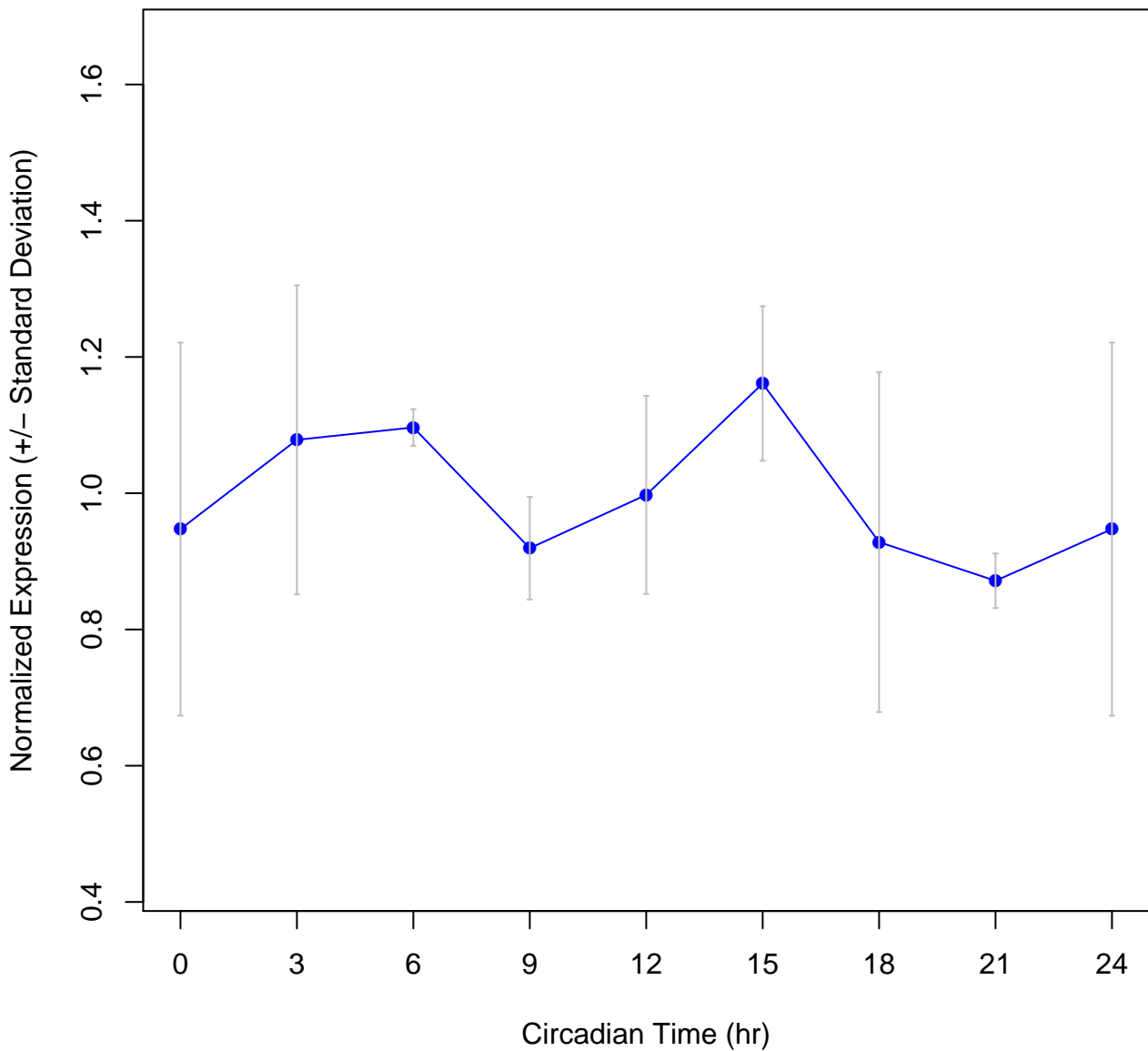
Supplement Figure 3 numa1



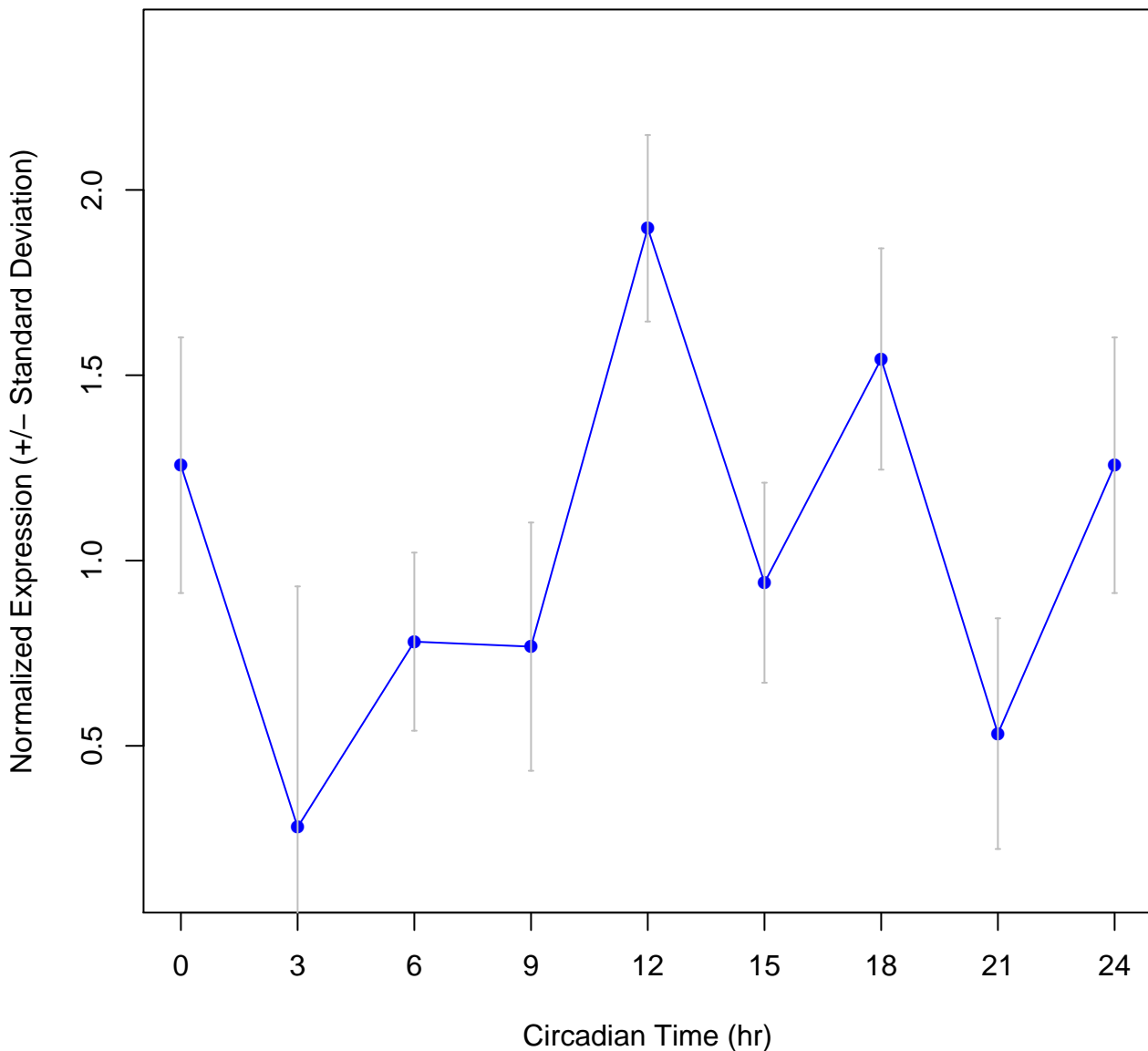
Supplement Figure 3 opn1sw



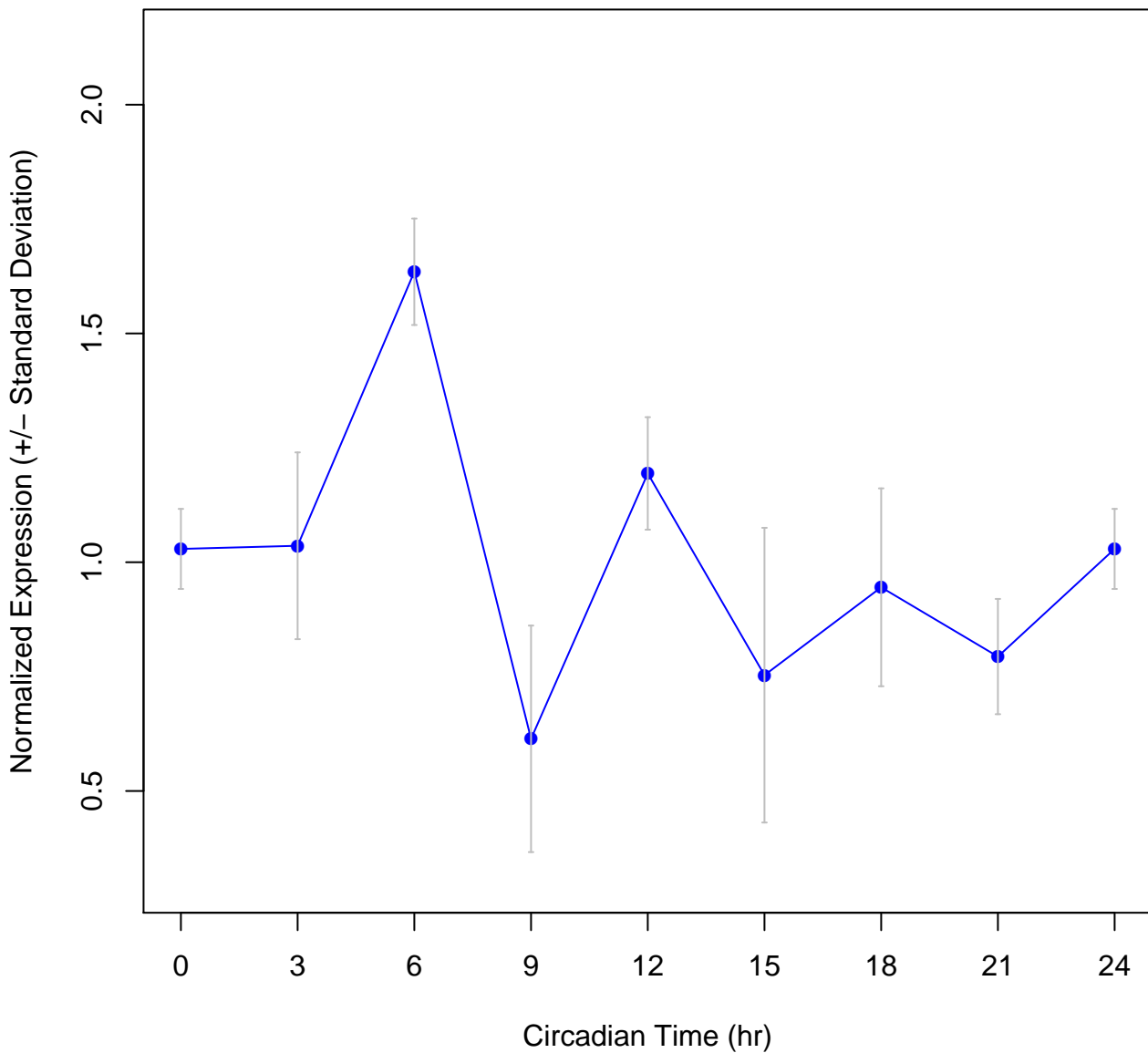
Supplement Figure 3 pacap



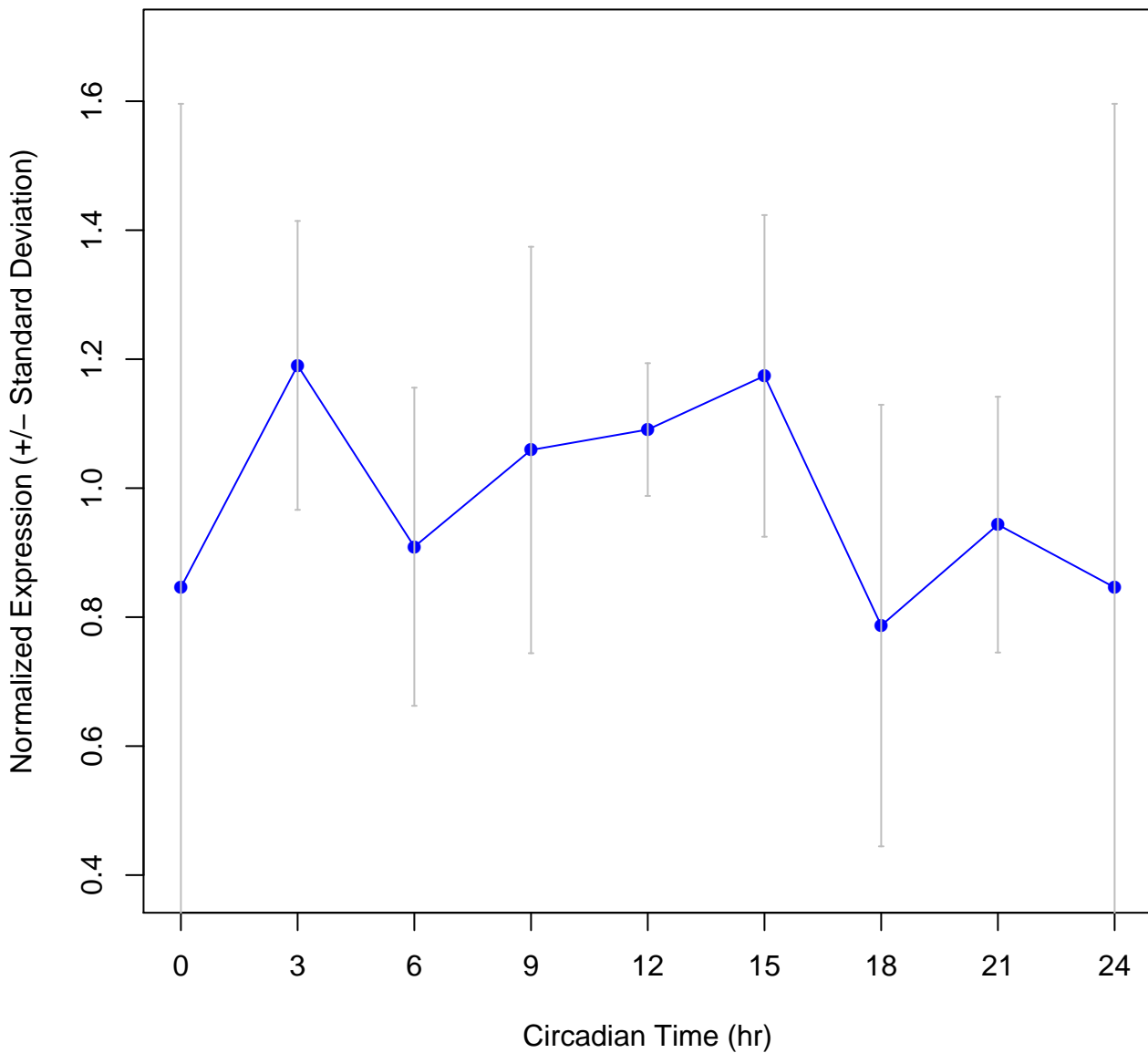
Supplement Figure 3 parpbp



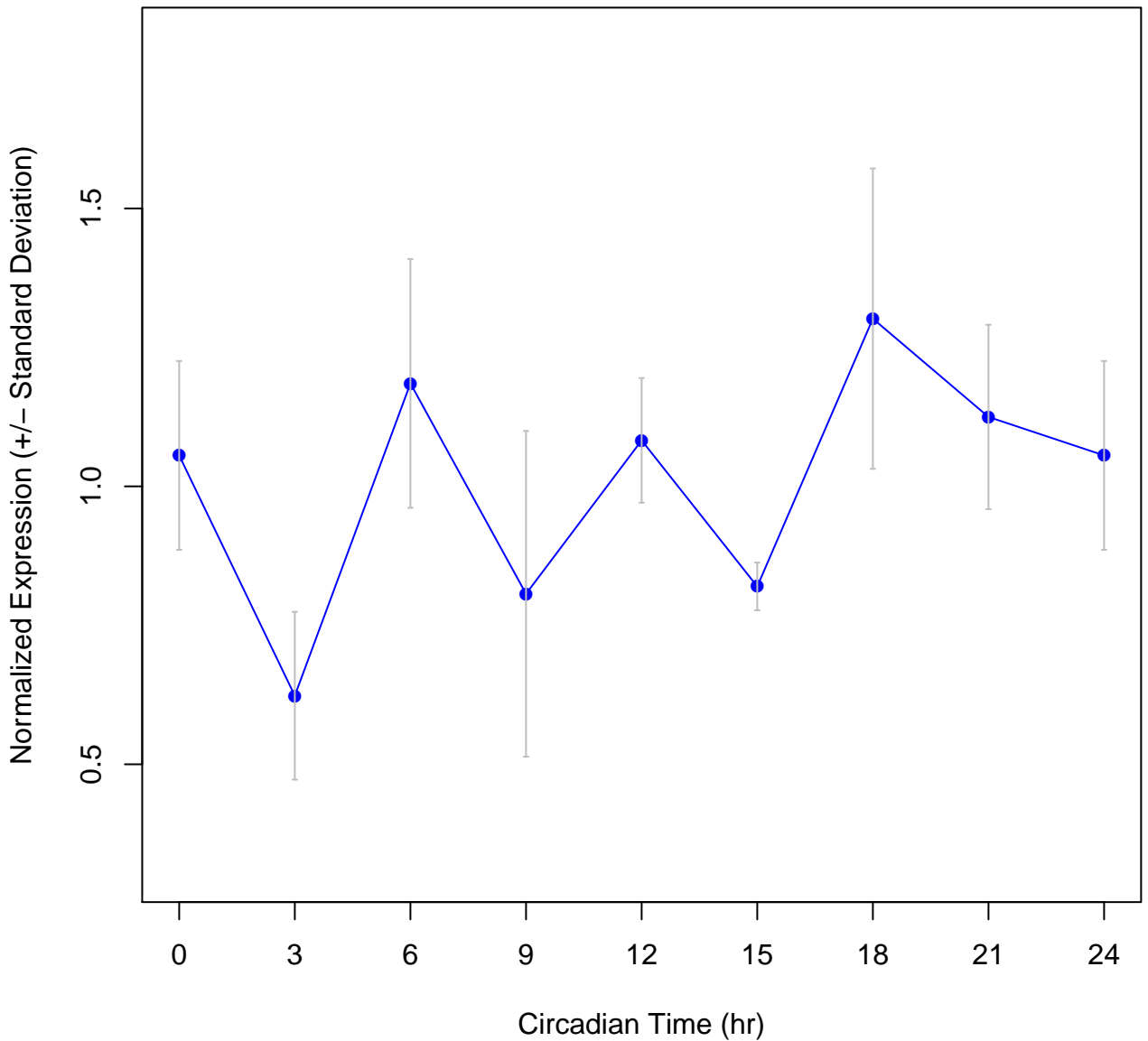
**Supplement Figure 3 pcna**



Supplement Figure 3 pcp4

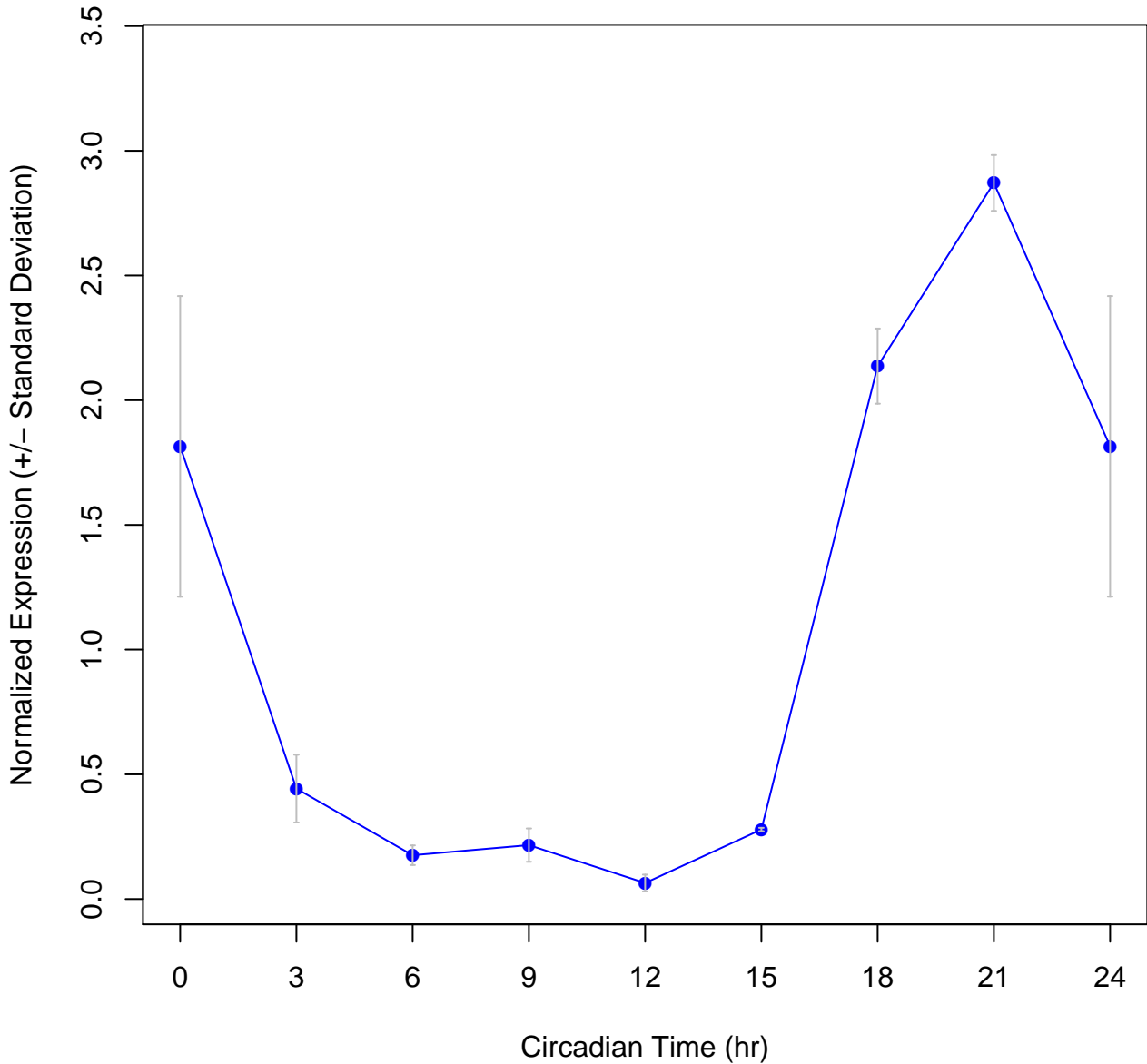


Supplement Figure 3 pdgfc

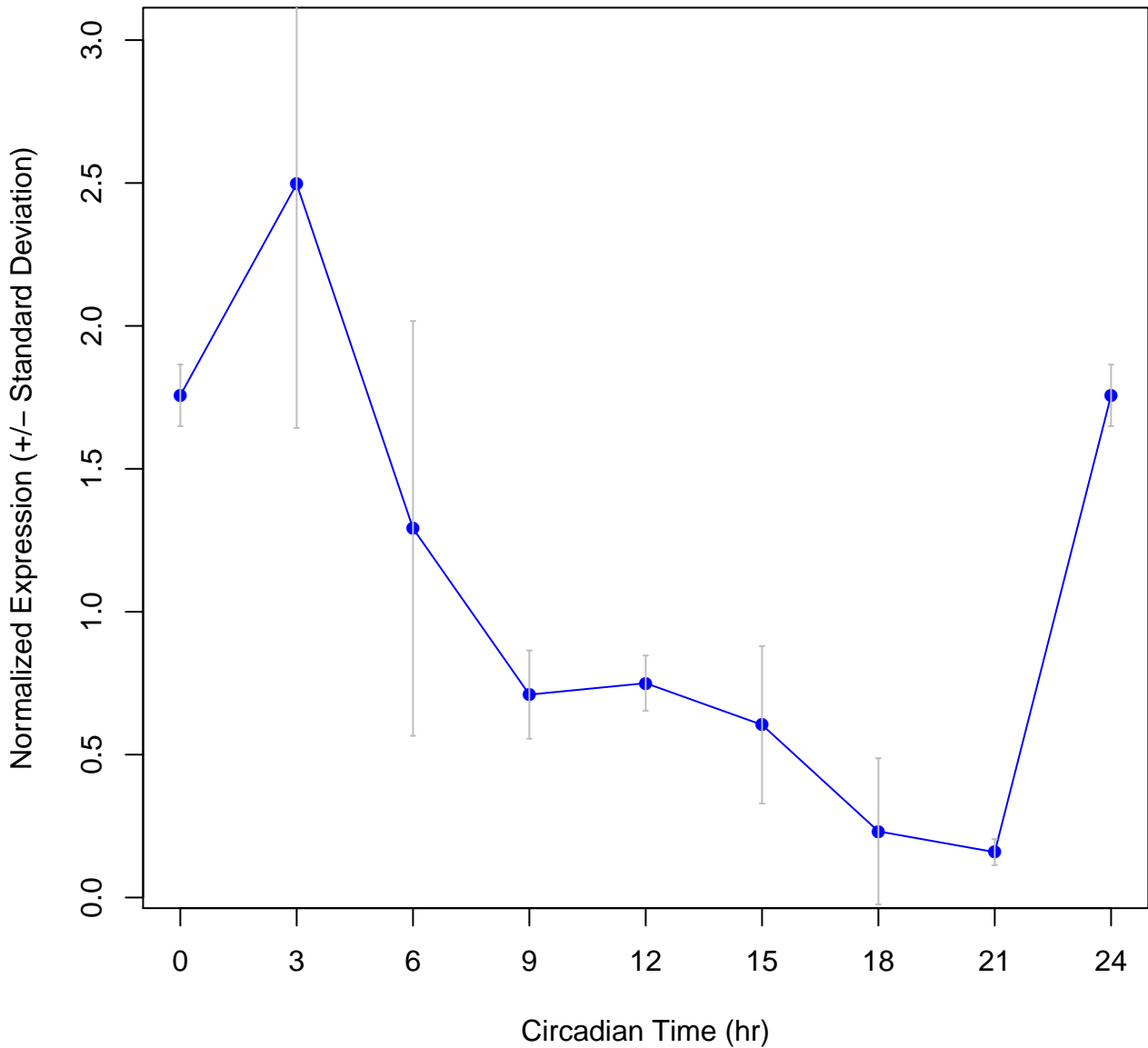




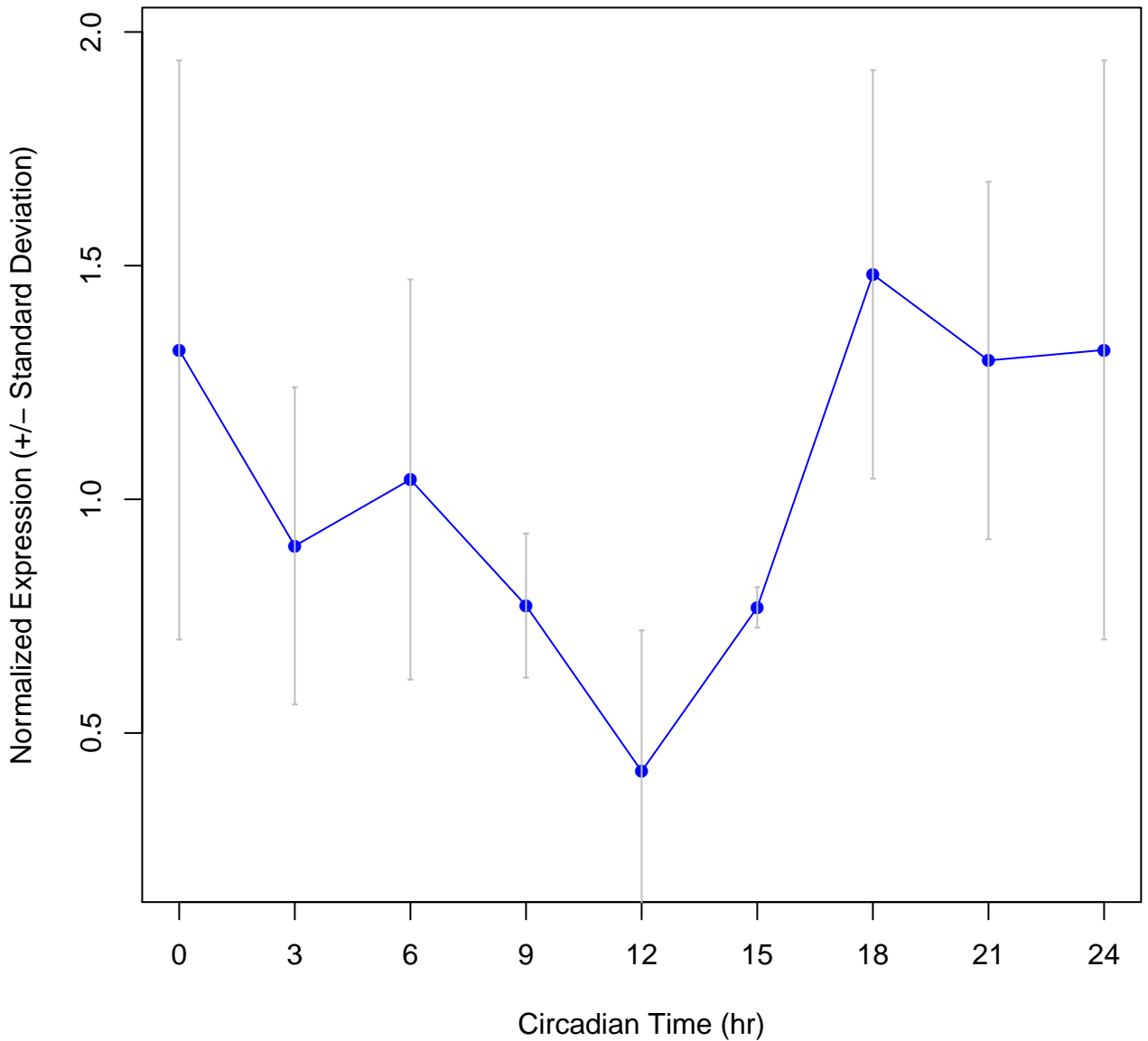
### Supplement Figure 3 per1



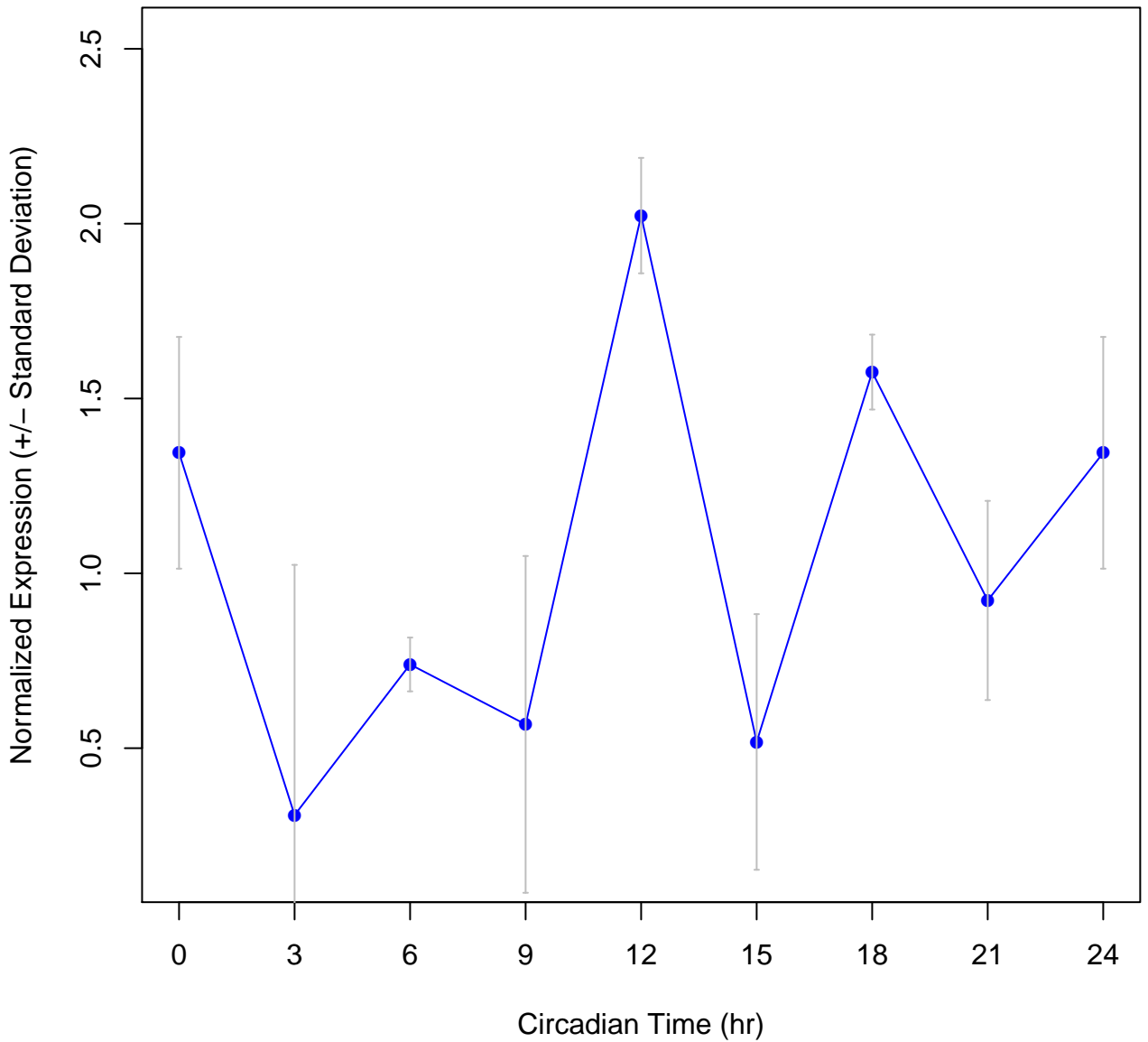
### Supplement Figure 3 per2



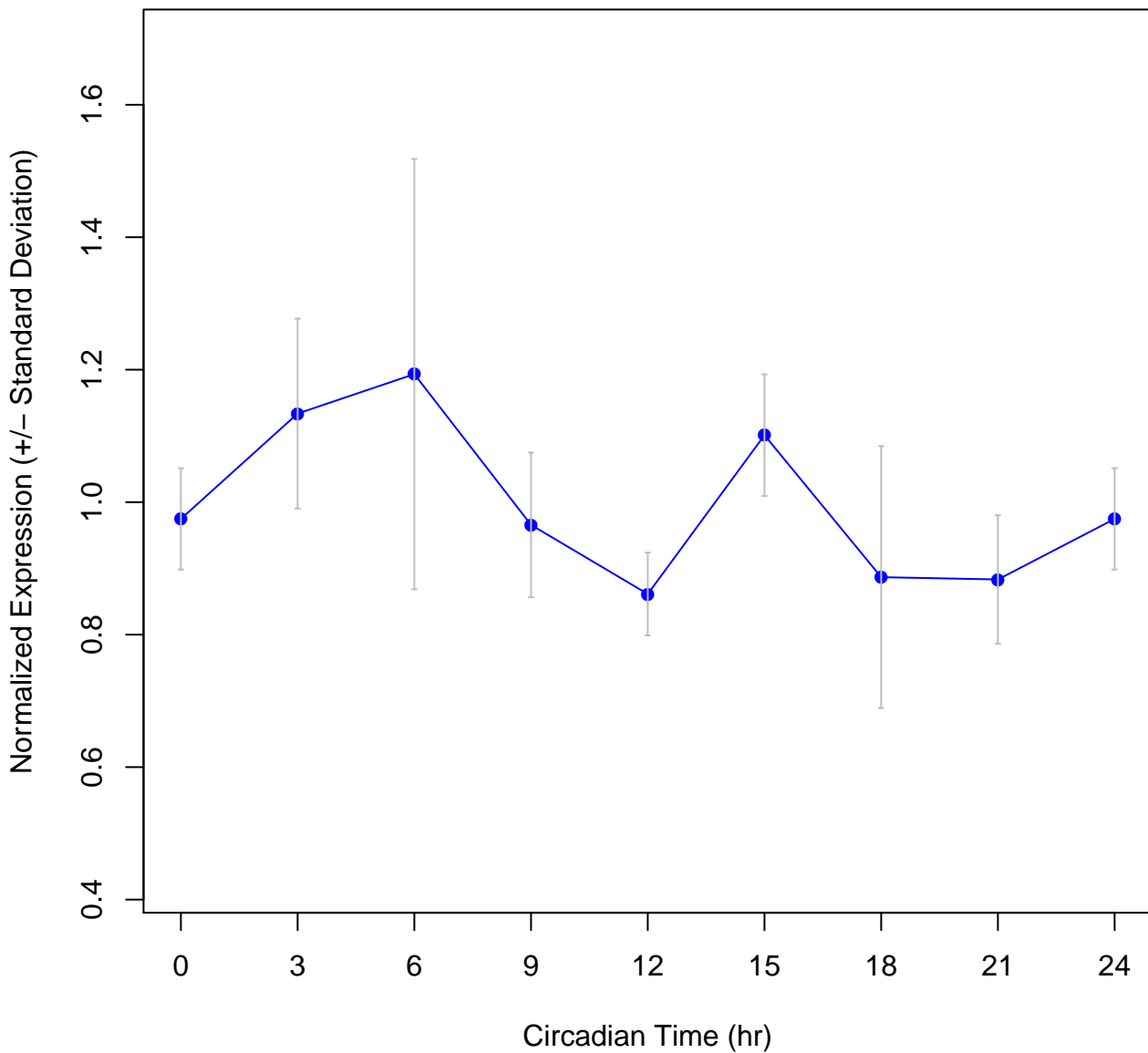
### Supplement Figure 3 pfkfb1



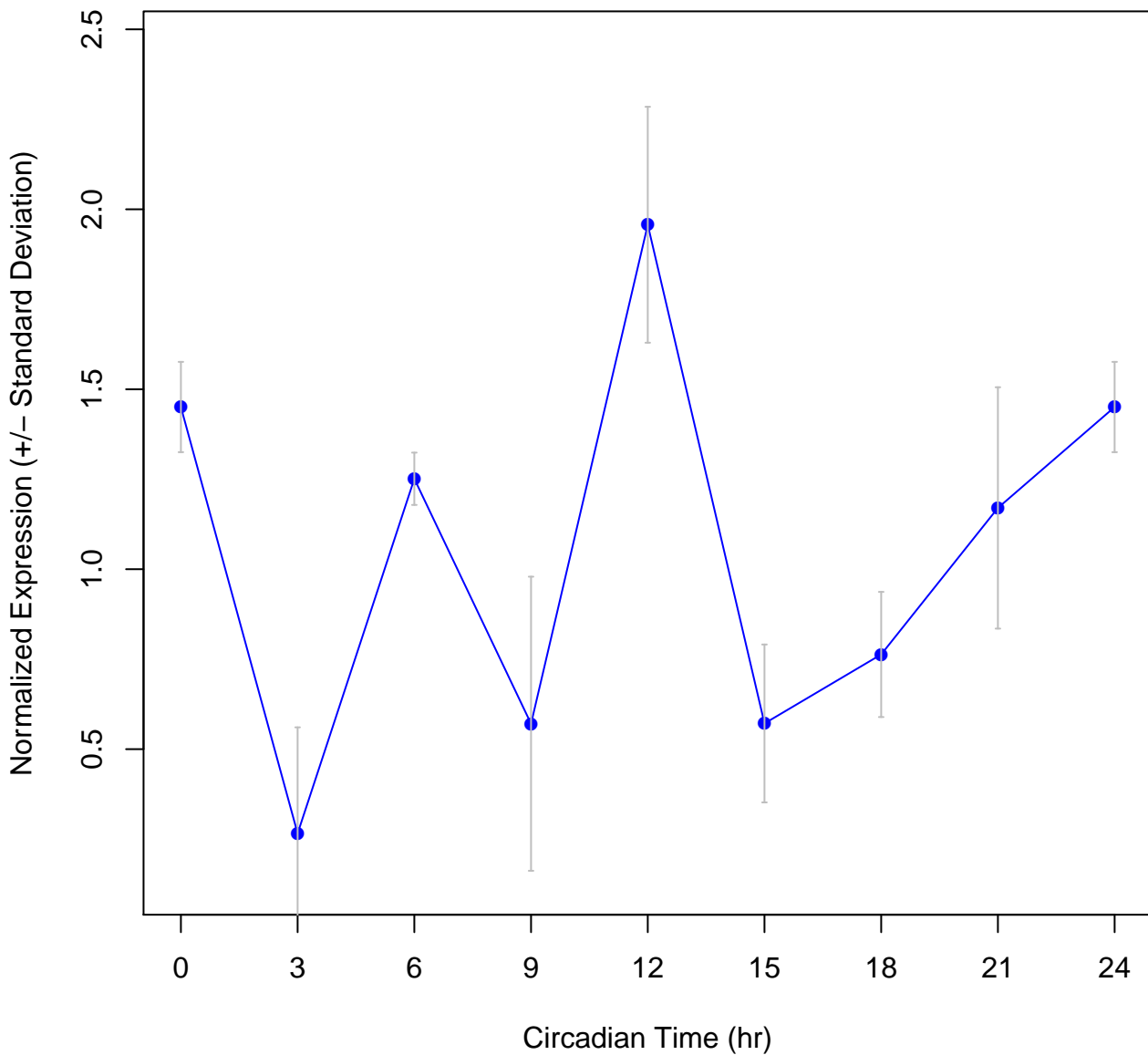
**Supplement Figure 3 pif1**



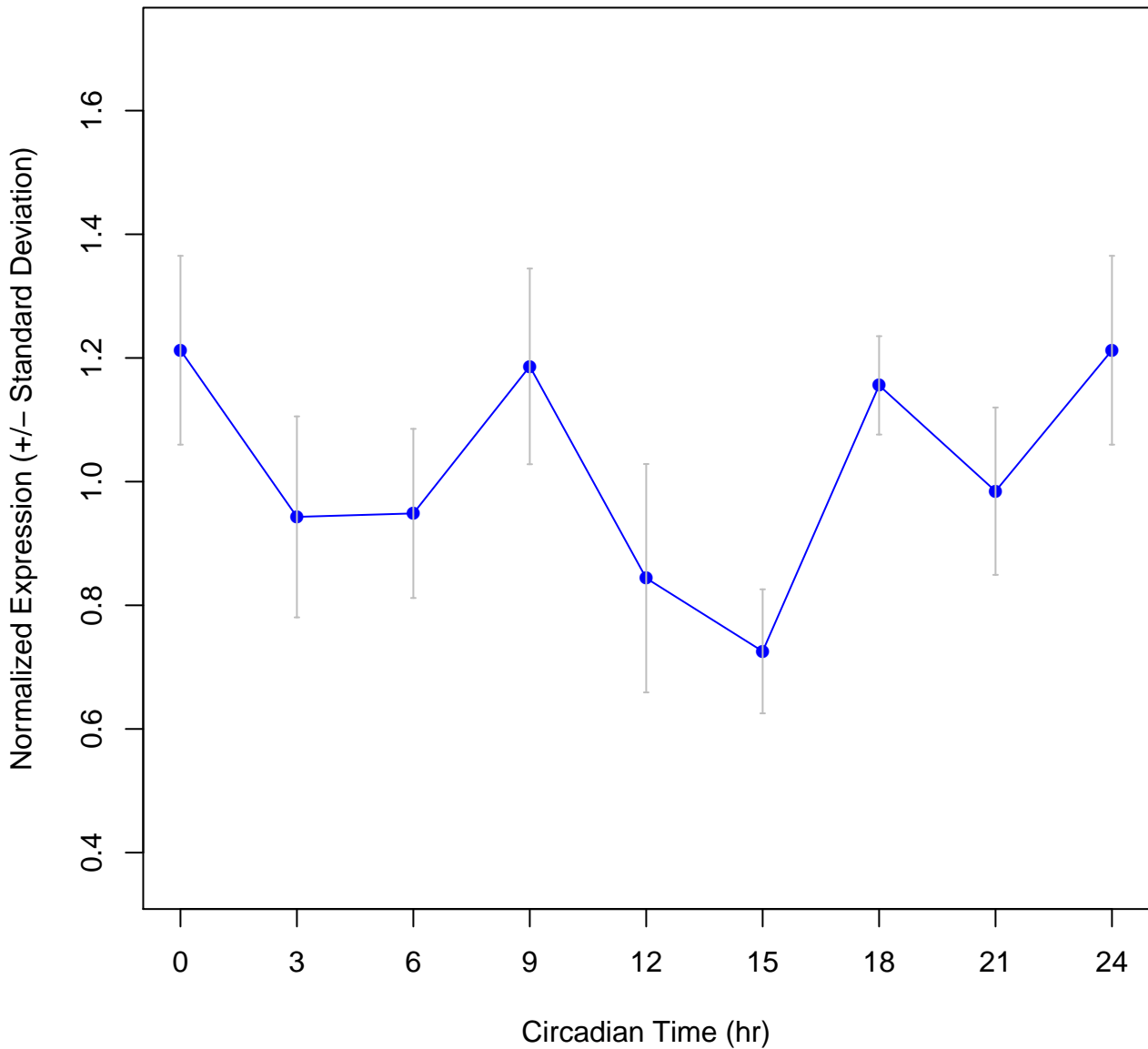
Supplement Figure 3 pik3c2b



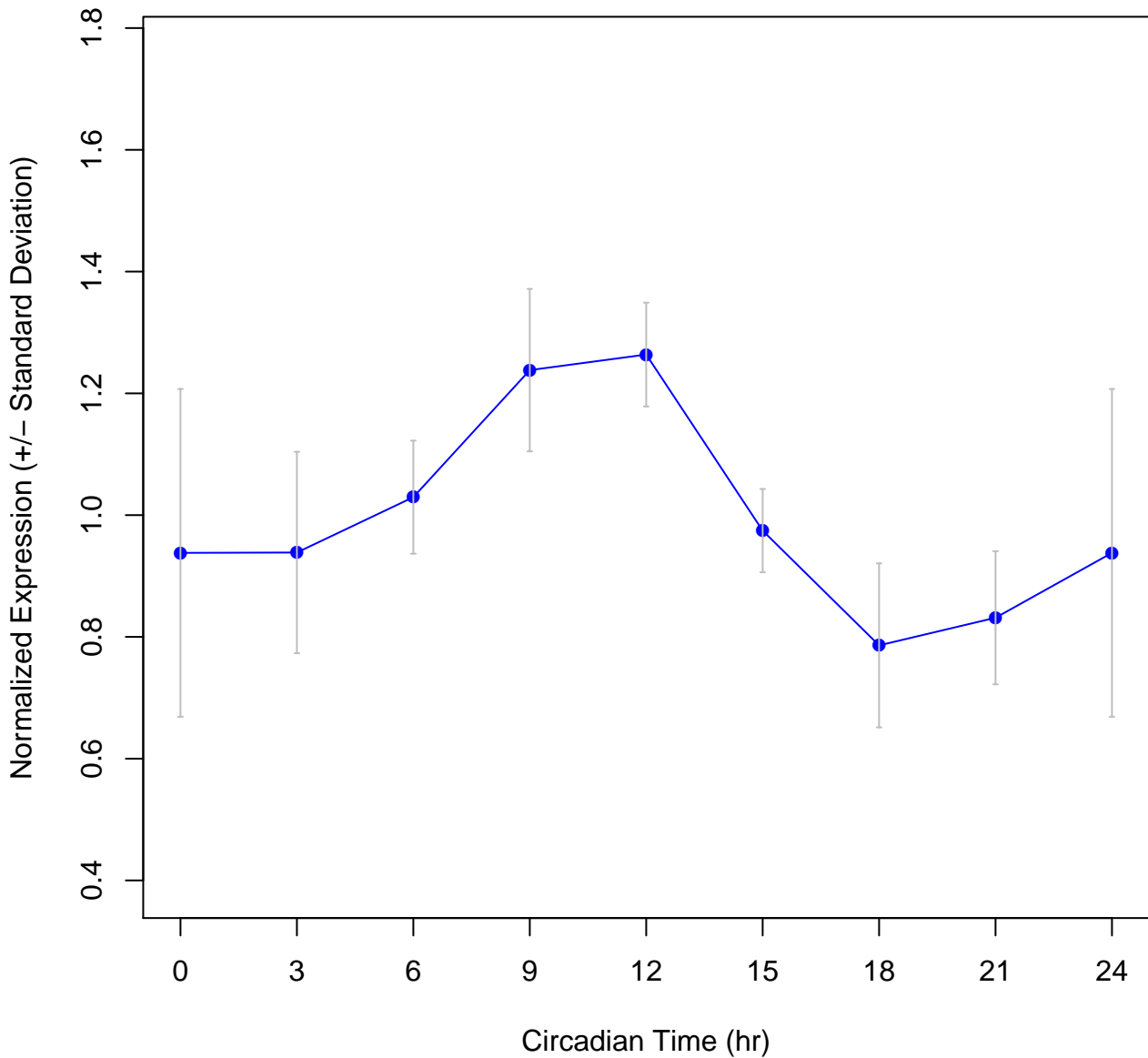
**Supplement Figure 3 pkmyt1**



Supplement Figure 3 plcb1

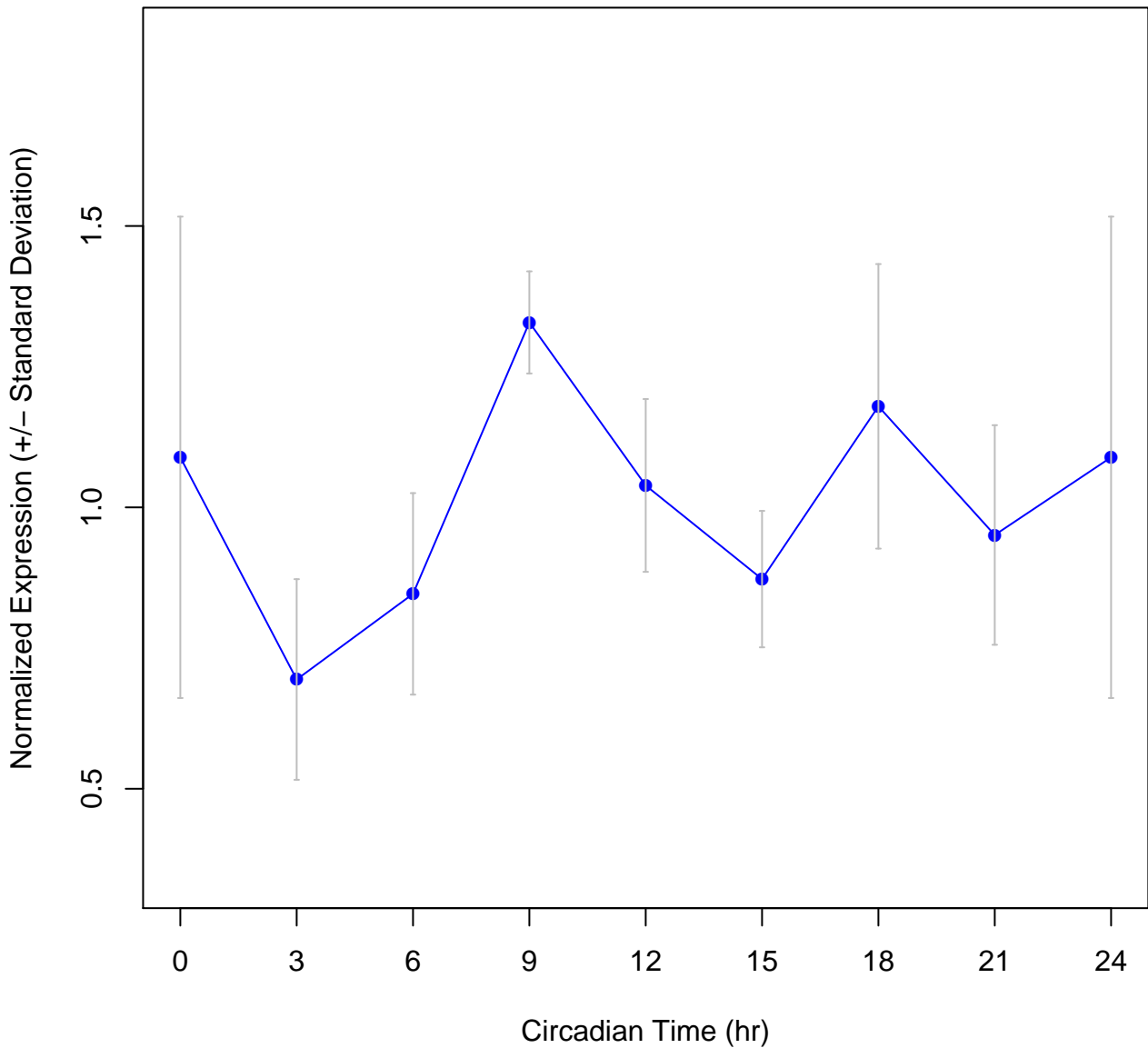


Supplement Figure 3 plcd1

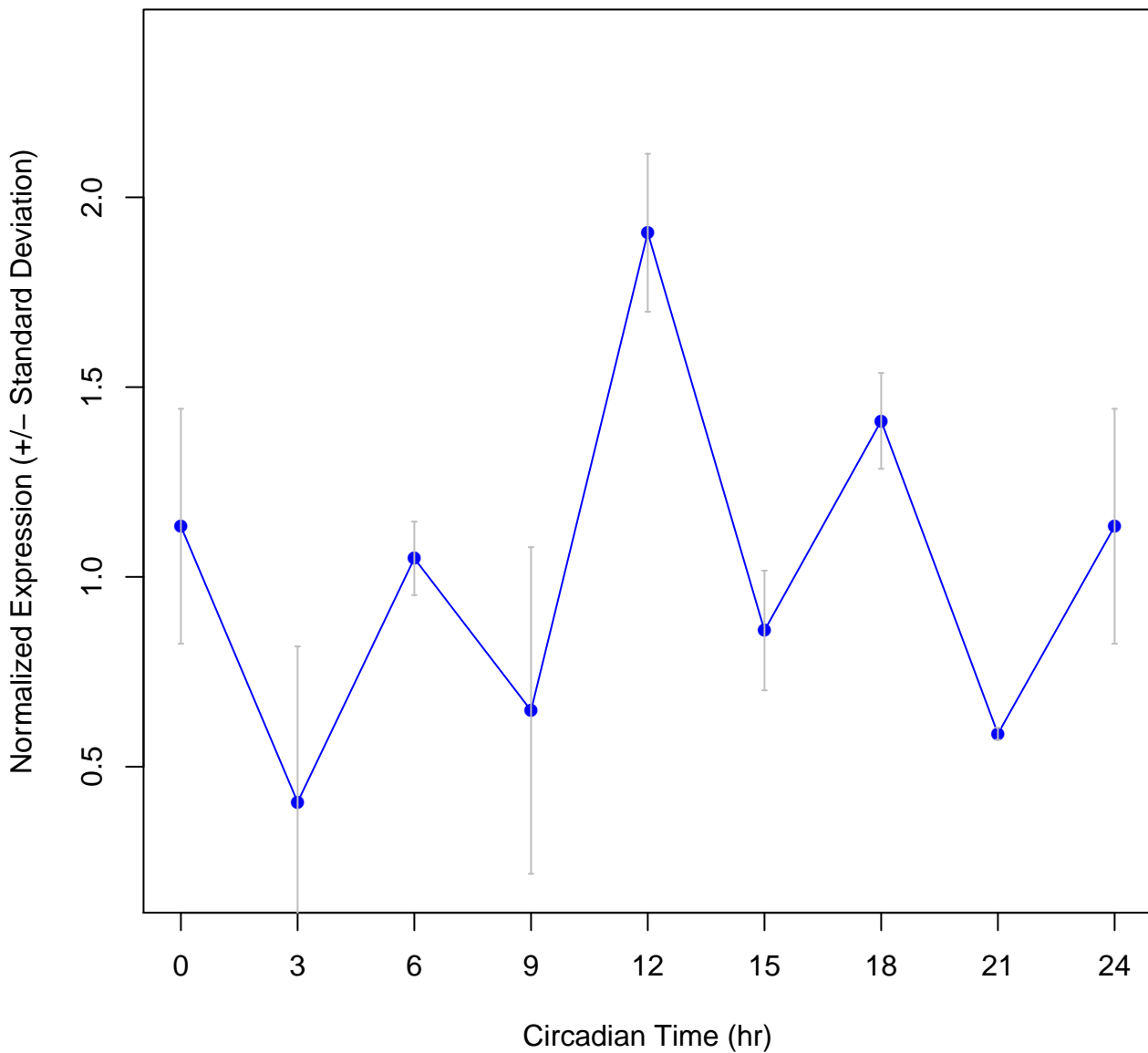




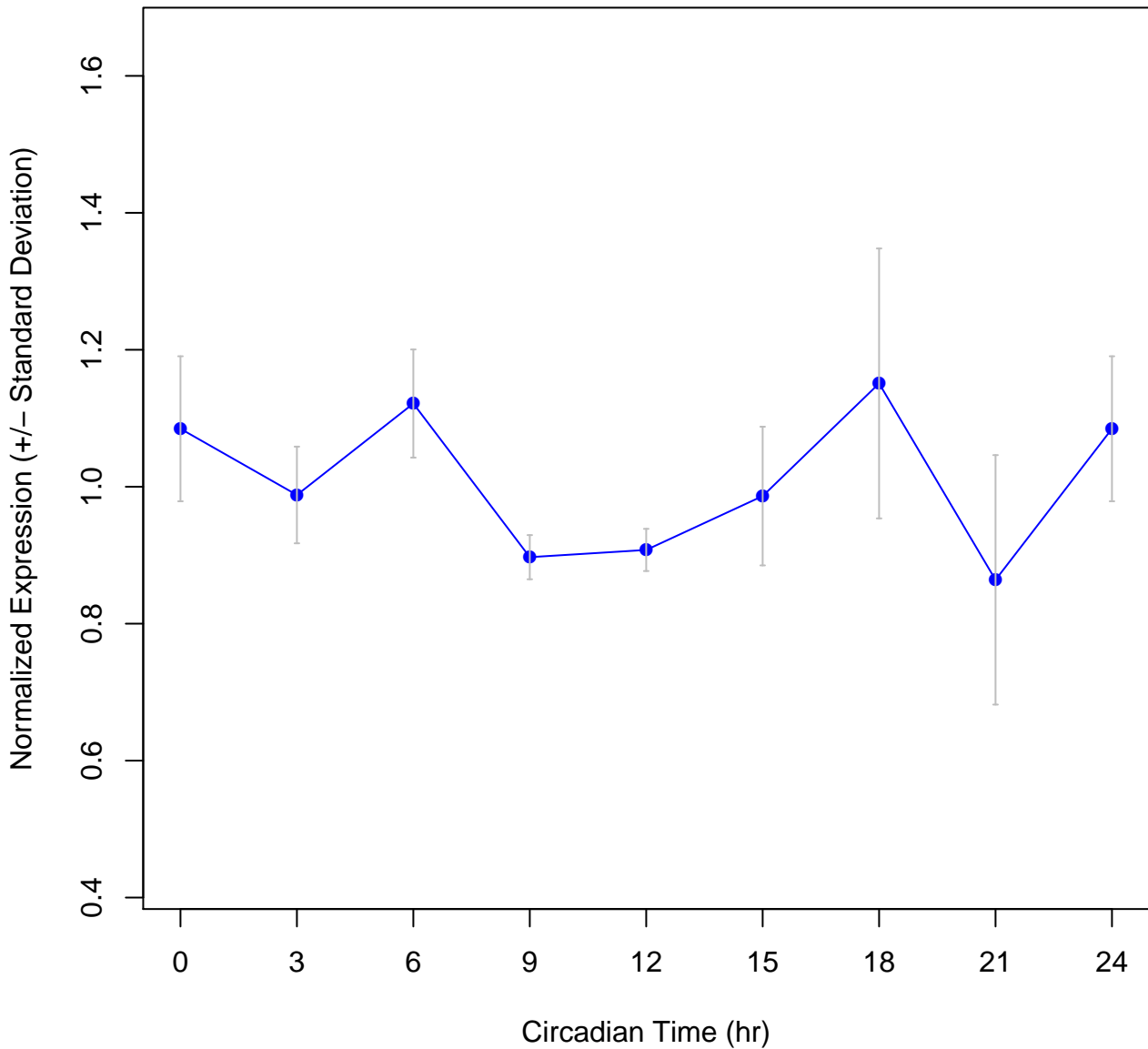
Supplement Figure 3 plch2



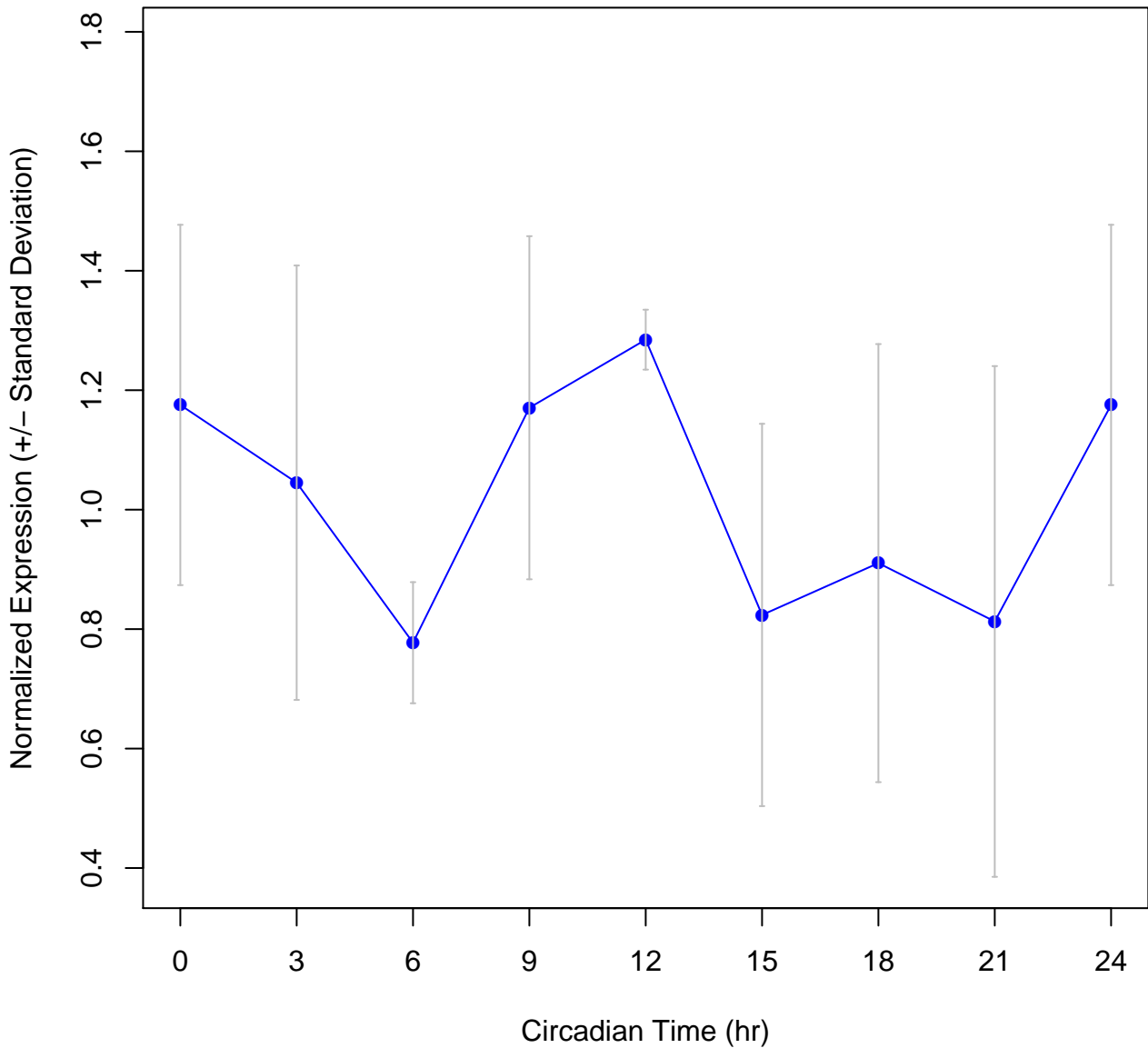
**Supplement Figure 3 plk1**



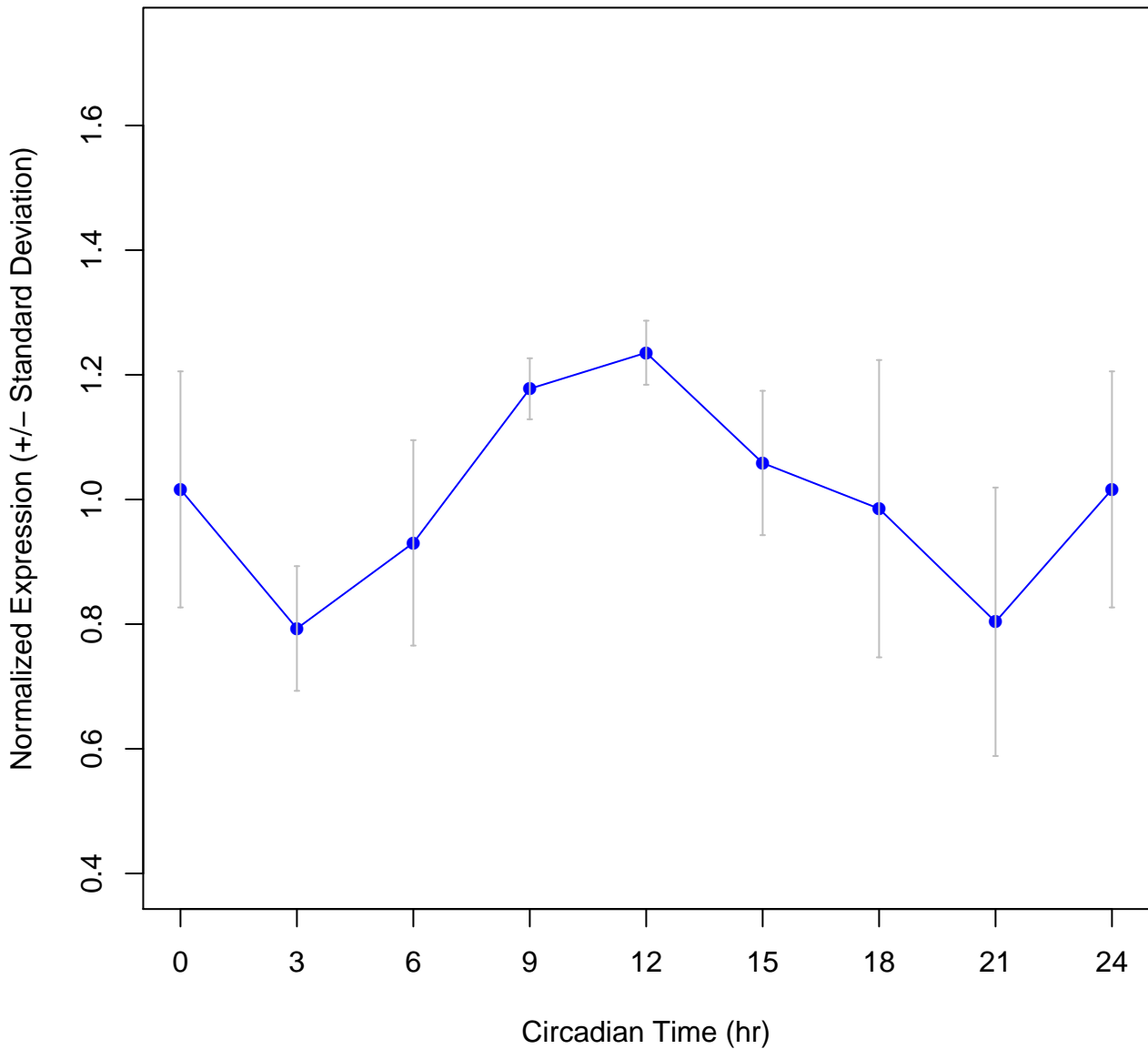
**Supplement Figure 3 polr2a**



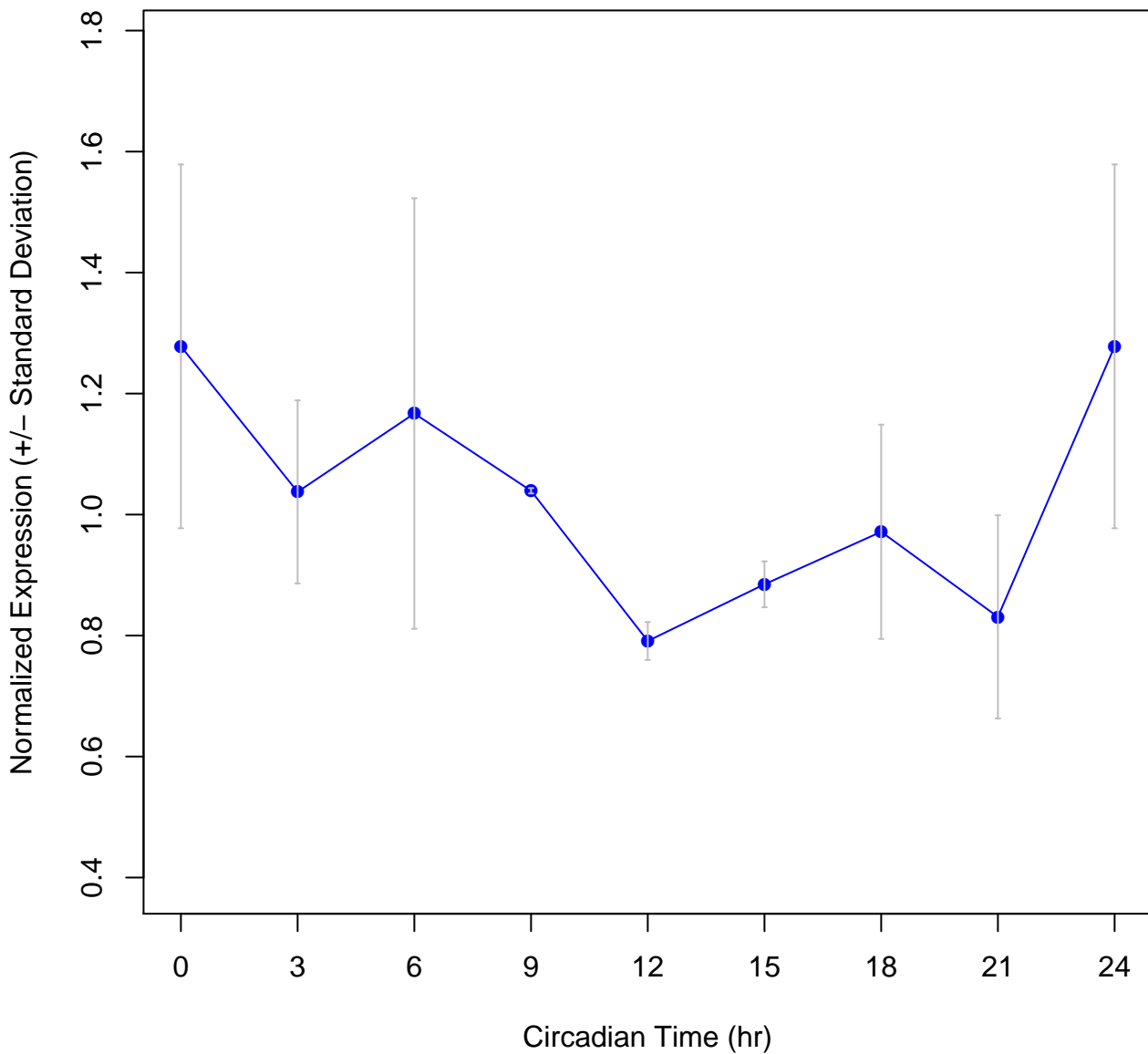
Supplement Figure 3 pomc



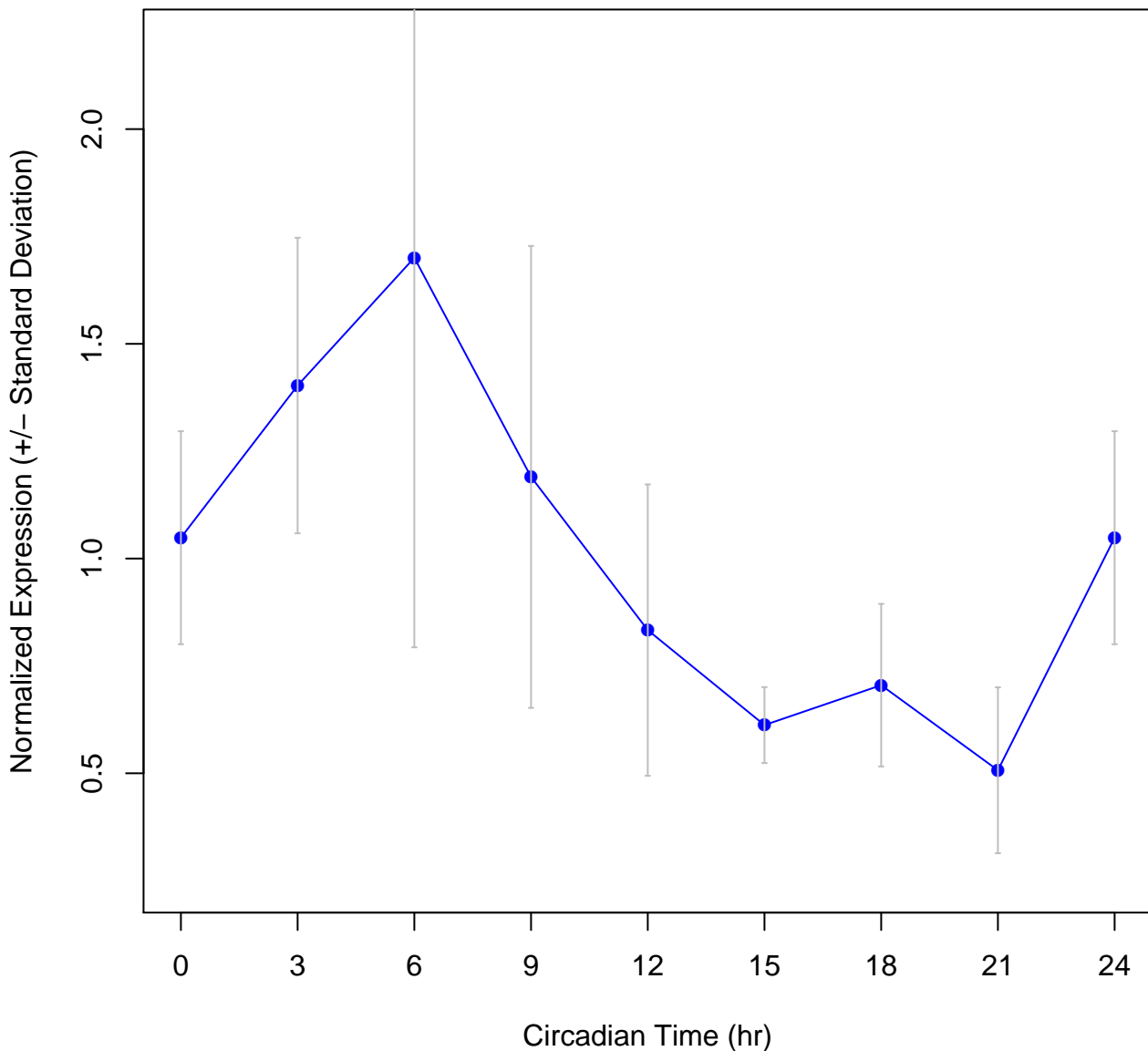
### Supplement Figure 3 pparaa



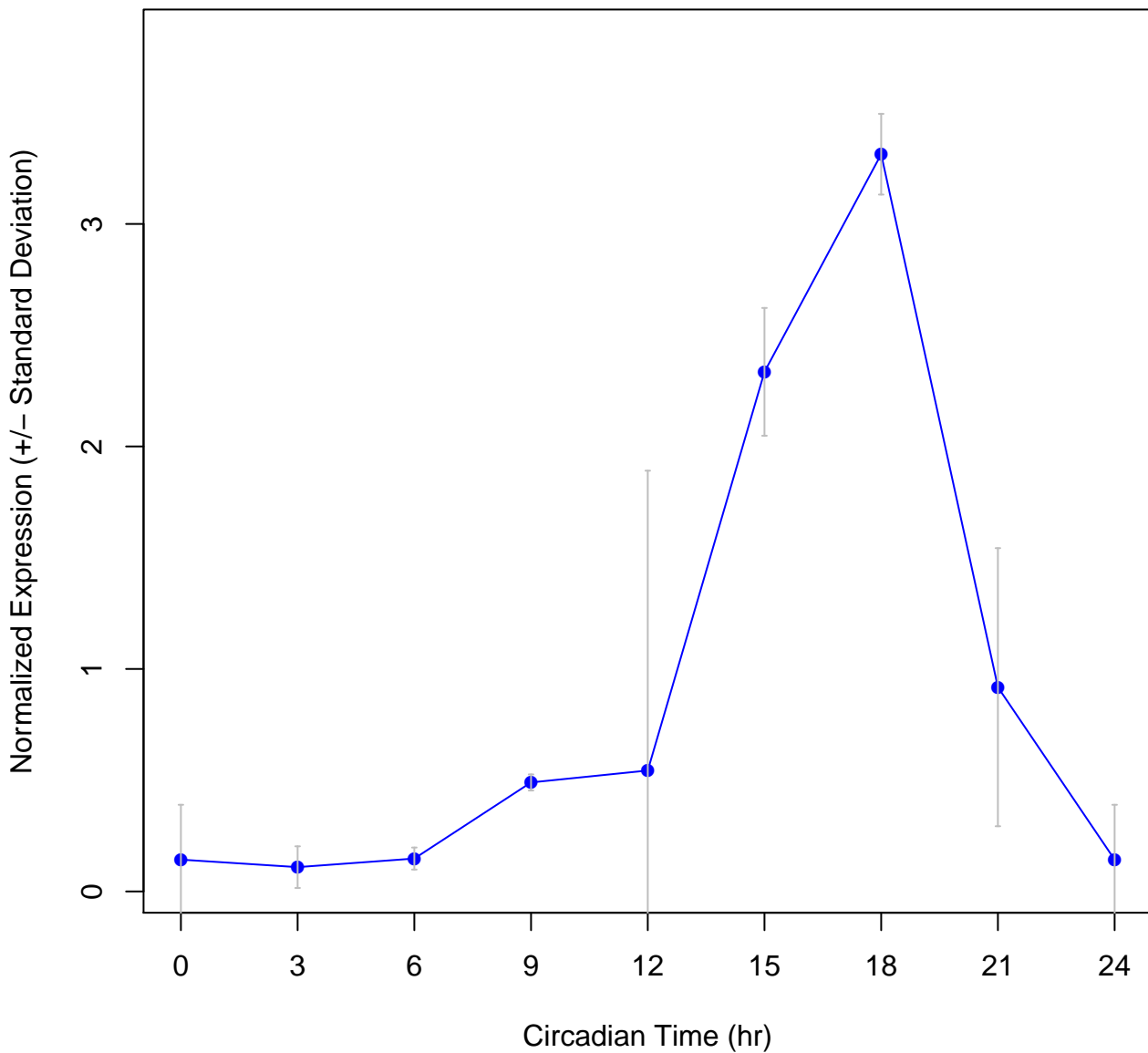
Supplement Figure 3 pparab



Supplement Figure 3 ppargc1a

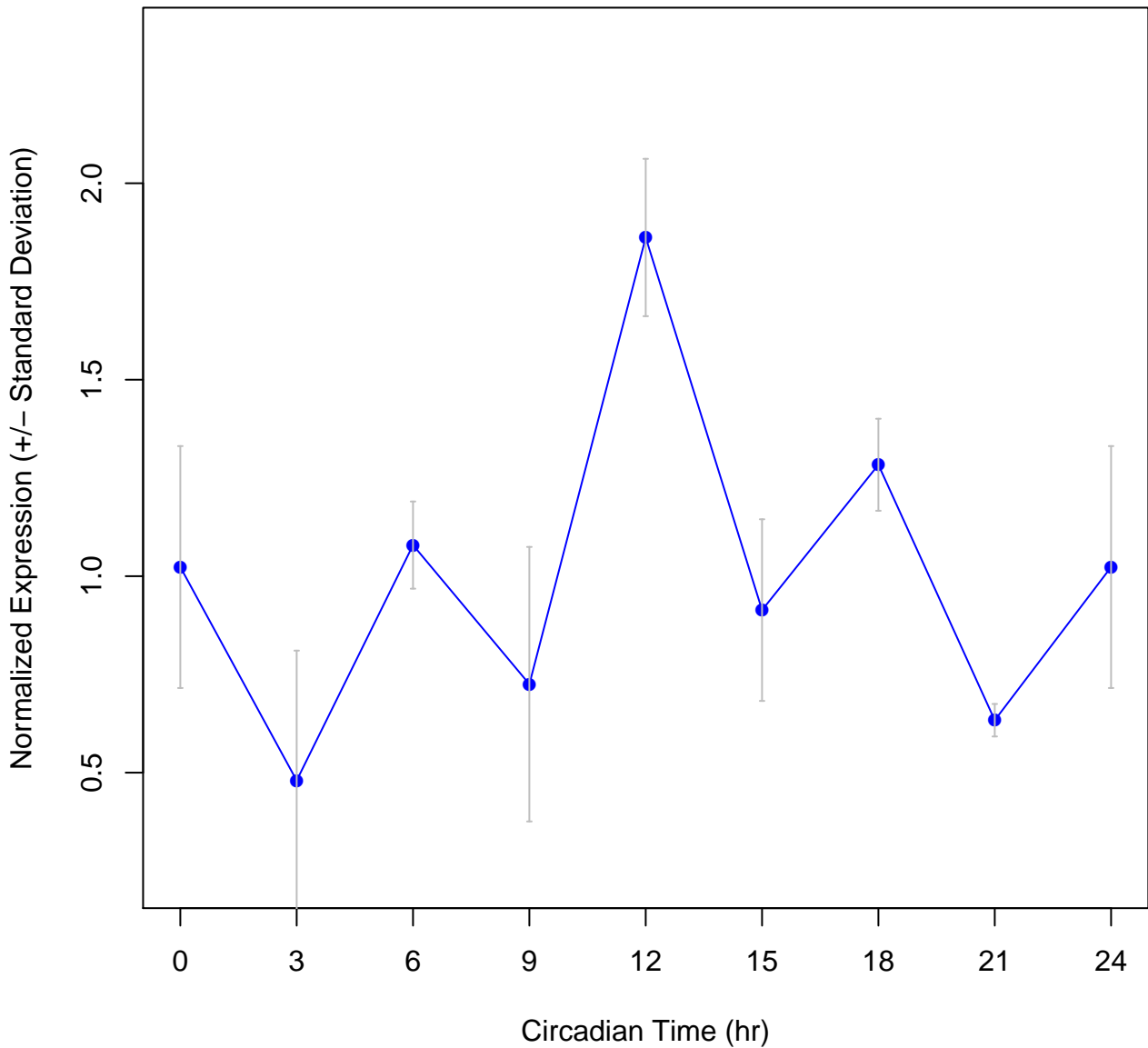


Supplement Figure 3 ppp1r27

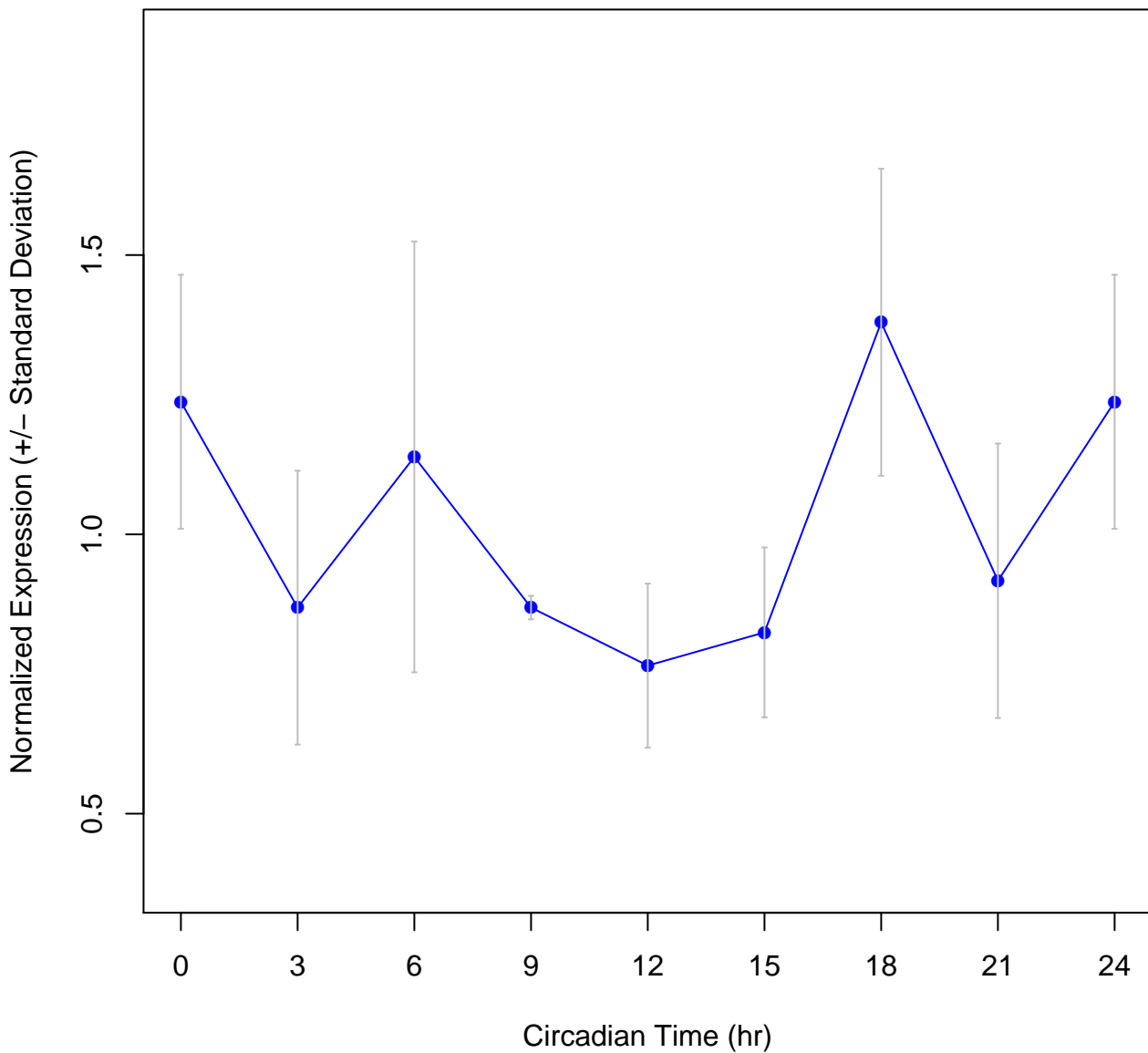




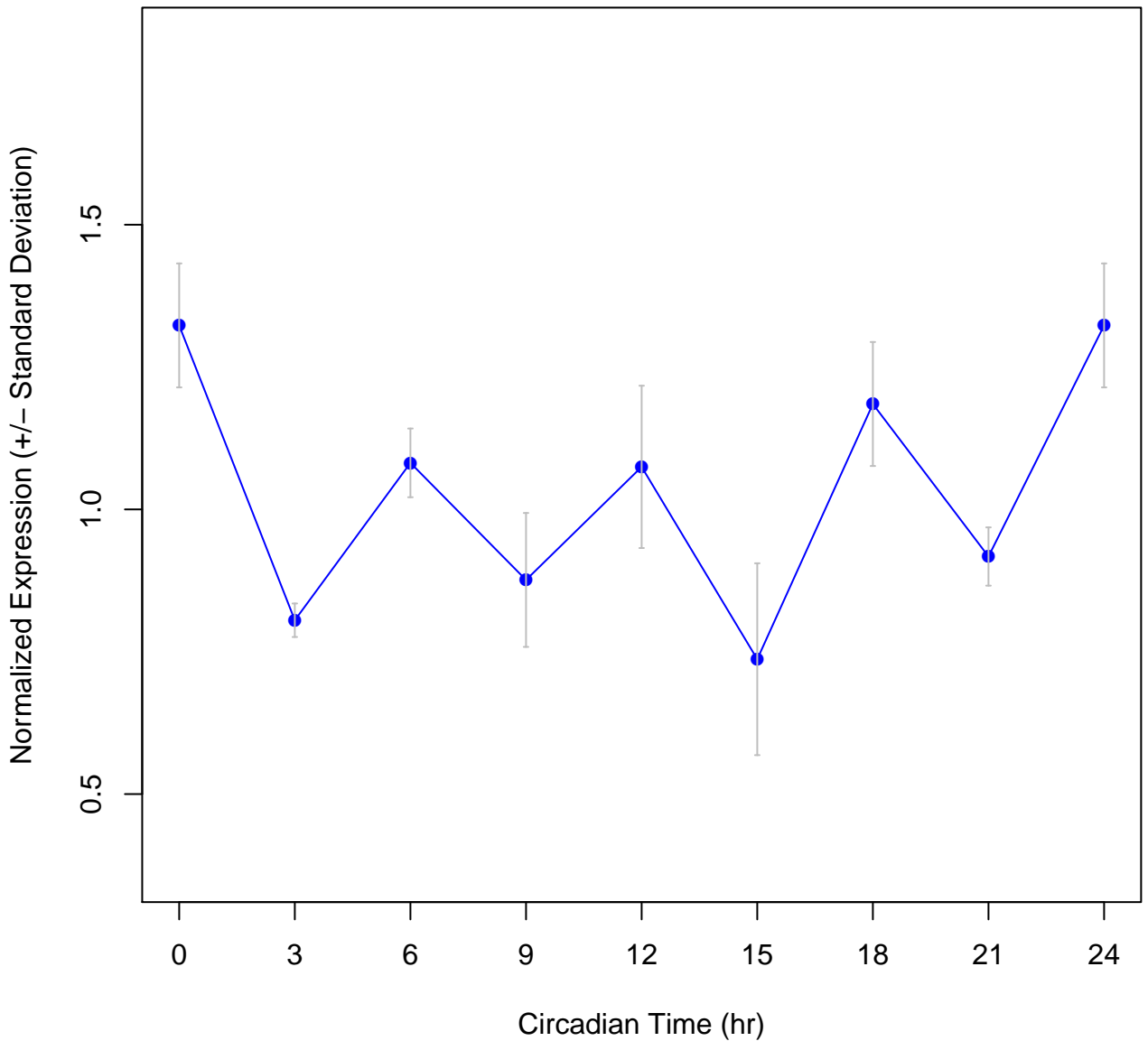
**Supplement Figure 3 prc1**



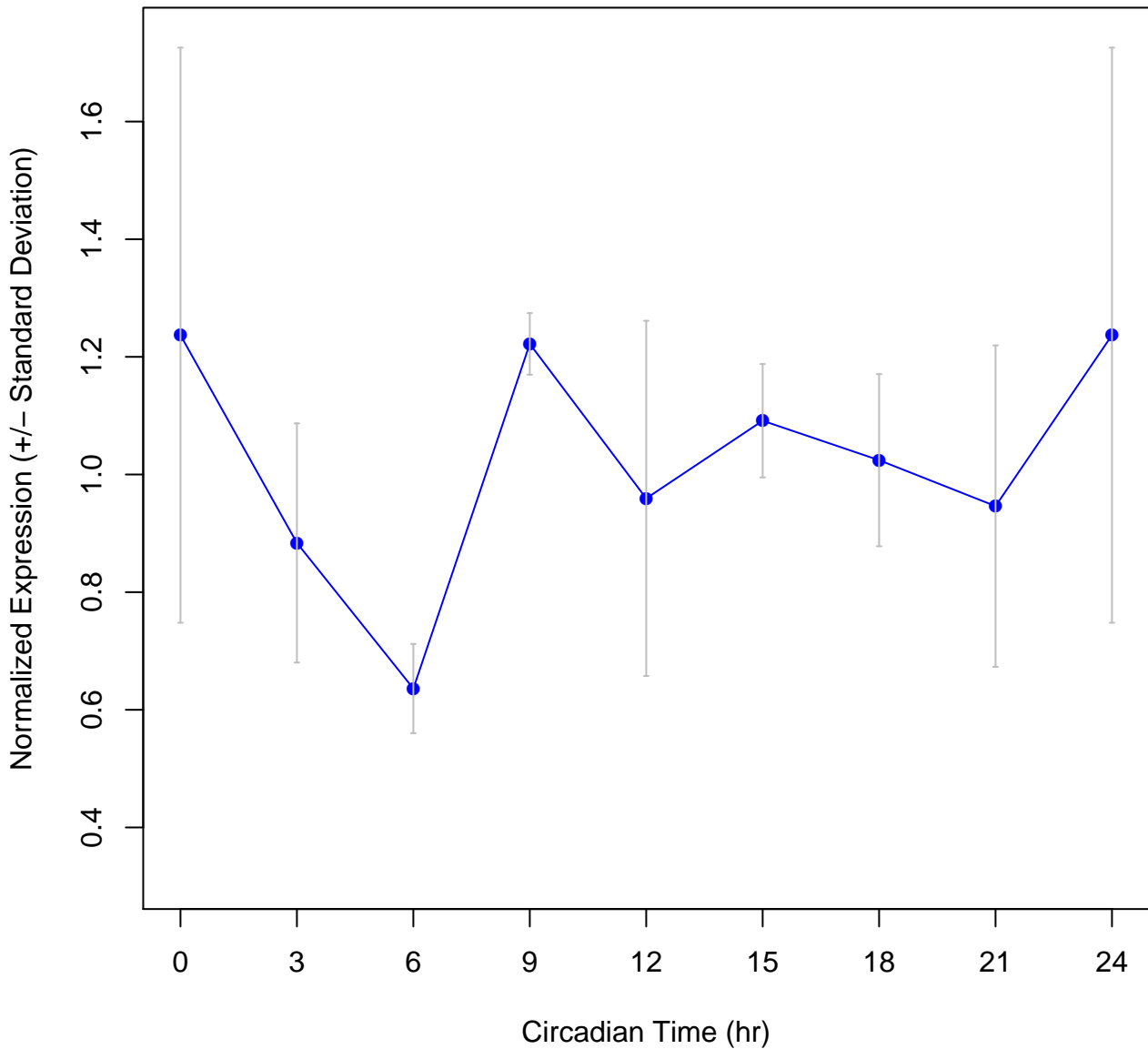
Supplement Figure 3 prkaa2



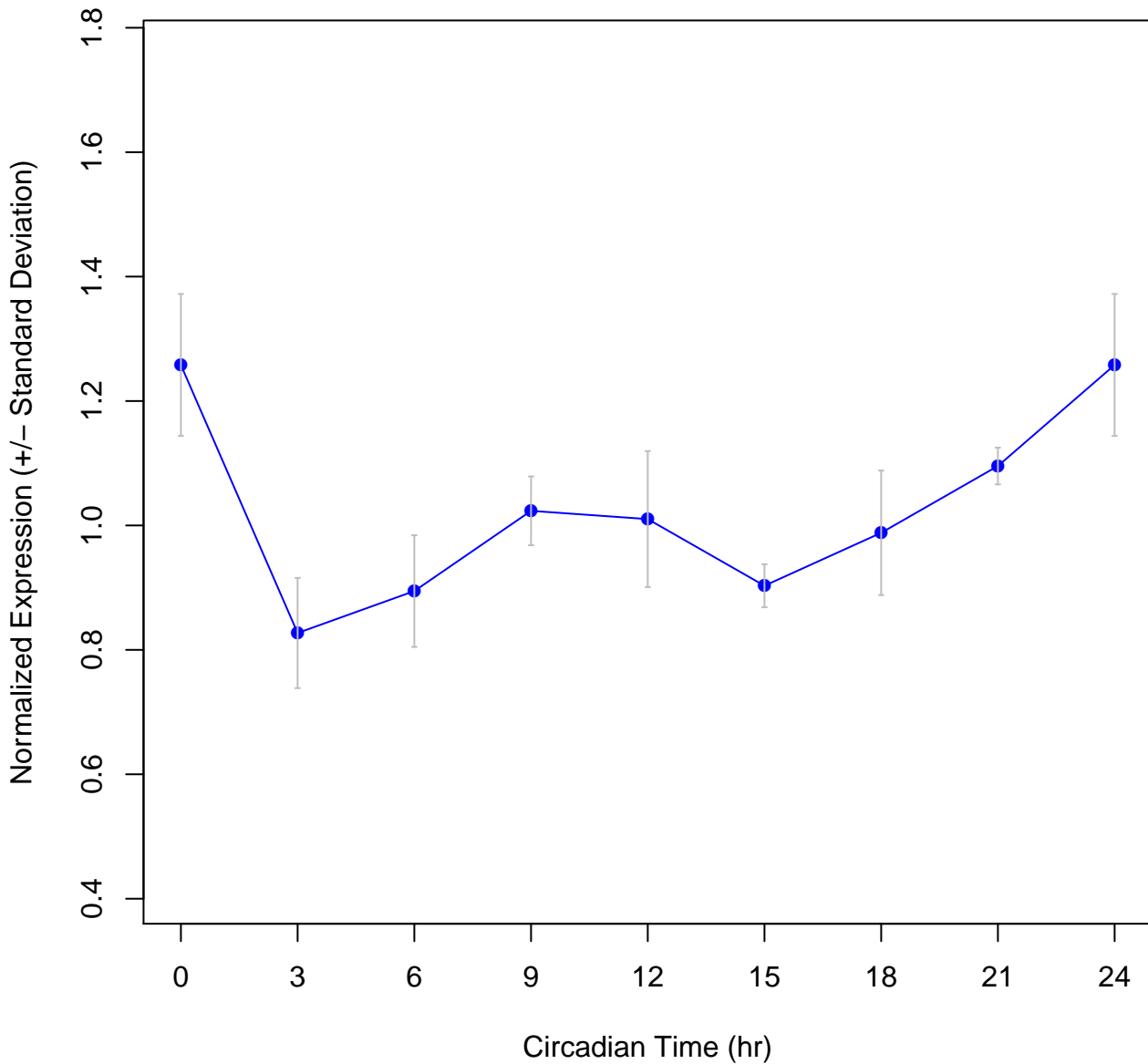
Supplement Figure 3 prkar2a



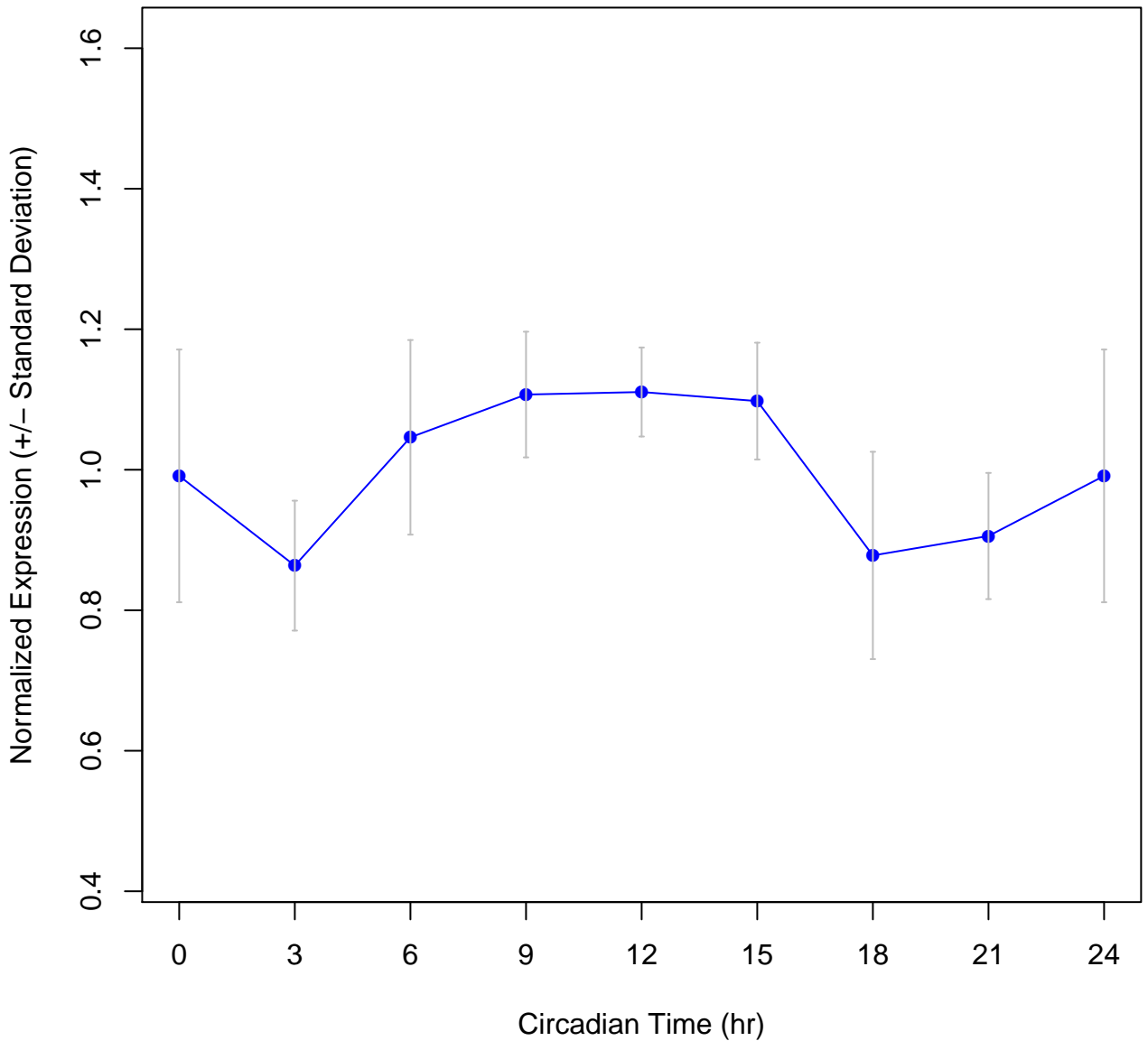
Supplement Figure 3 prkca\_1



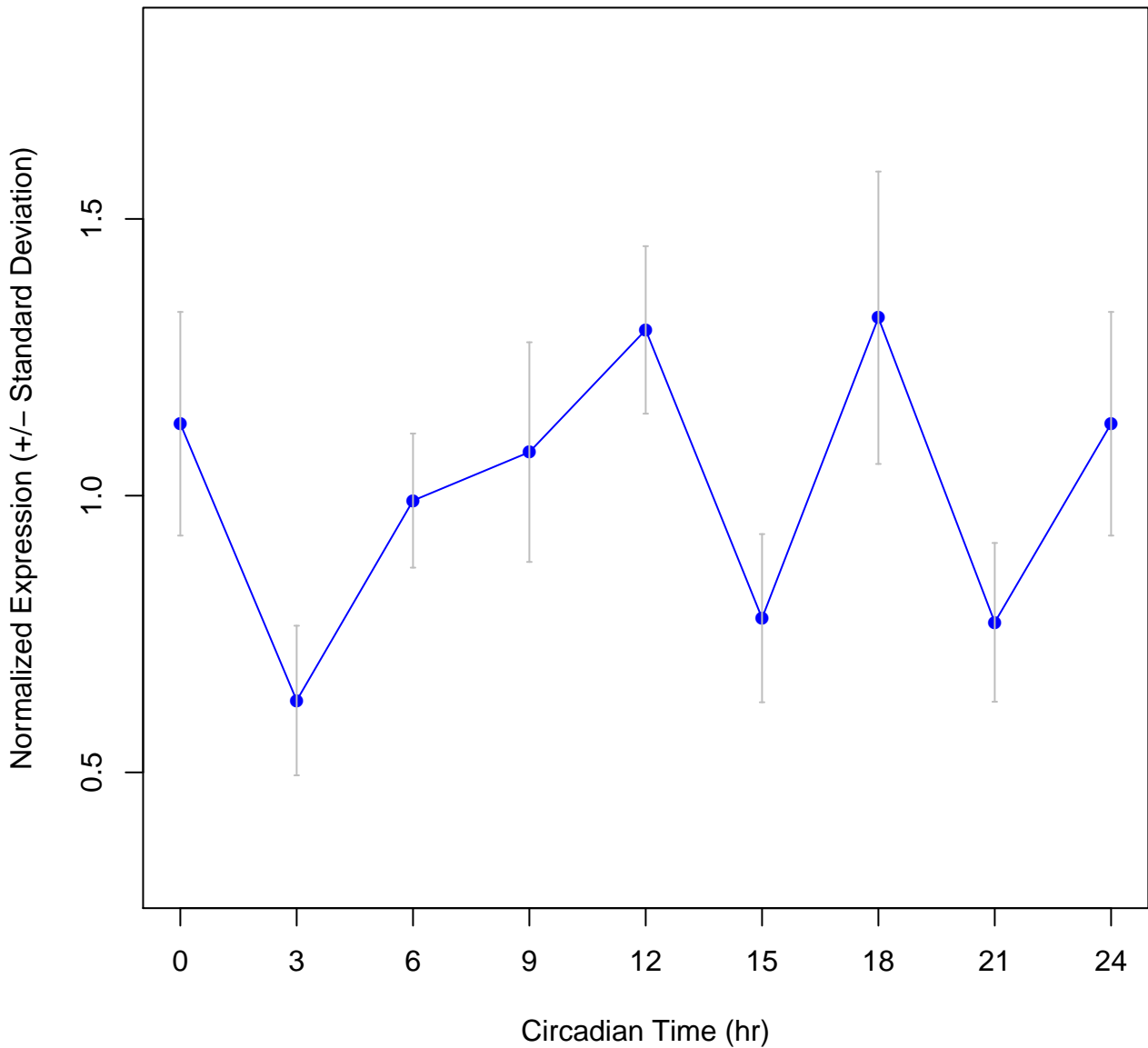
Supplement Figure 3 prkca\_2



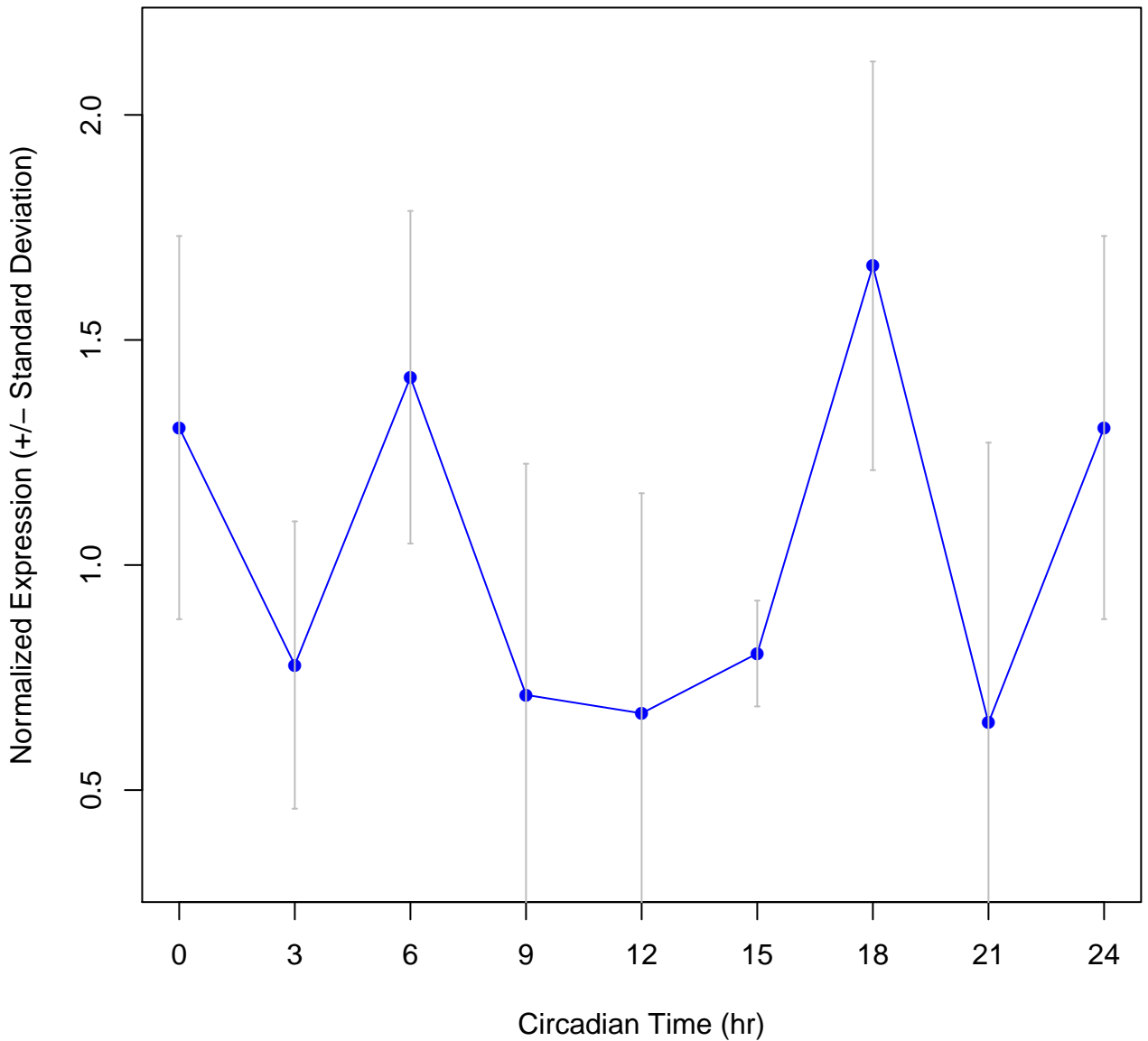
Supplement Figure 3 prkcb



**Supplement Figure 3 prkdc**

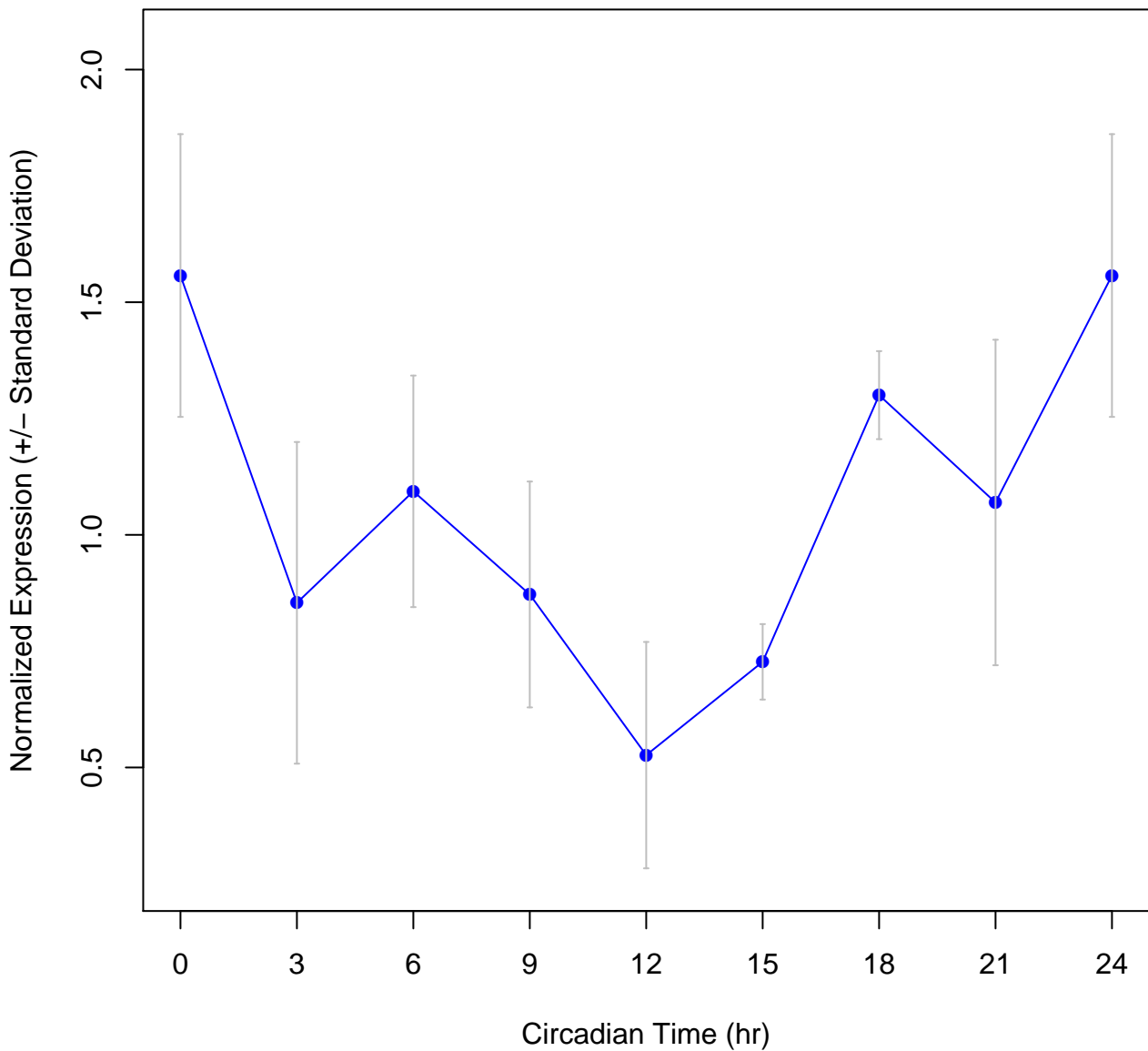


**Supplement Figure 3 rab3b**

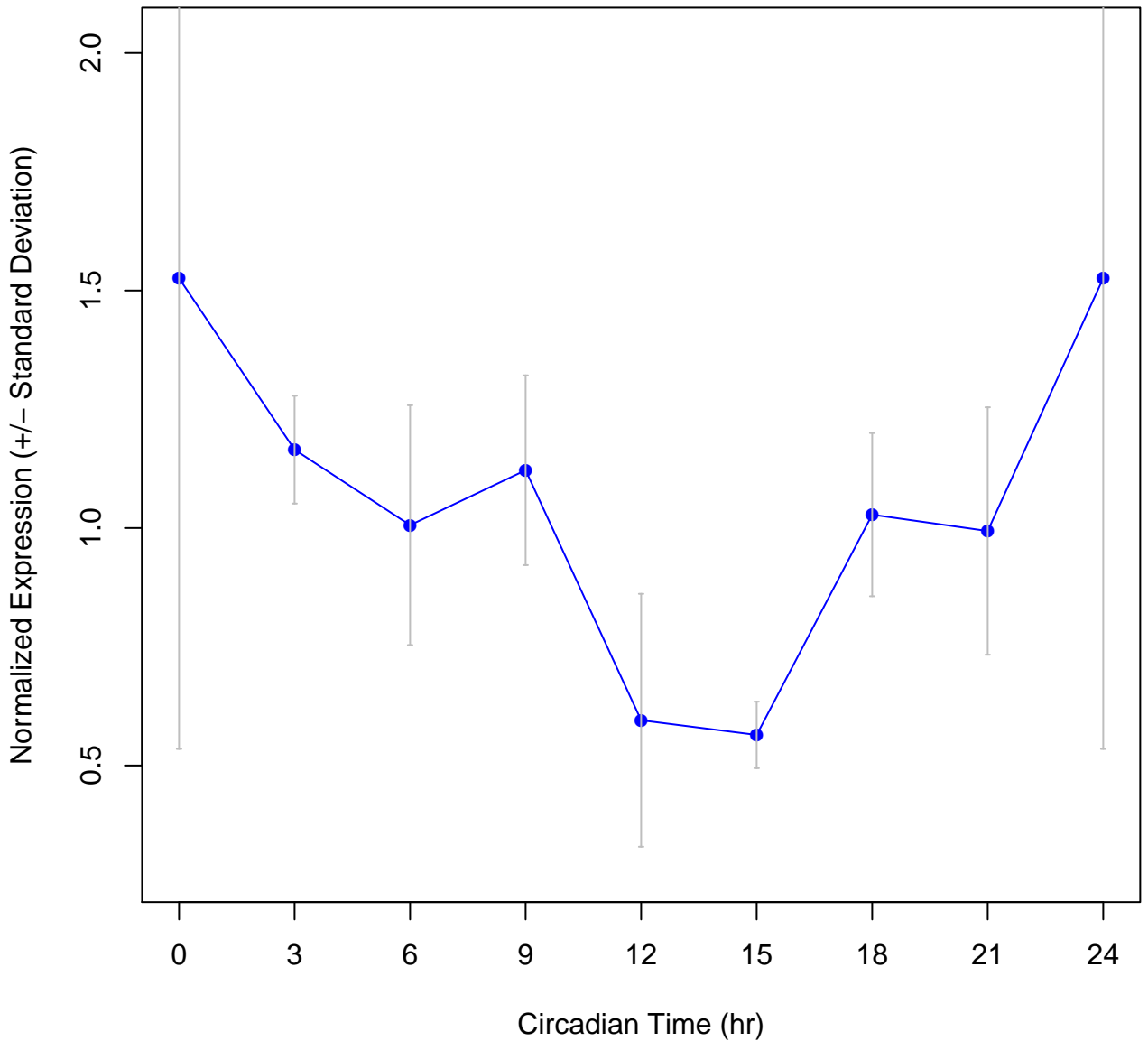




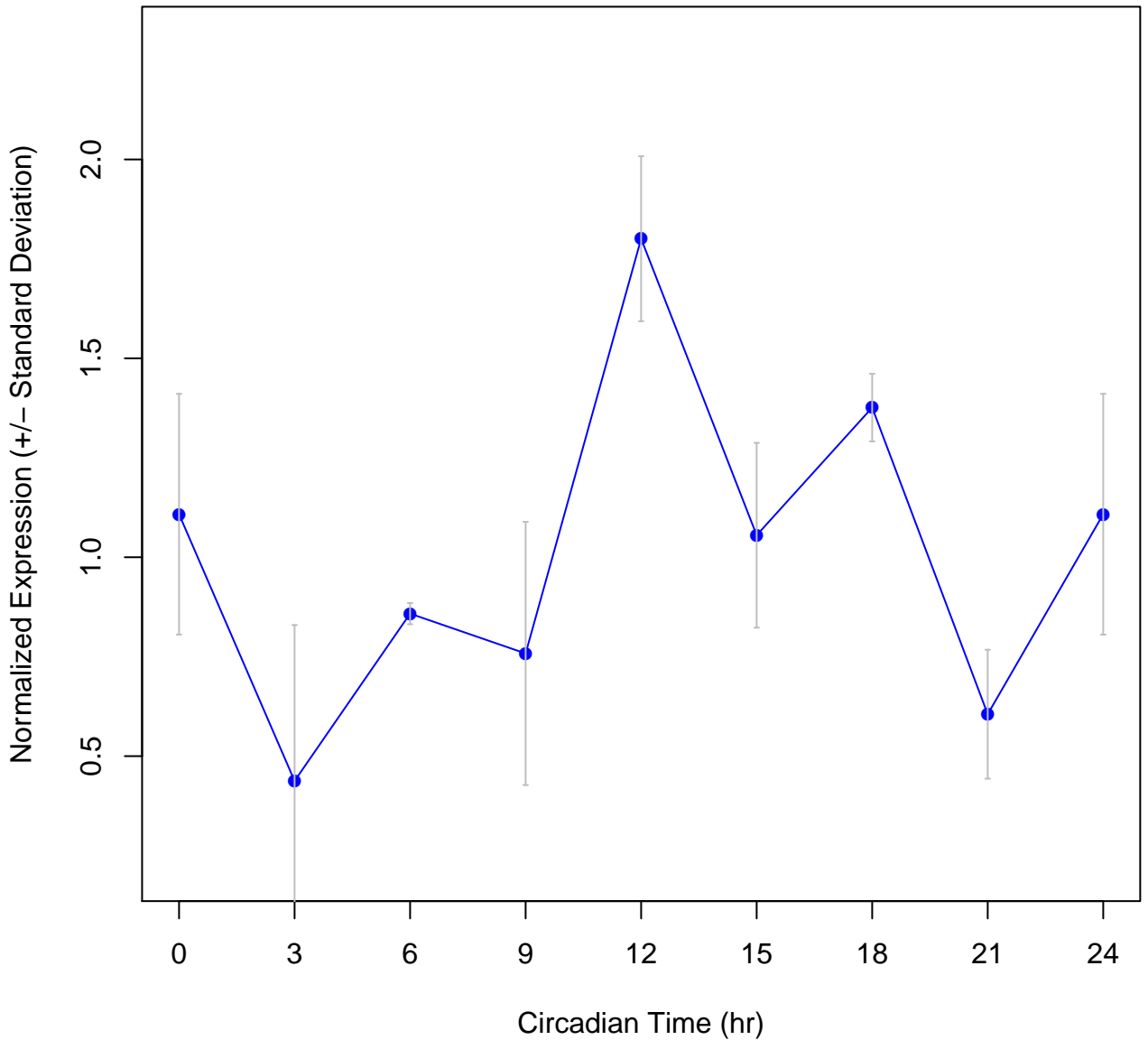
**Supplement Figure 3 rara**



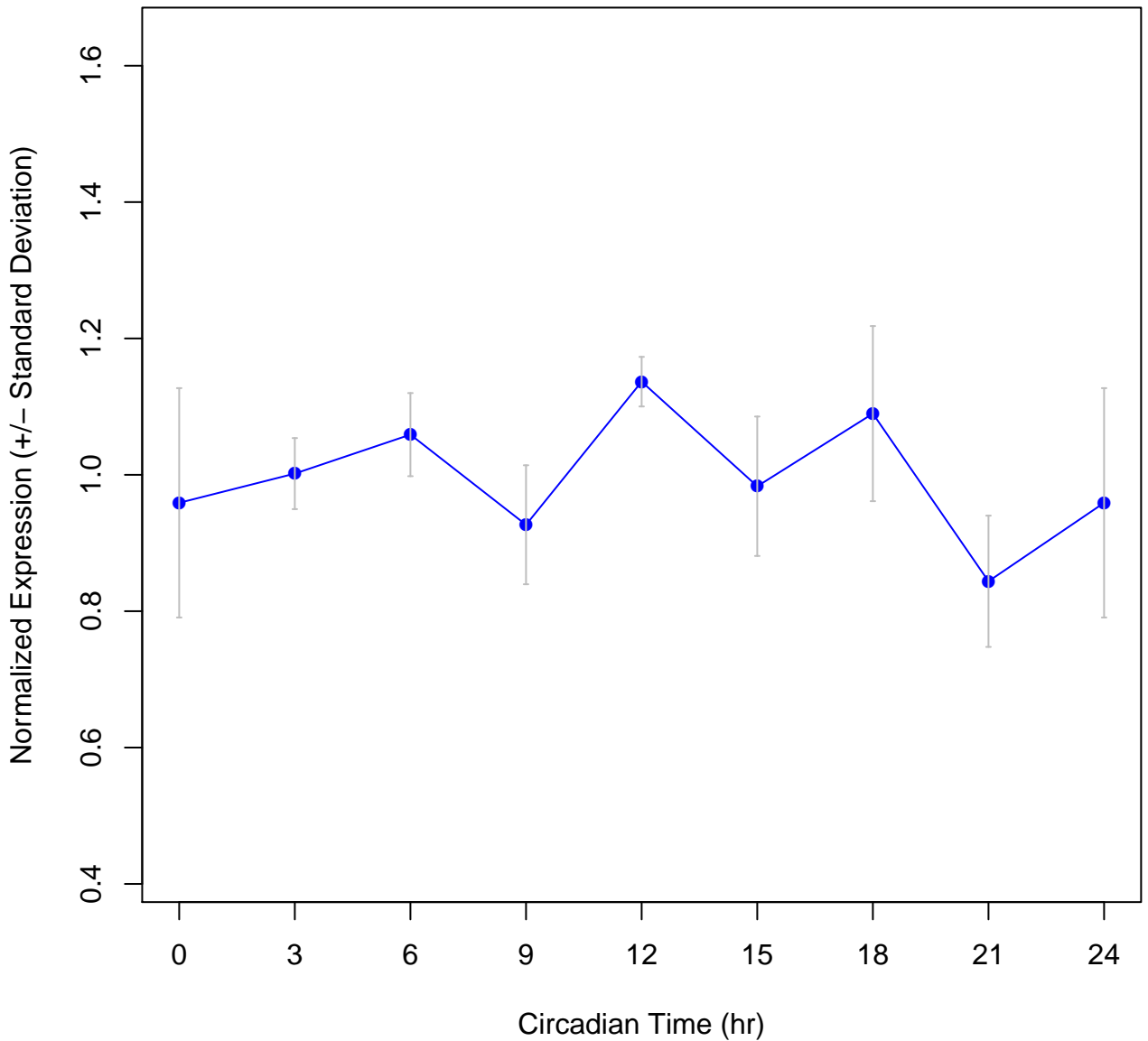
**Supplement Figure 3 rarb**



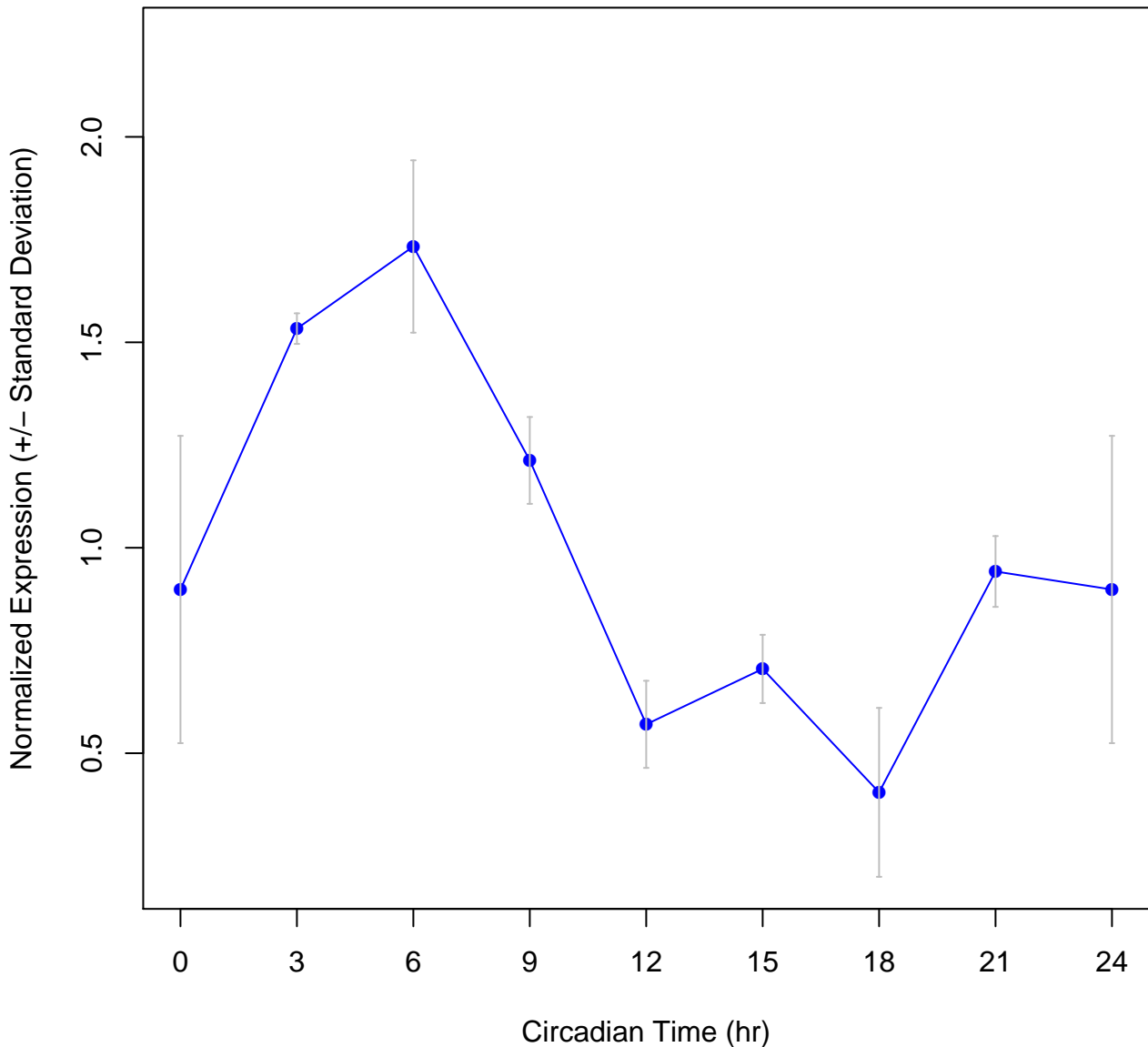
**Supplement Figure 3 raver1**



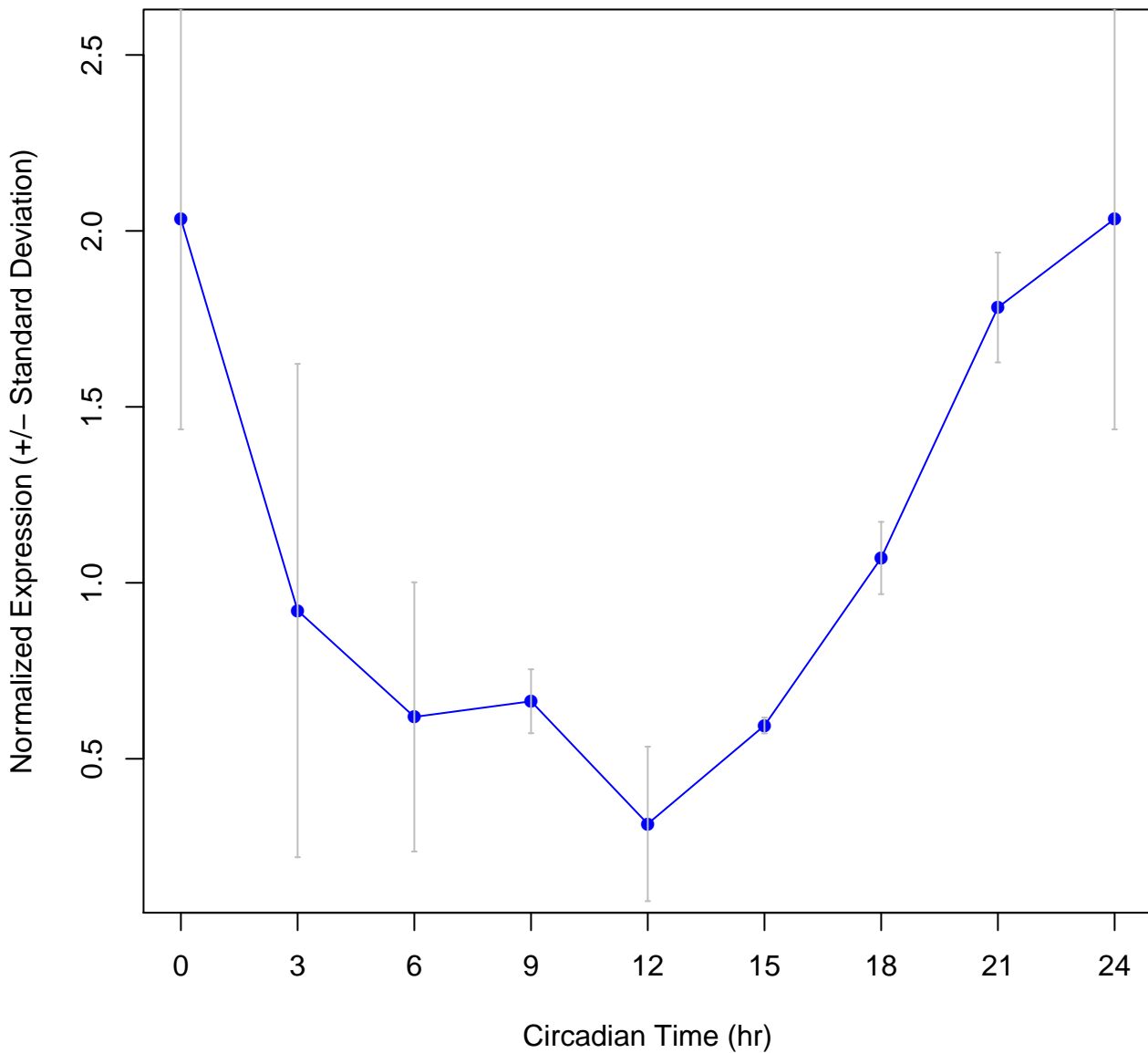
**Supplement Figure 3 rbbp5**



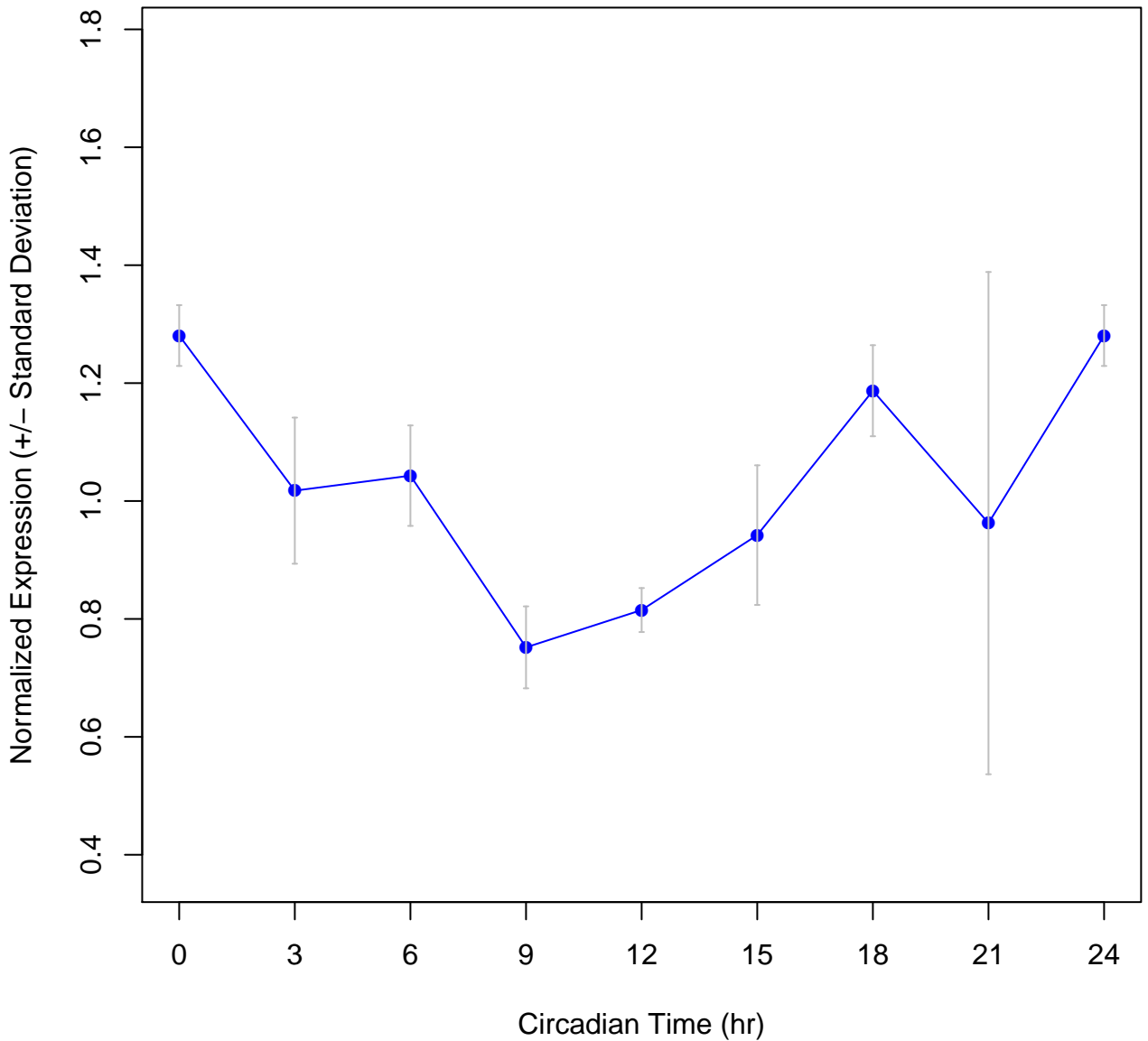
**Supplement Figure 3 rora**



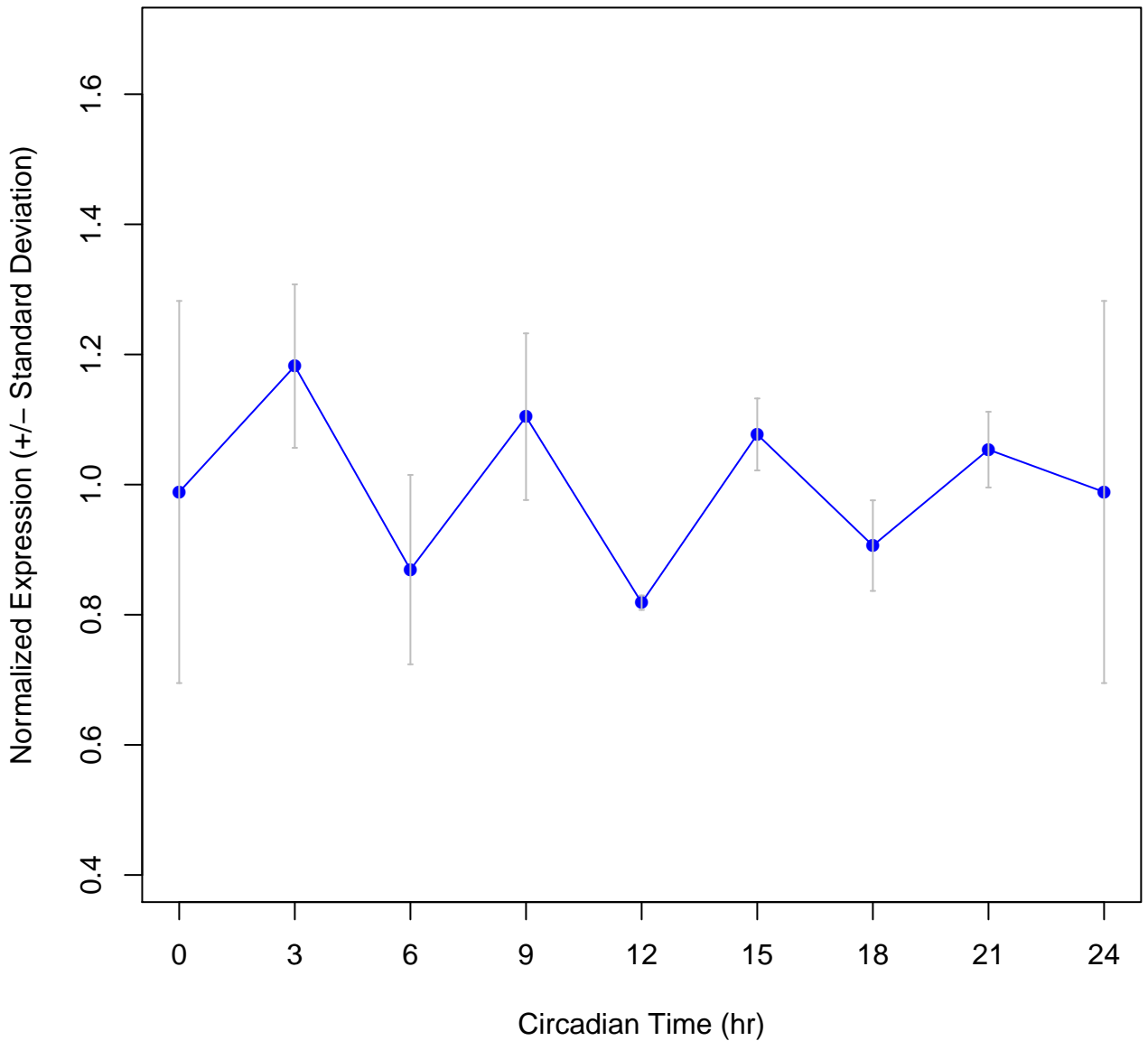
Supplement Figure 3 rps6ka2



**Supplement Figure 3 rps6kb1**

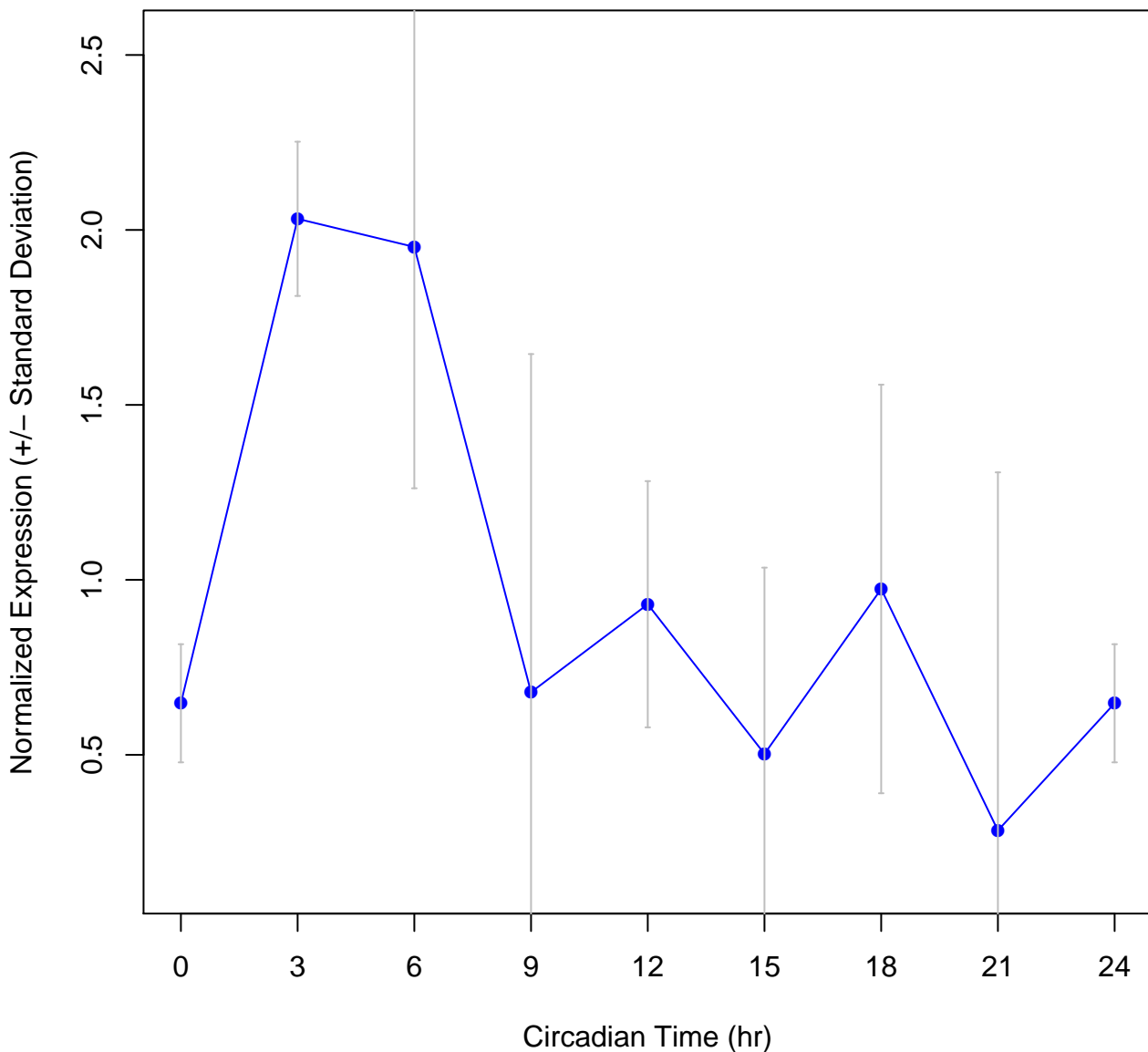


Supplement Figure 3 si\_ch211-114i13.12

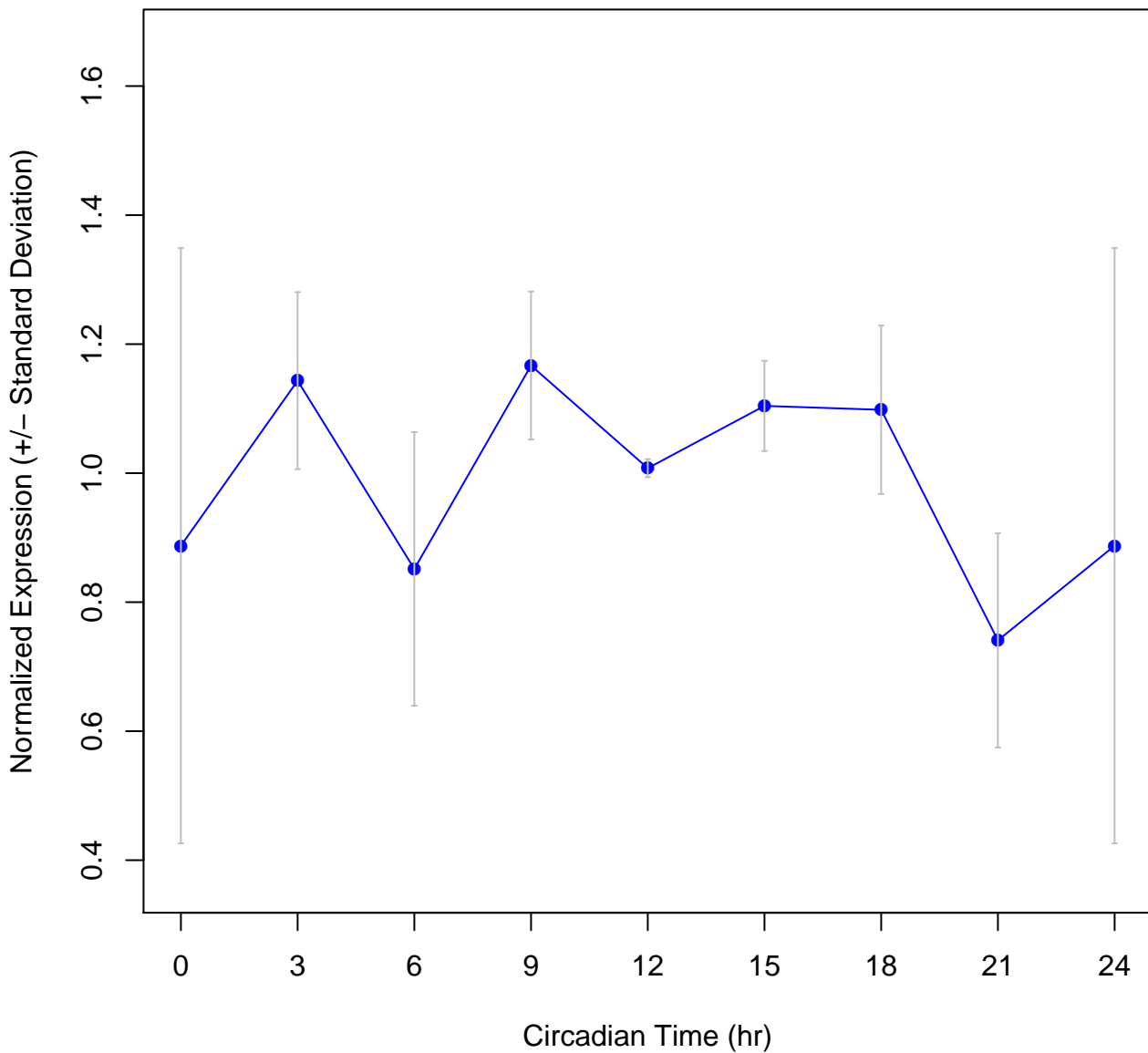




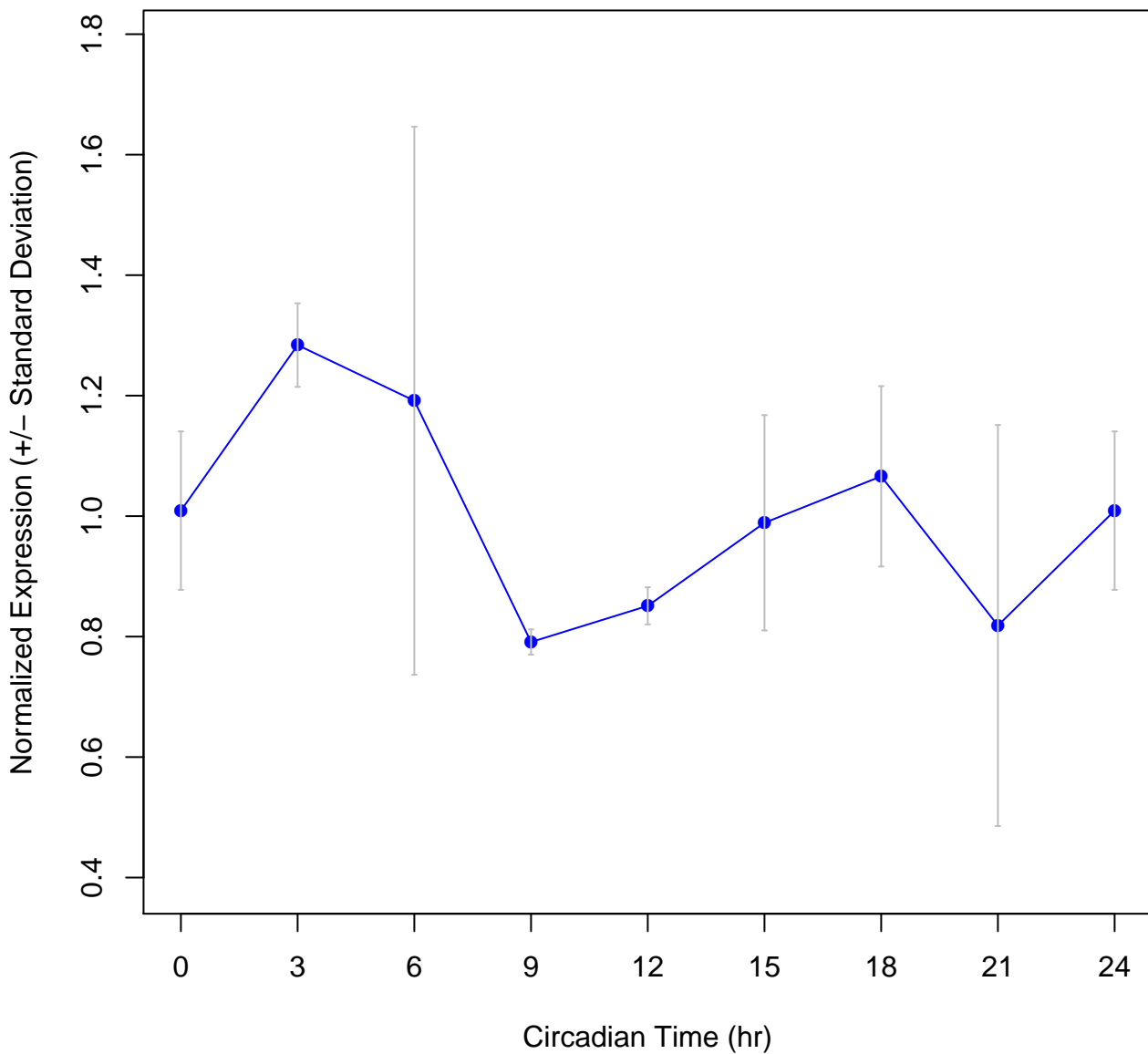
Supplement Figure 3 si\_ch211-199o1.2



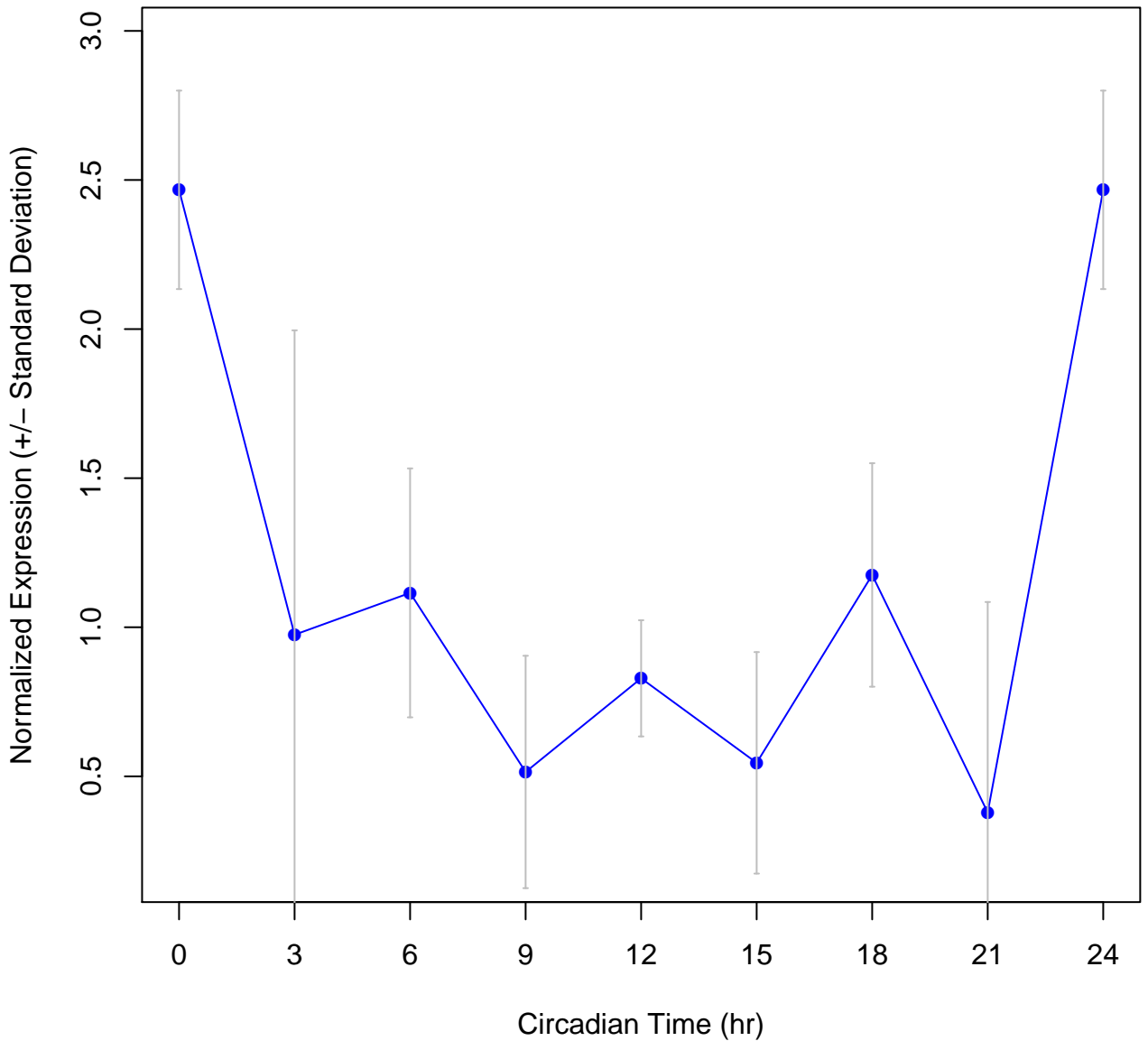
### Supplement Figure 3 sigirr



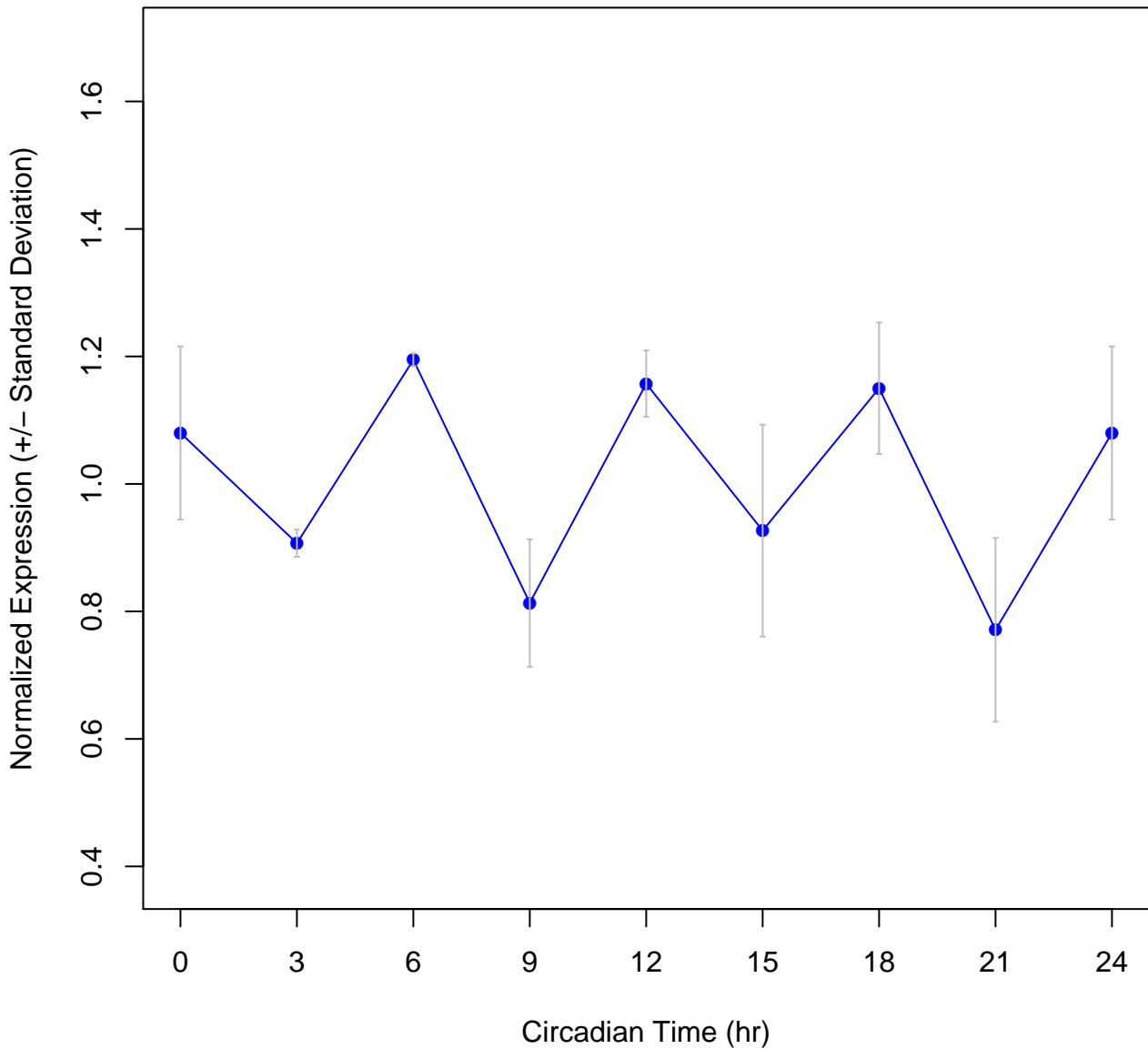
### Supplement Figure 3 sirt1



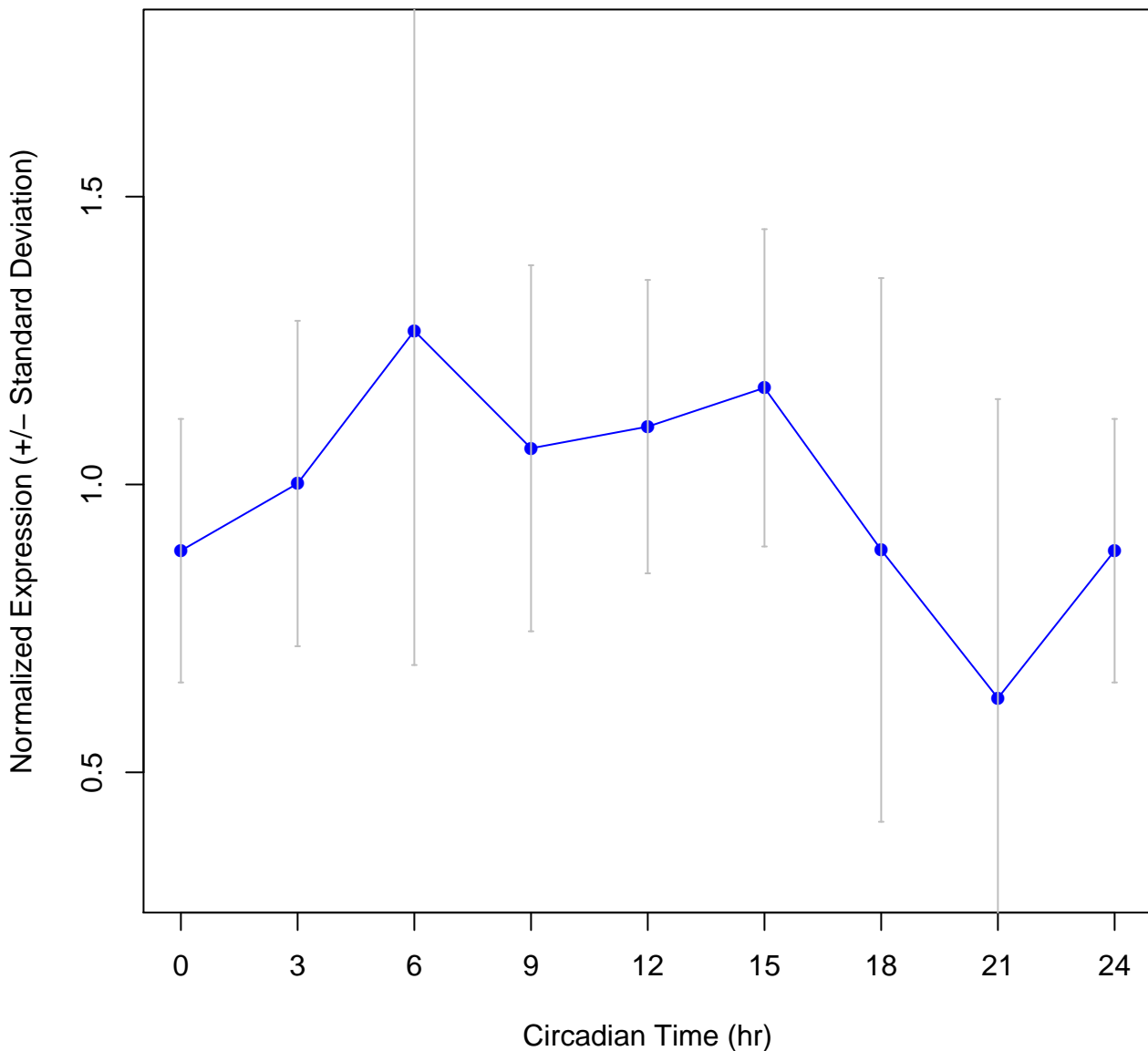
**Supplement Figure 3 six3**



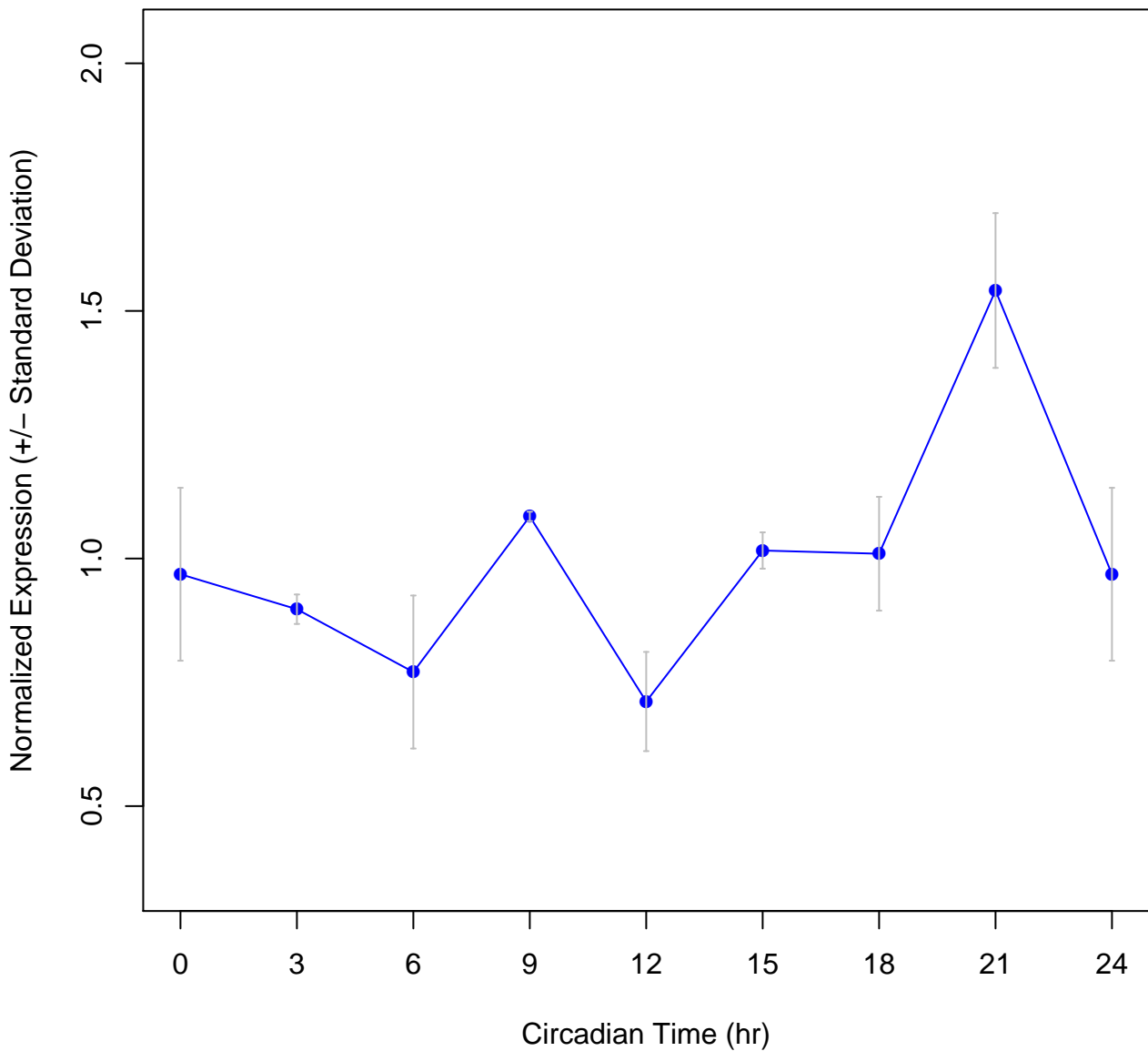
### Supplement Figure 3 skp1



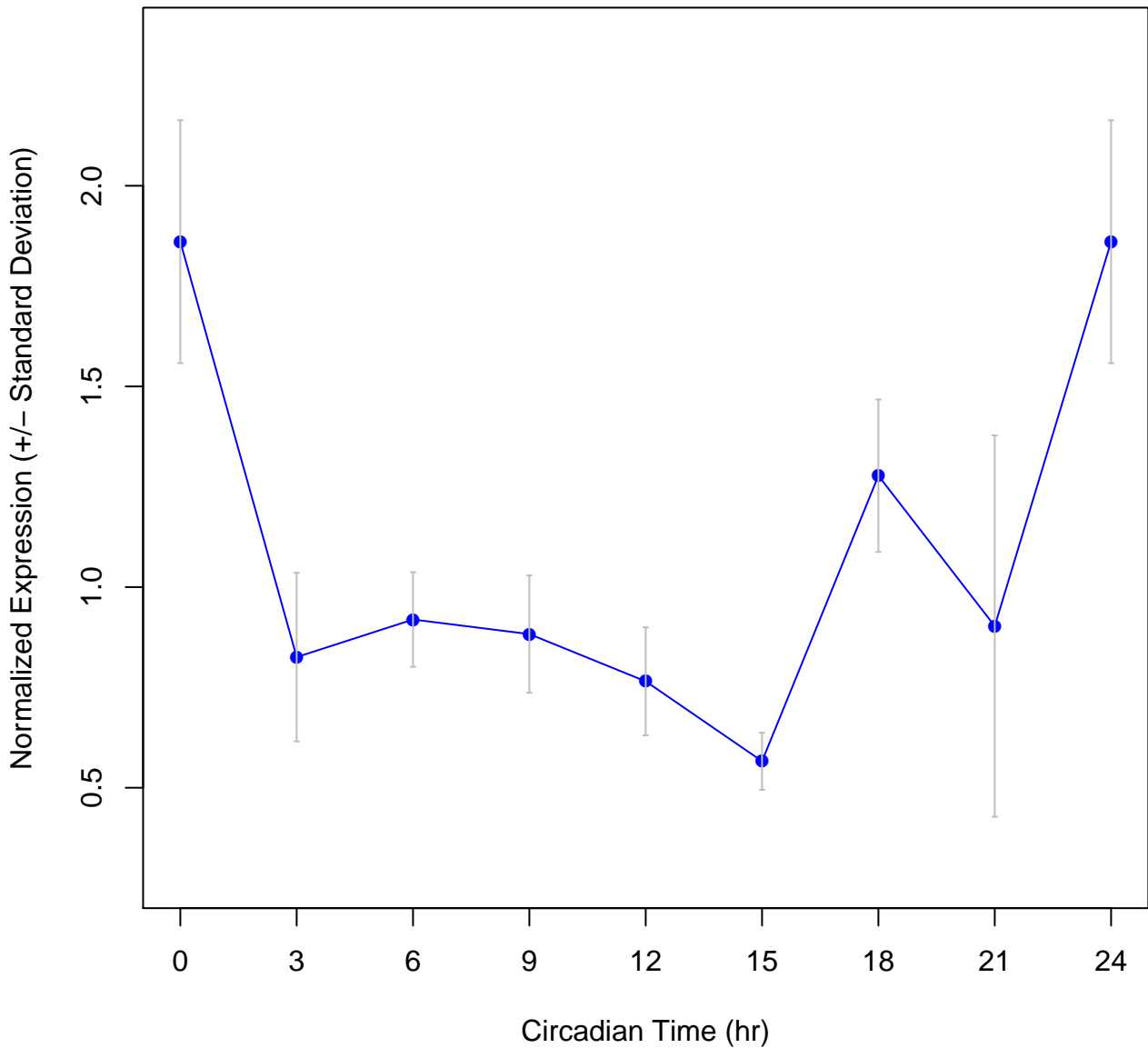
Supplement Figure 3 slc2a4



Supplement Figure 3 slc2a4rg

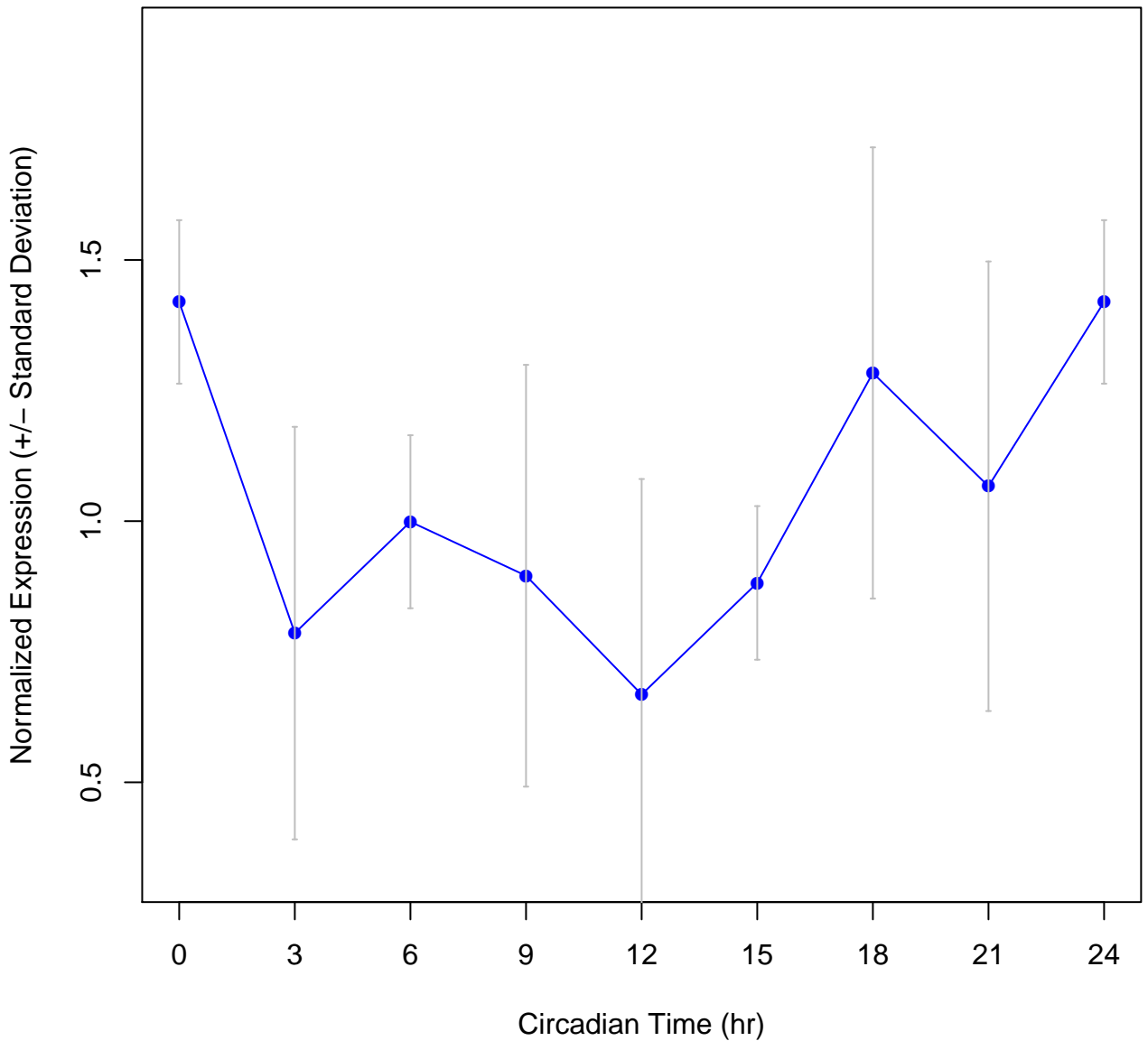


Supplement Figure 3 snca

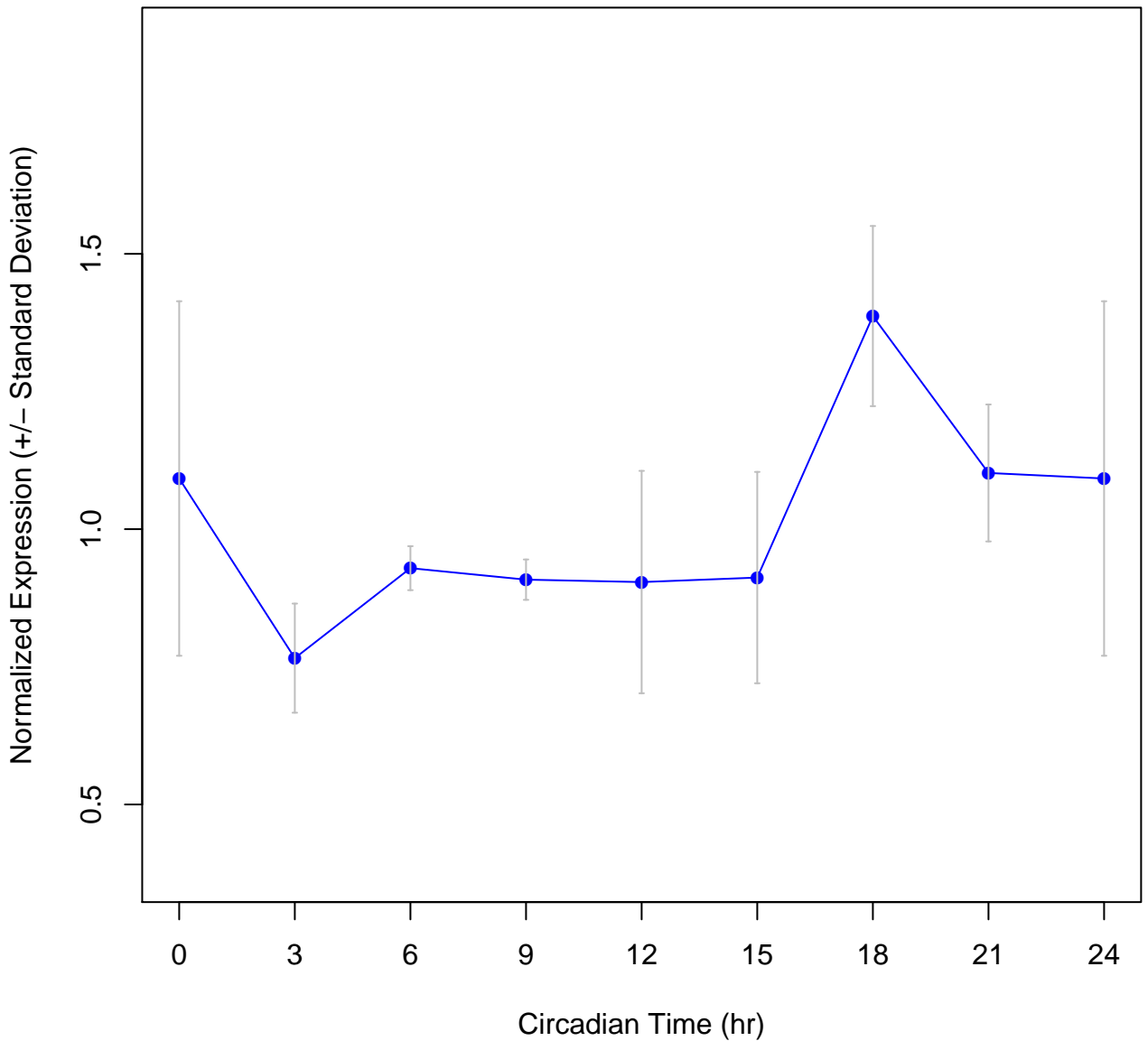




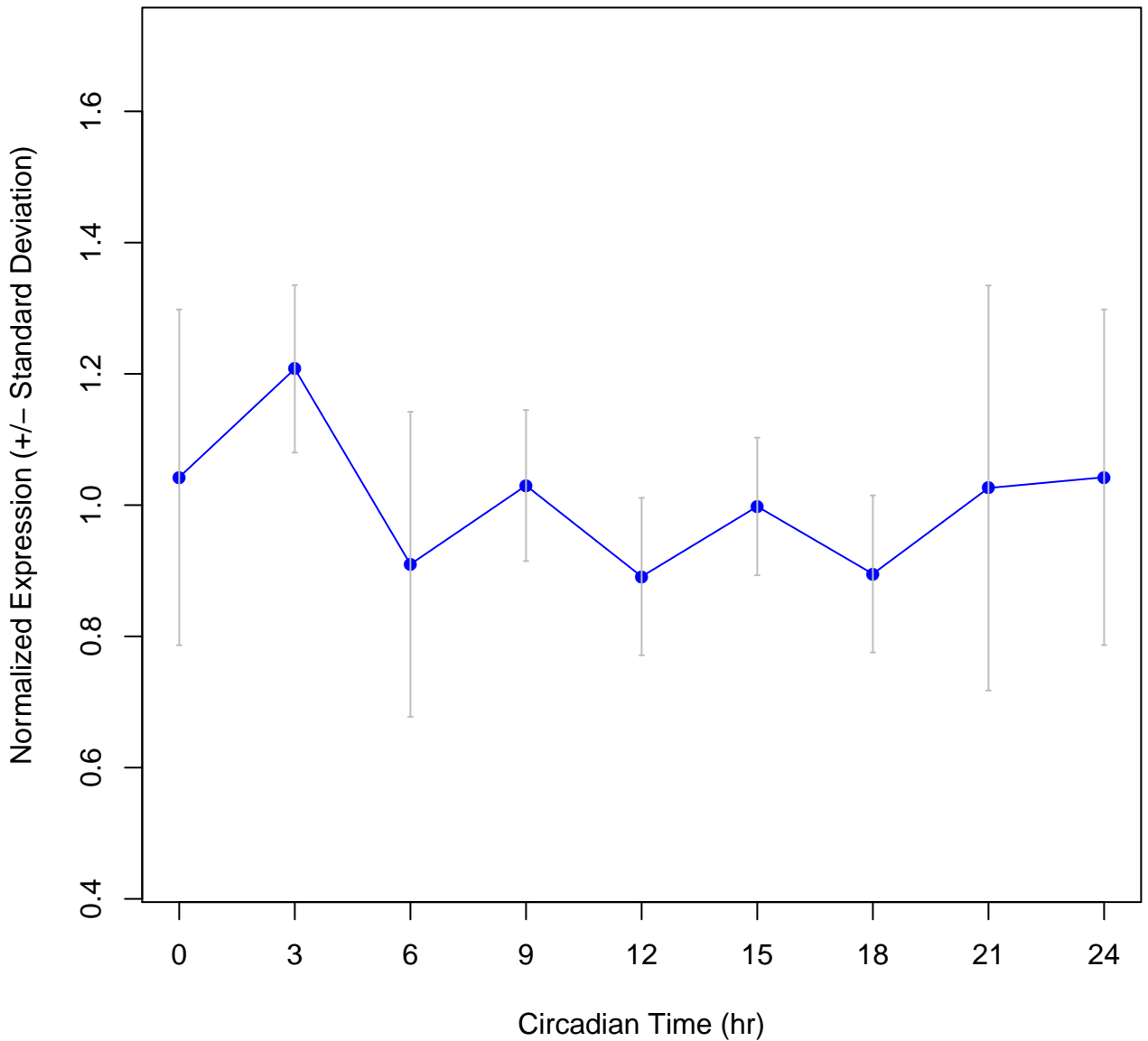
### Supplement Figure 3 sort1



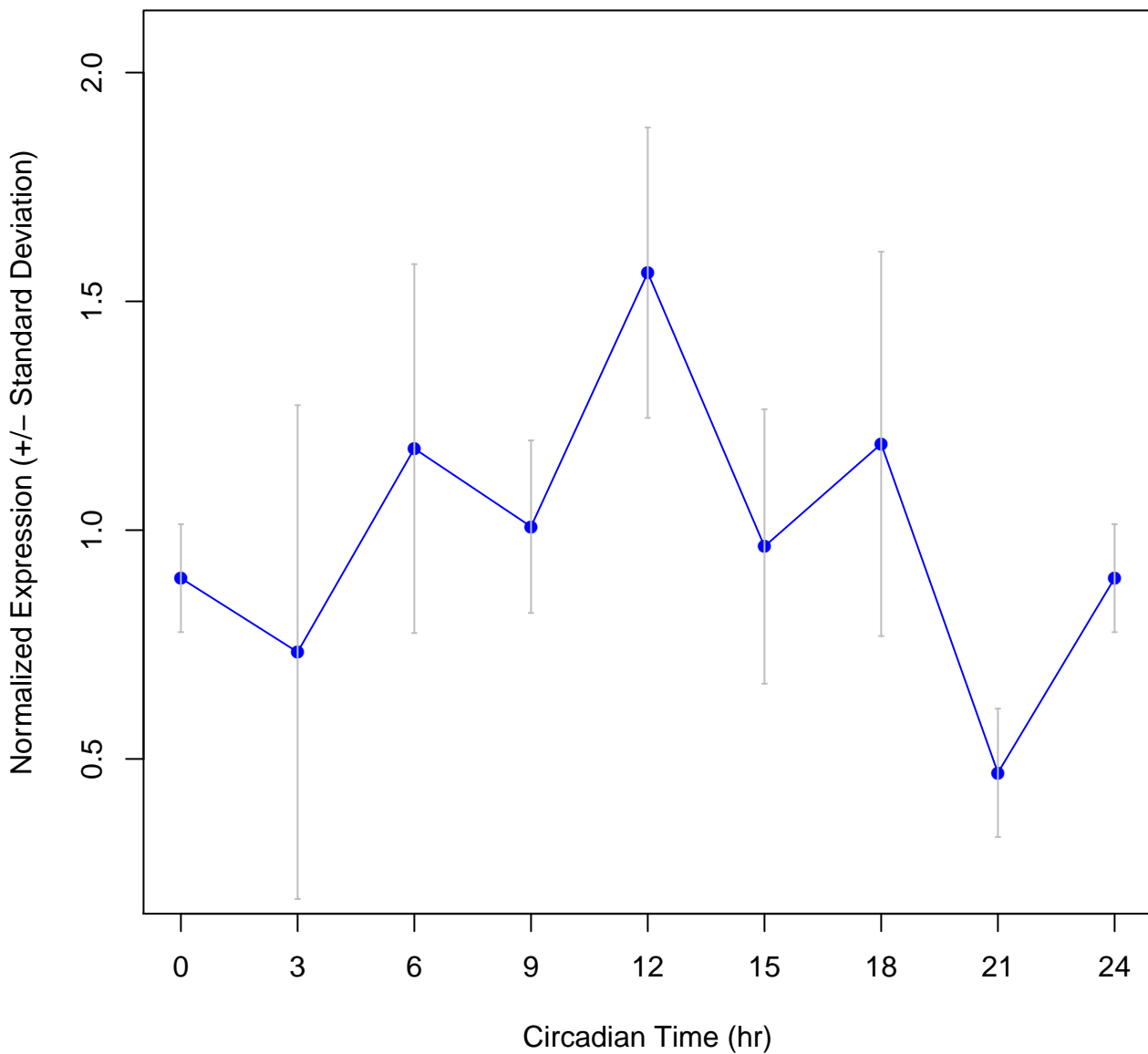
**Supplement Figure 3 sox10**



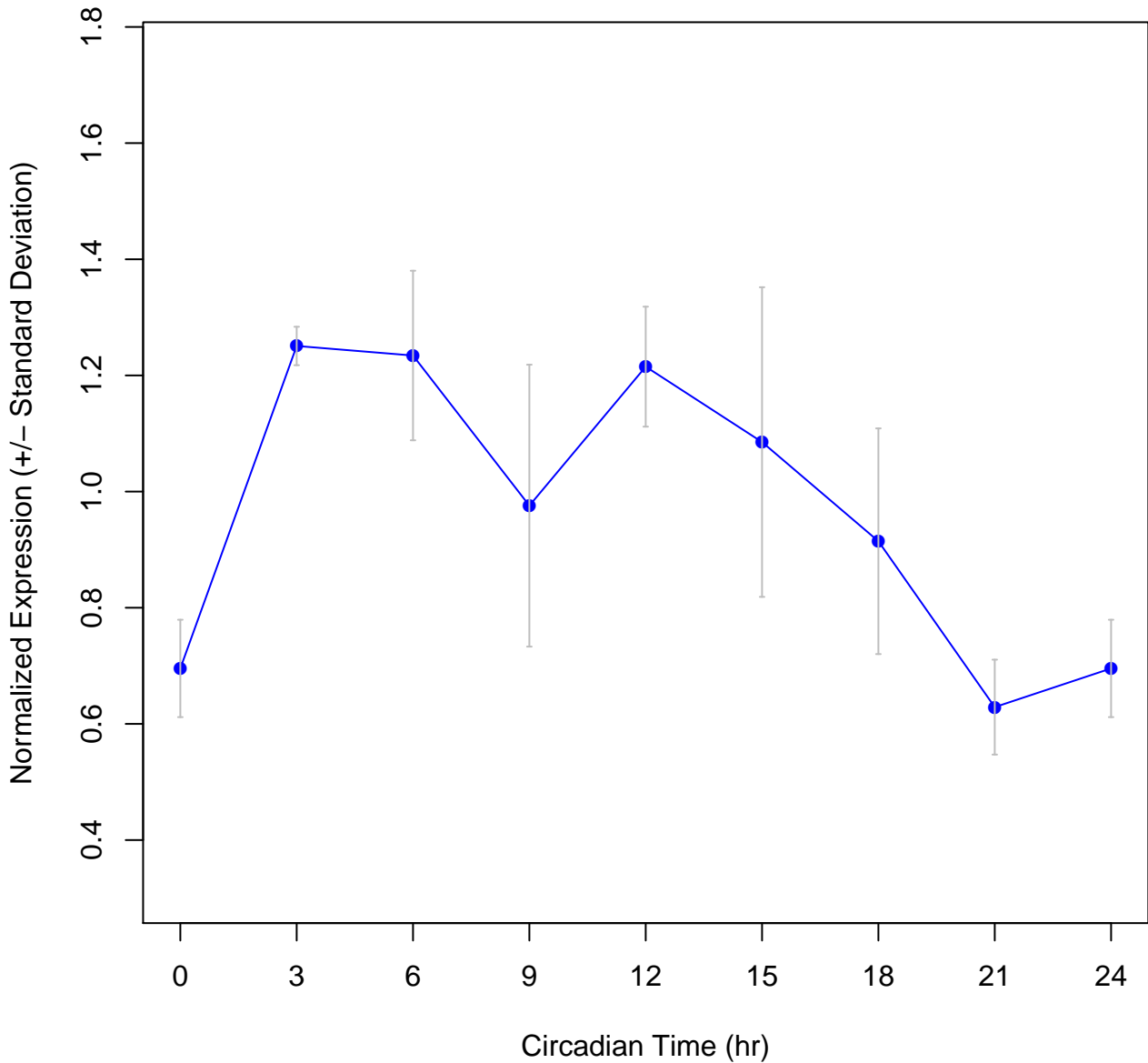
Supplement Figure 3 sox8



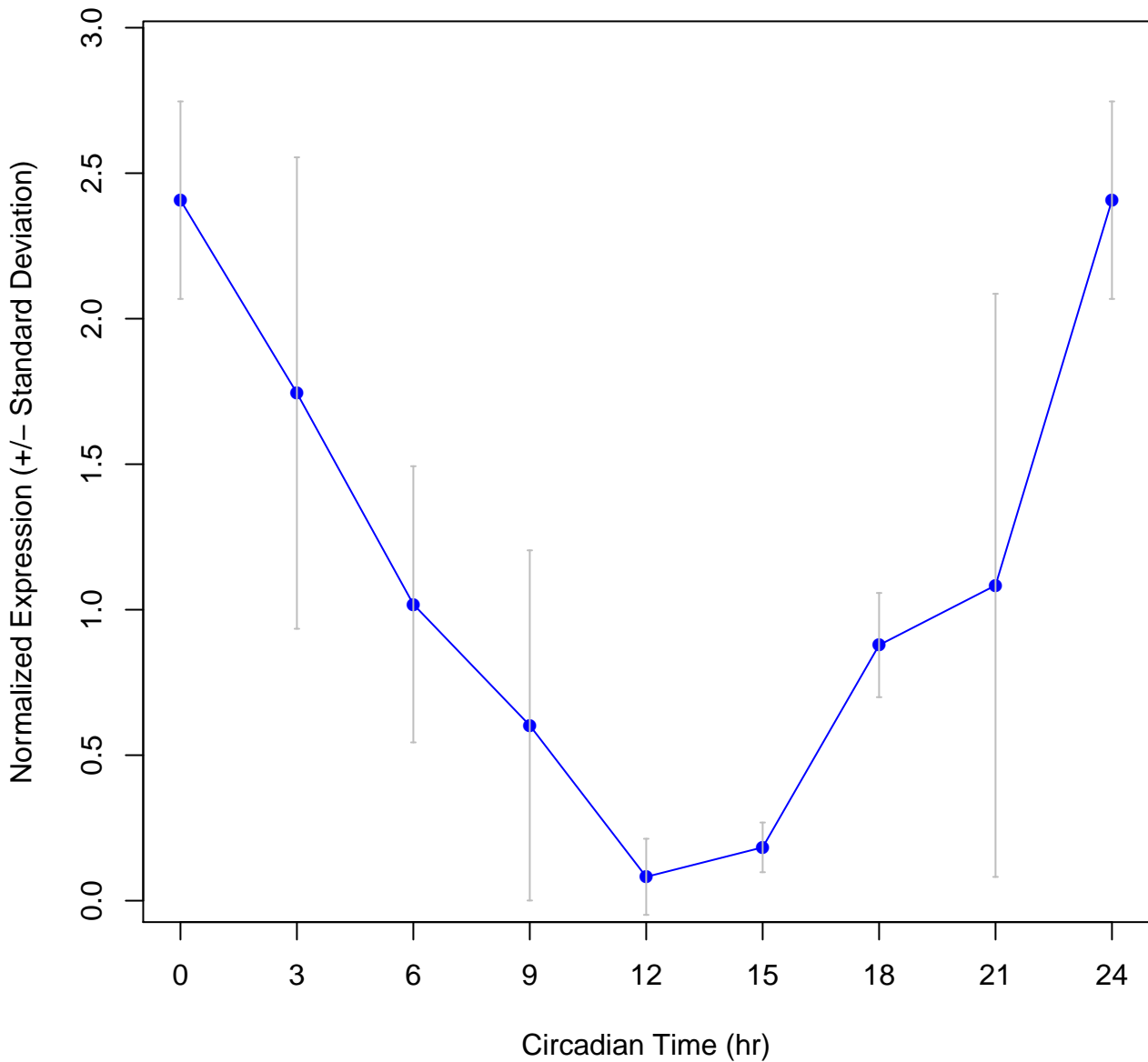
Supplement Figure 3 spc25



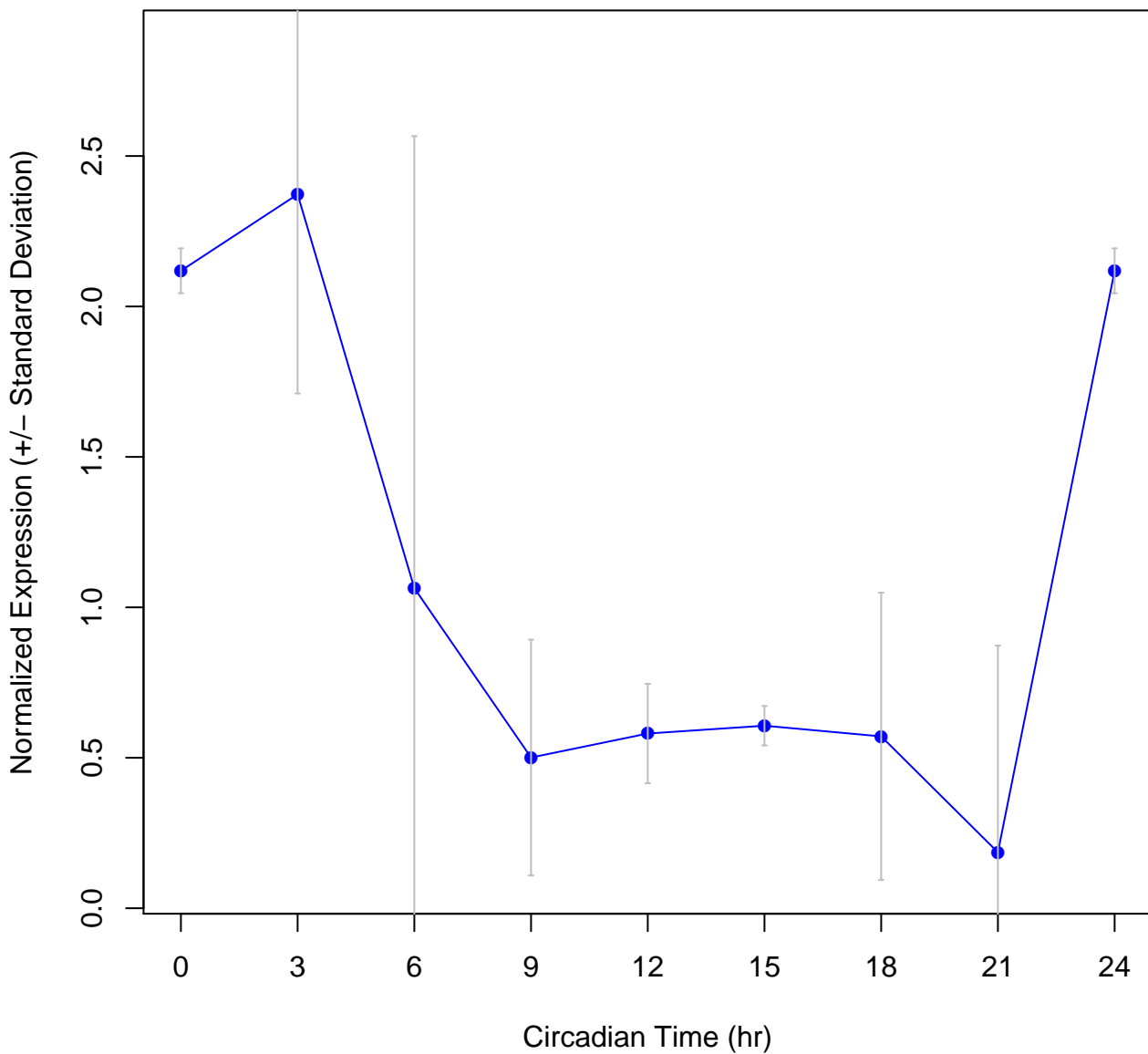
Supplement Figure 3 srebf1



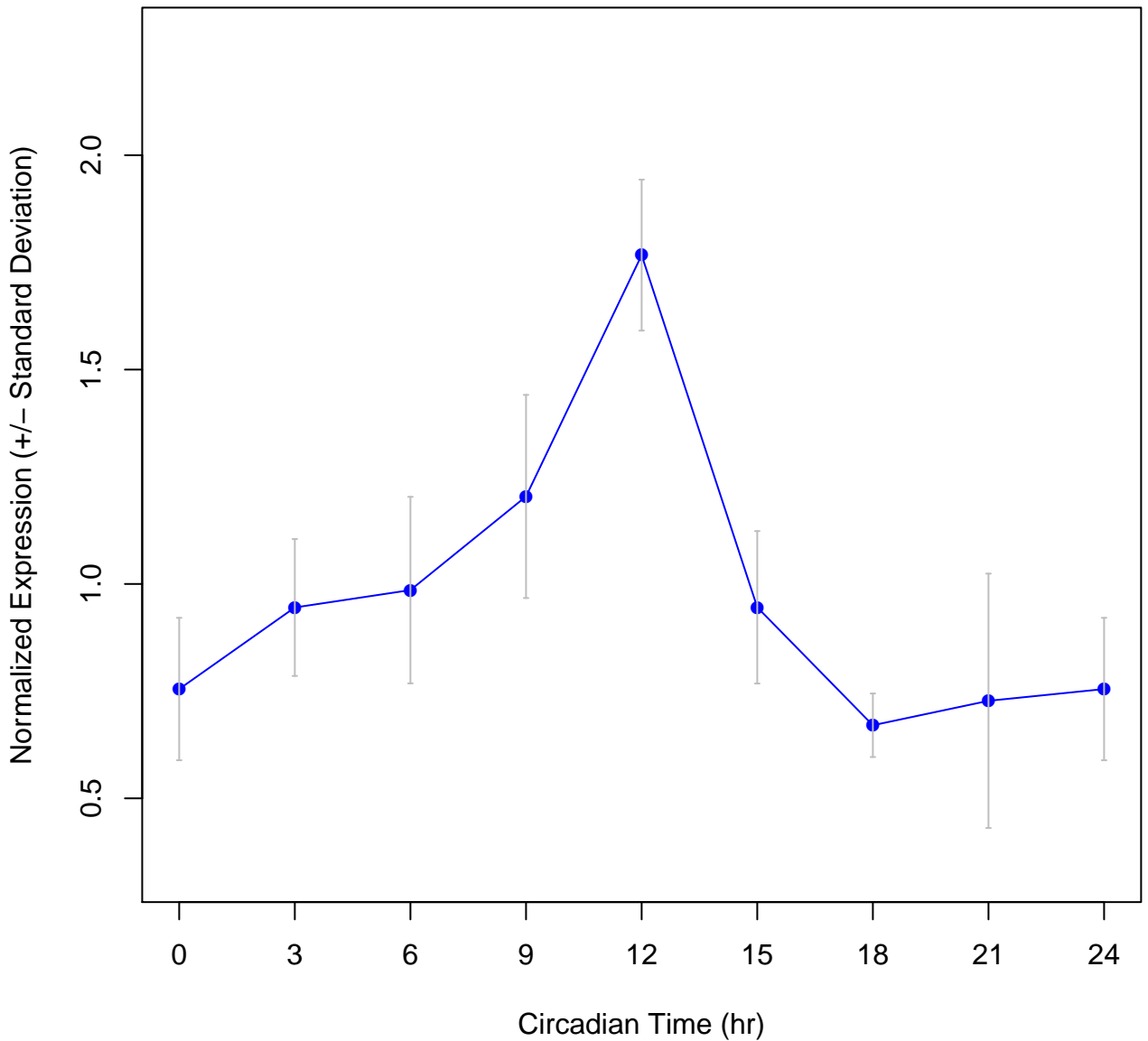
### Supplement Figure 3 sybu



Supplement Figure 3 tgm8

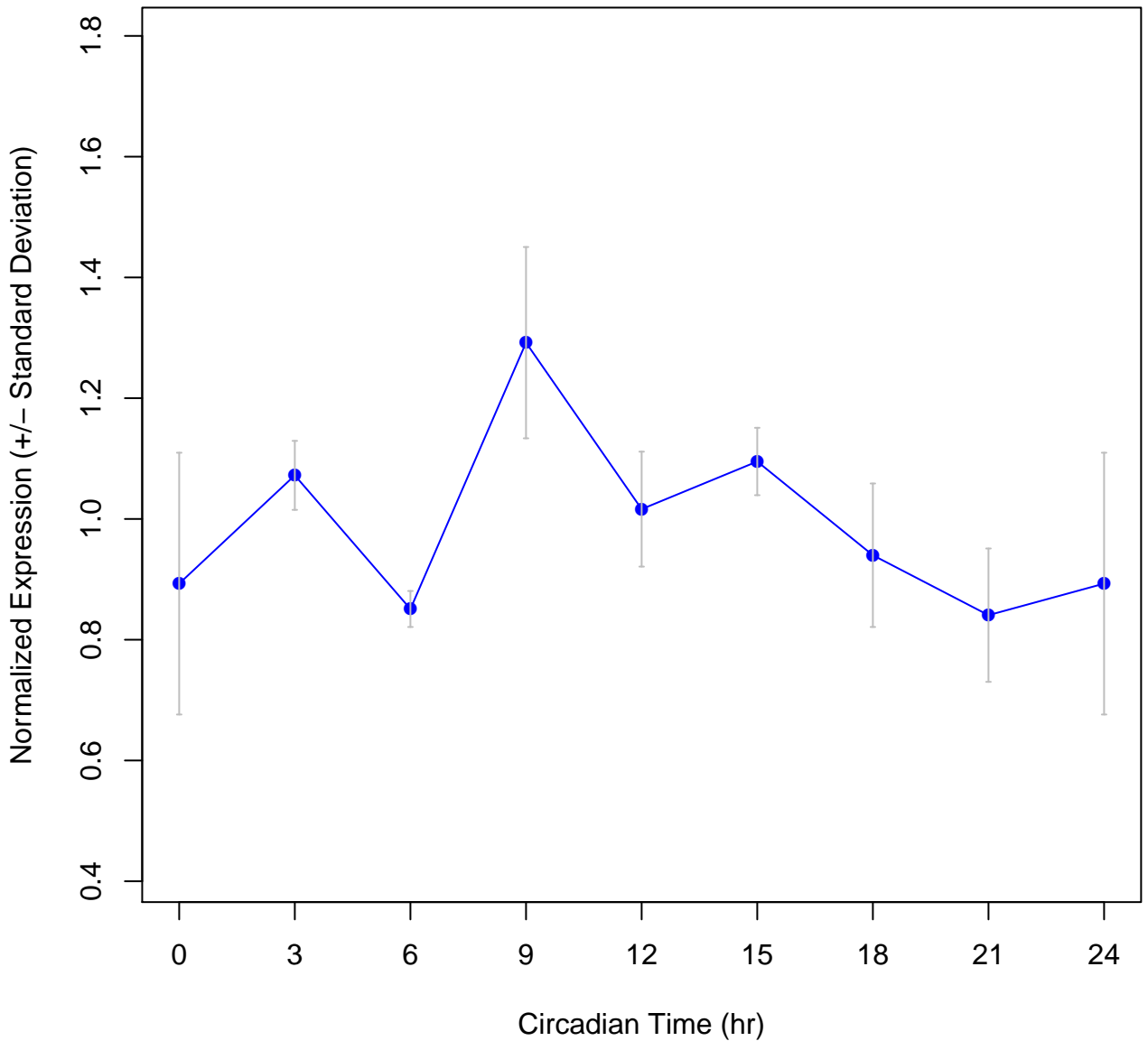


**Supplement Figure 3 thbs1**

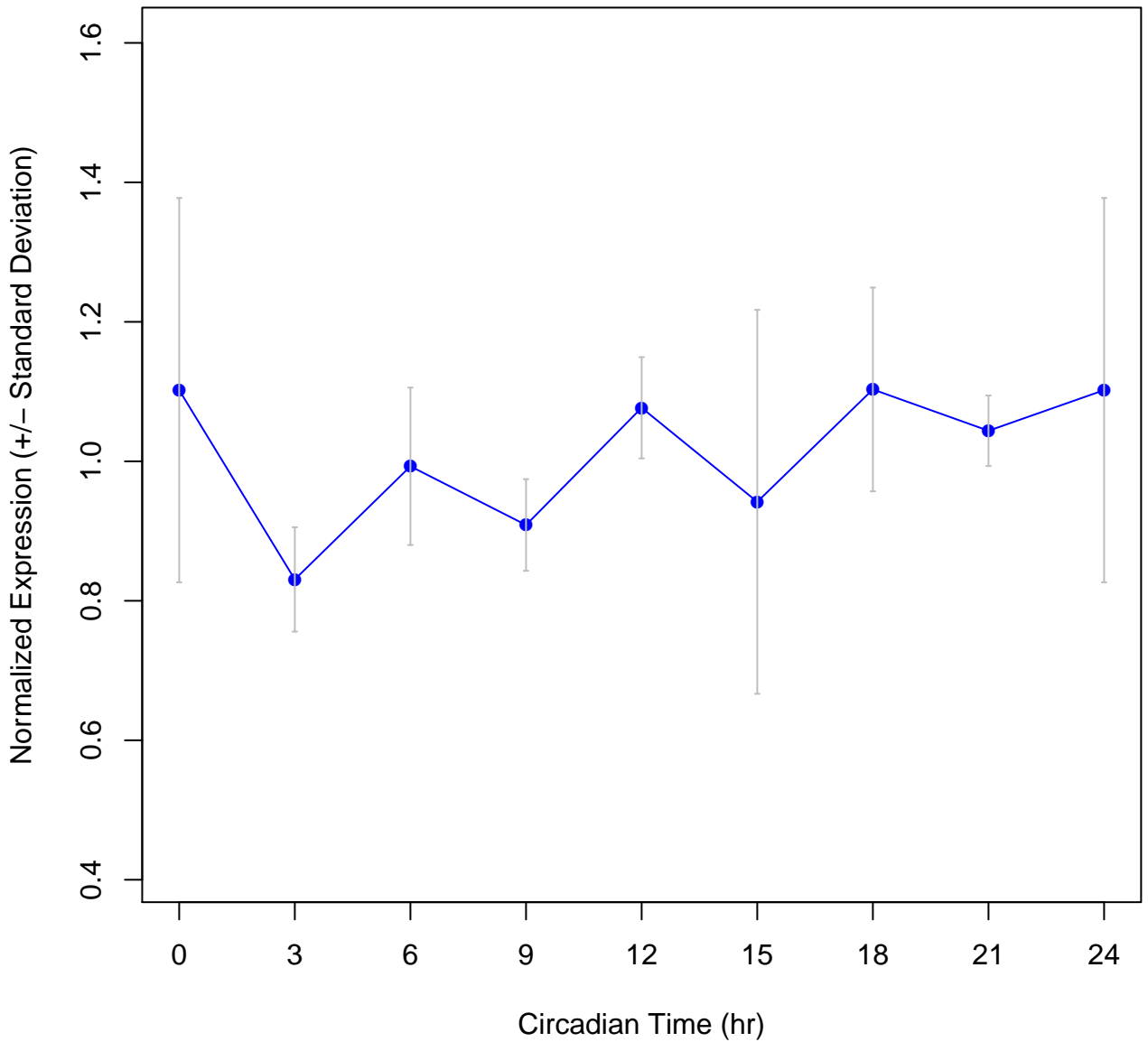




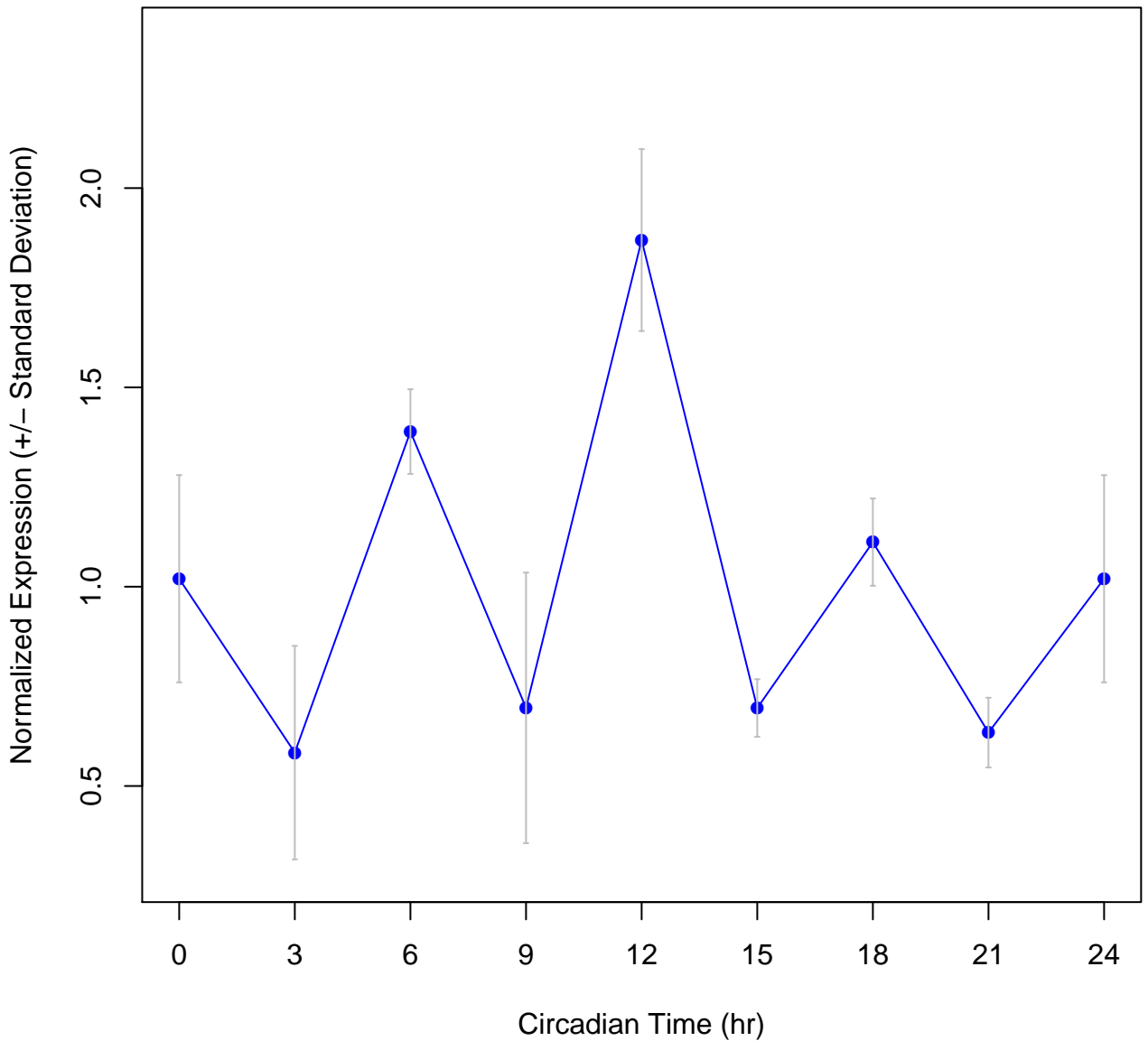
**Supplement Figure 3 tim1**



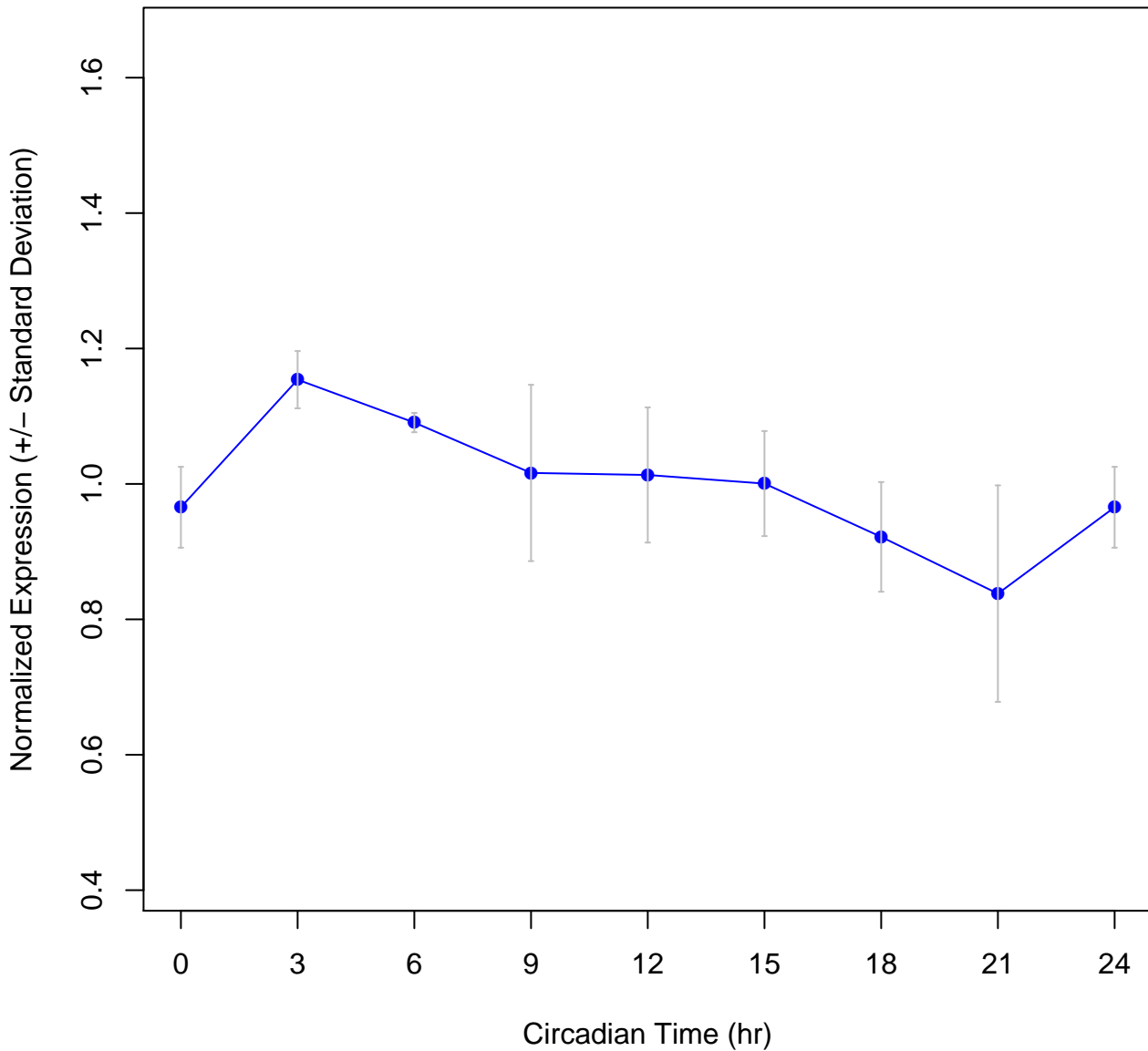
Supplement Figure 3 tmem204



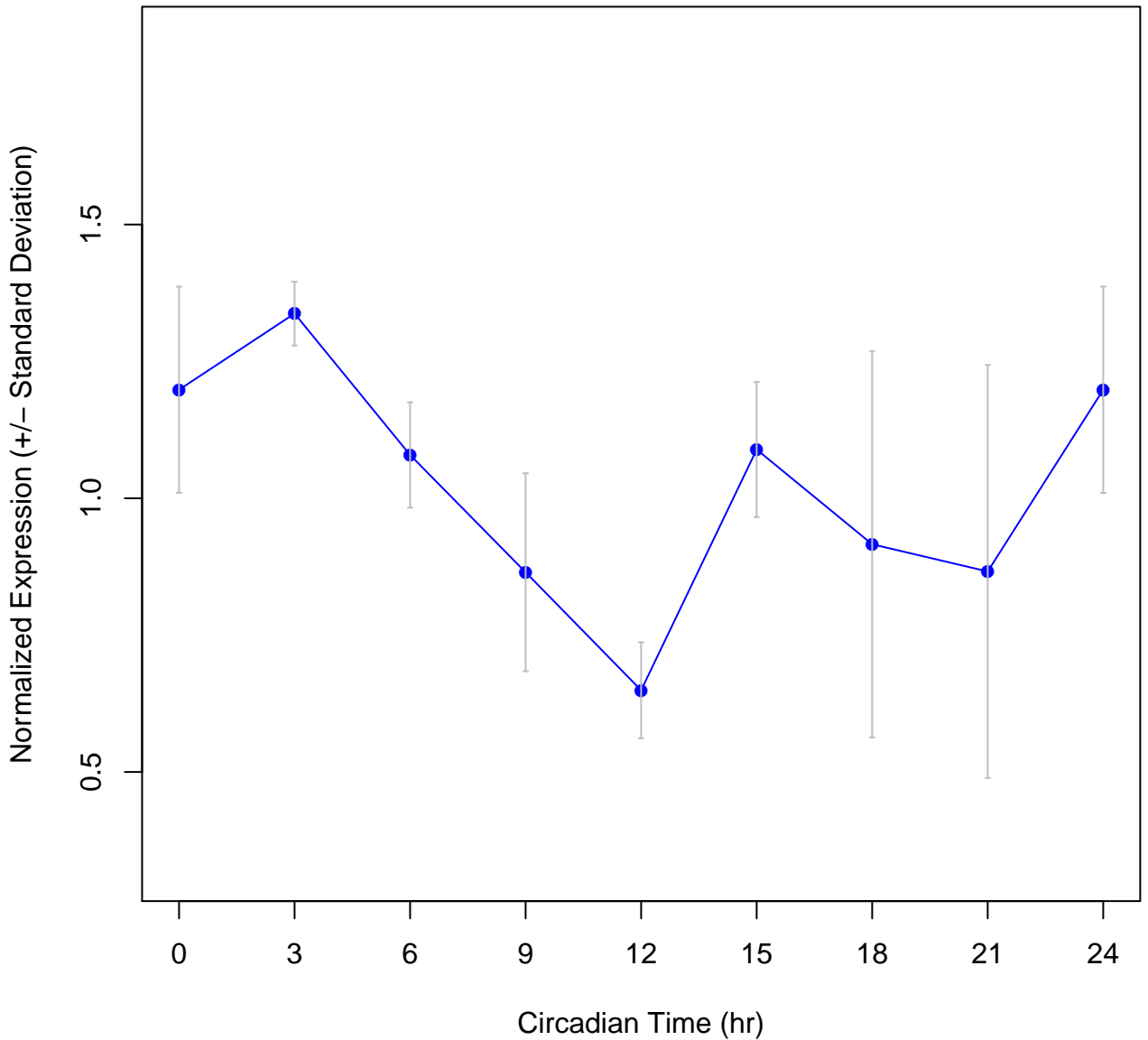
Supplement Figure 3 top2a



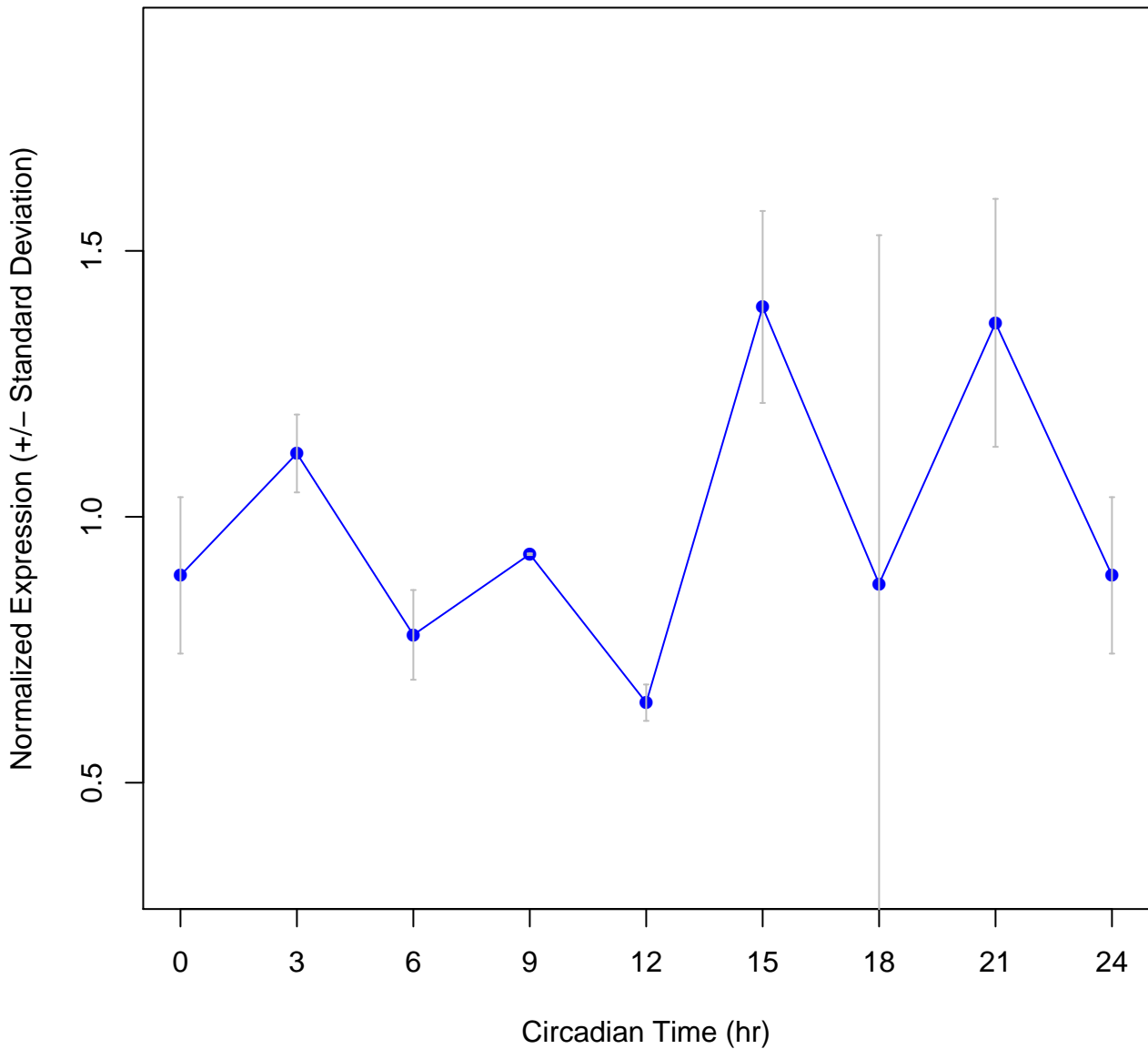
Supplement Figure 3 tpm4



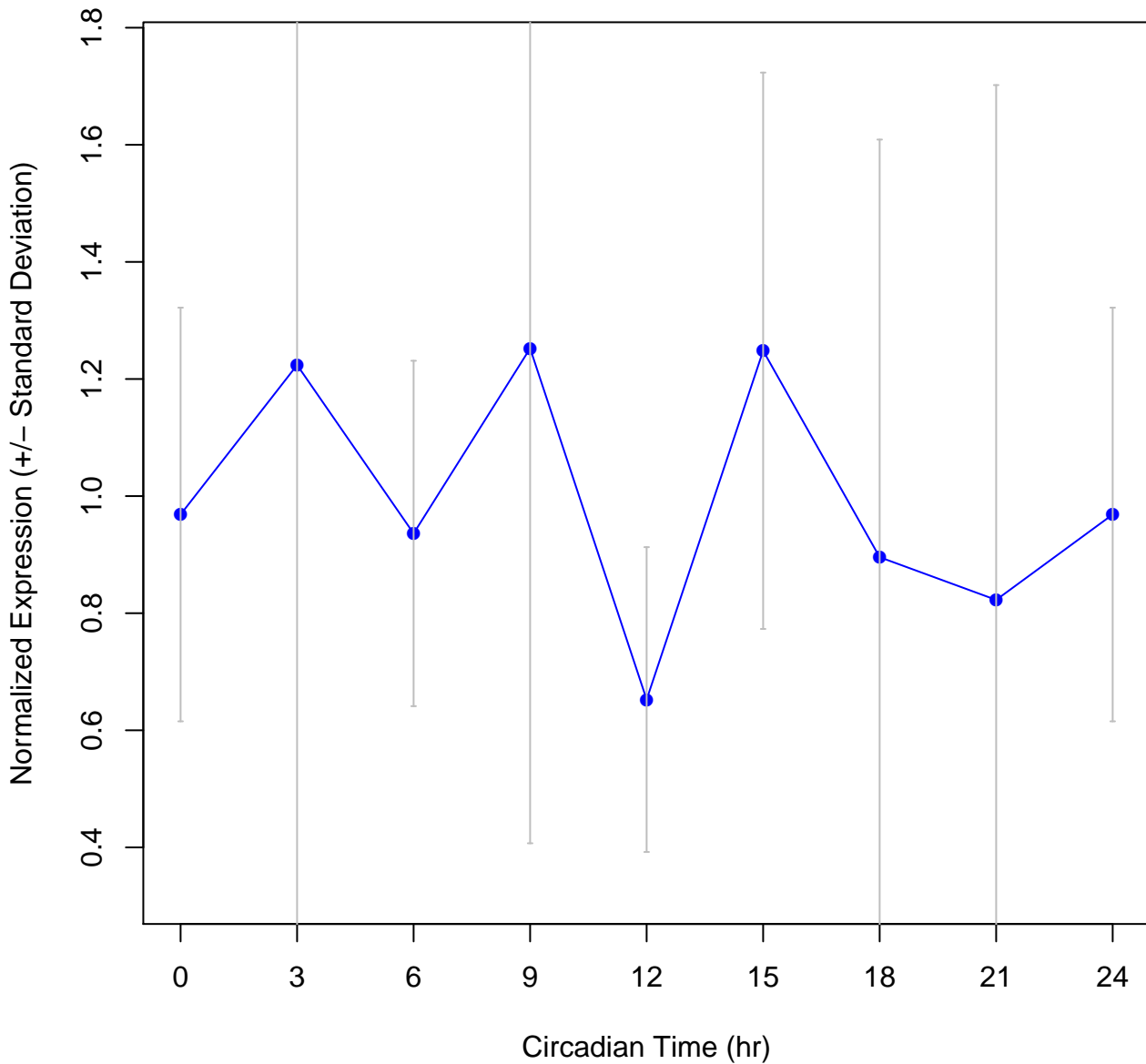
### Supplement Figure 3 tyr



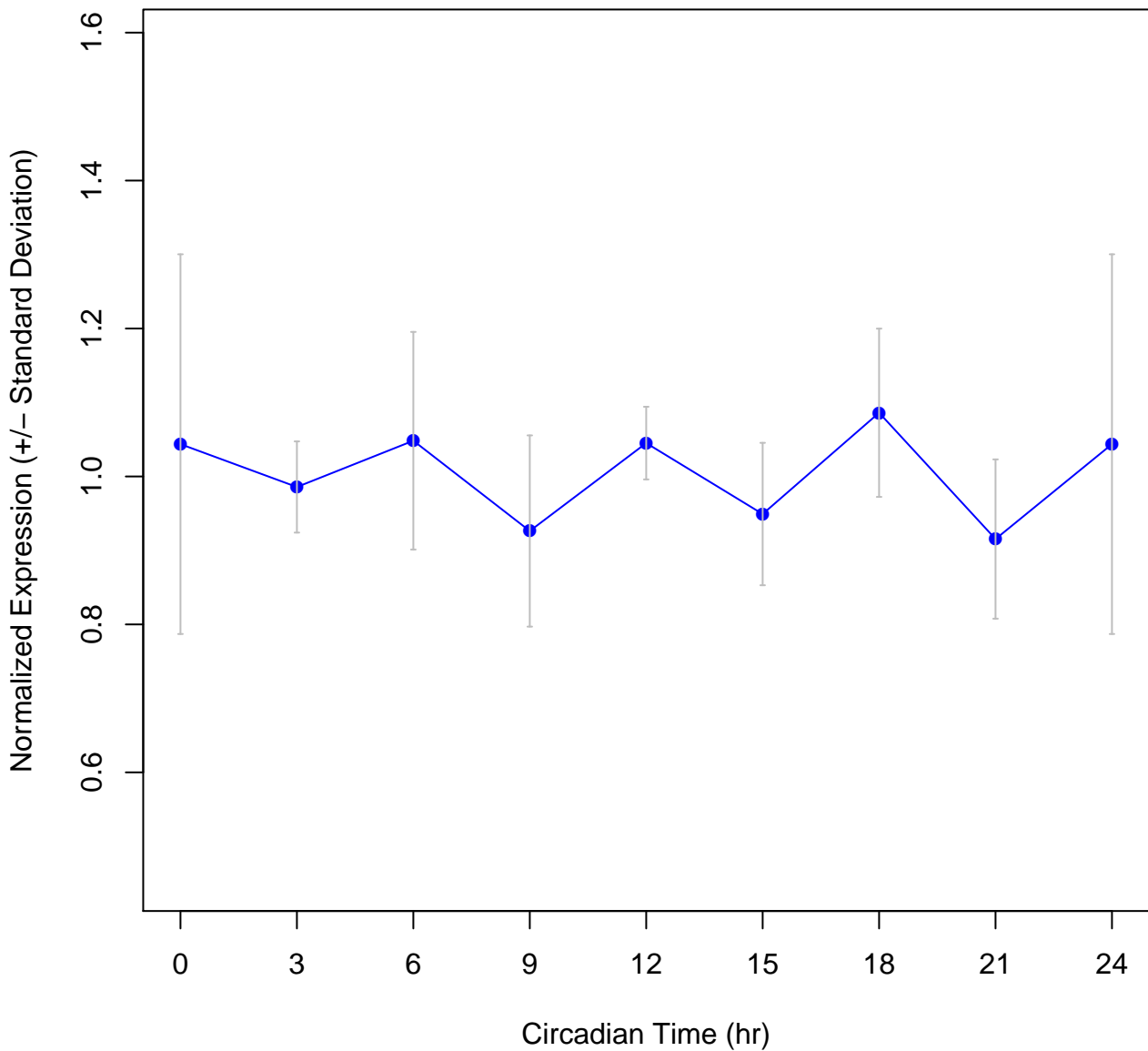
### Supplement Figure 3 tyrp1



### Supplement Figure 3 *vipr1*

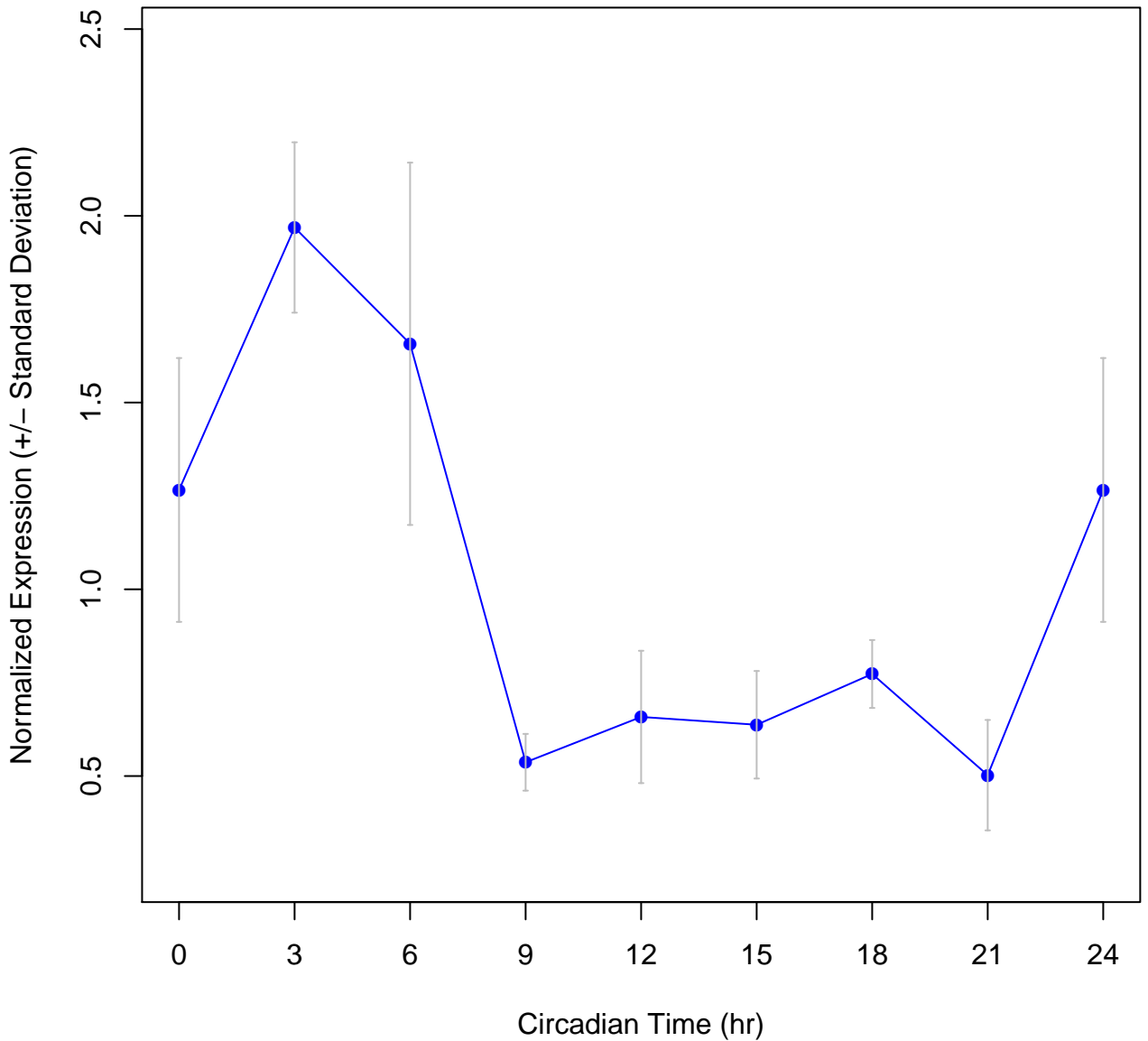


**Supplement Figure 3 wdr37**

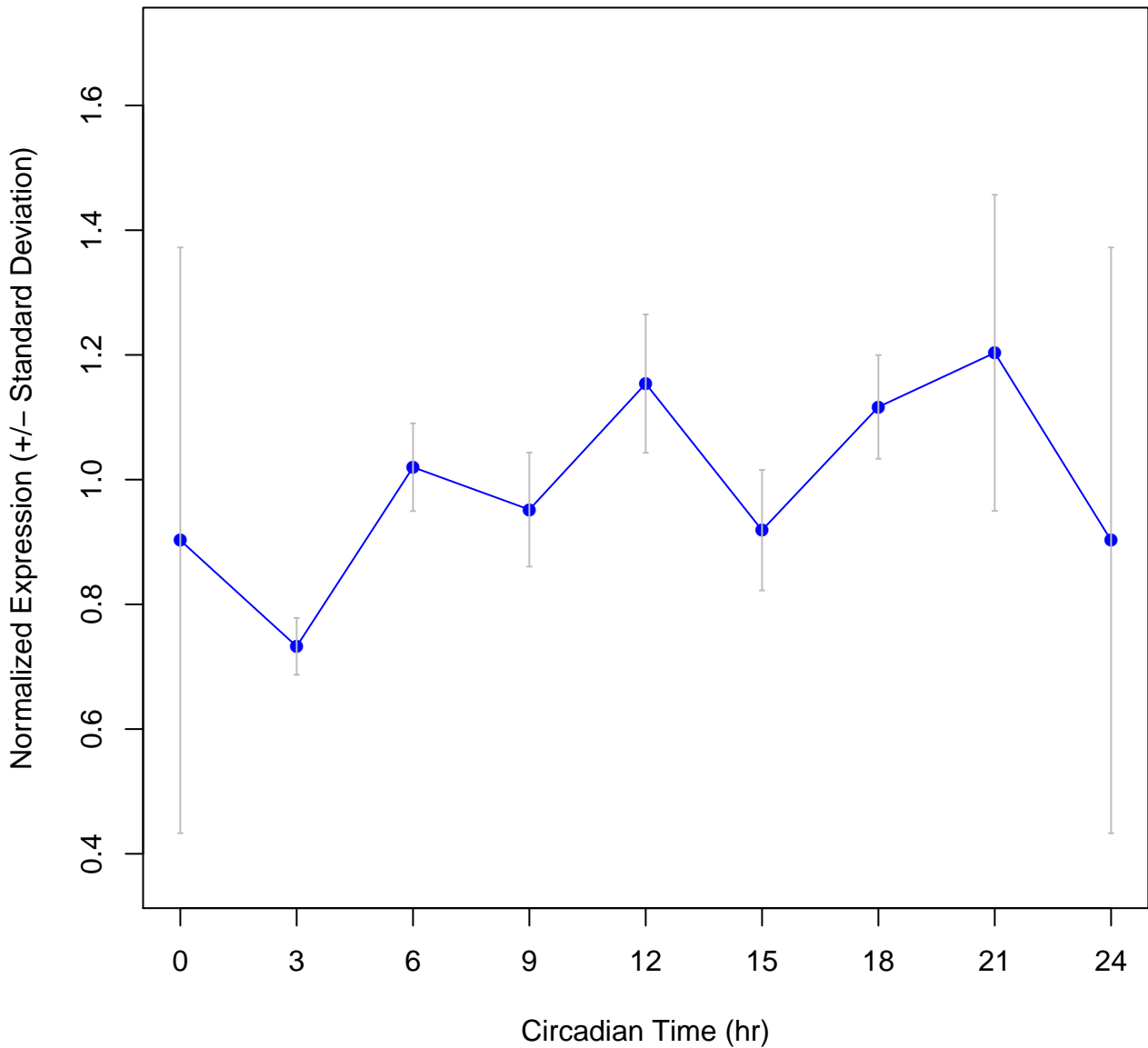




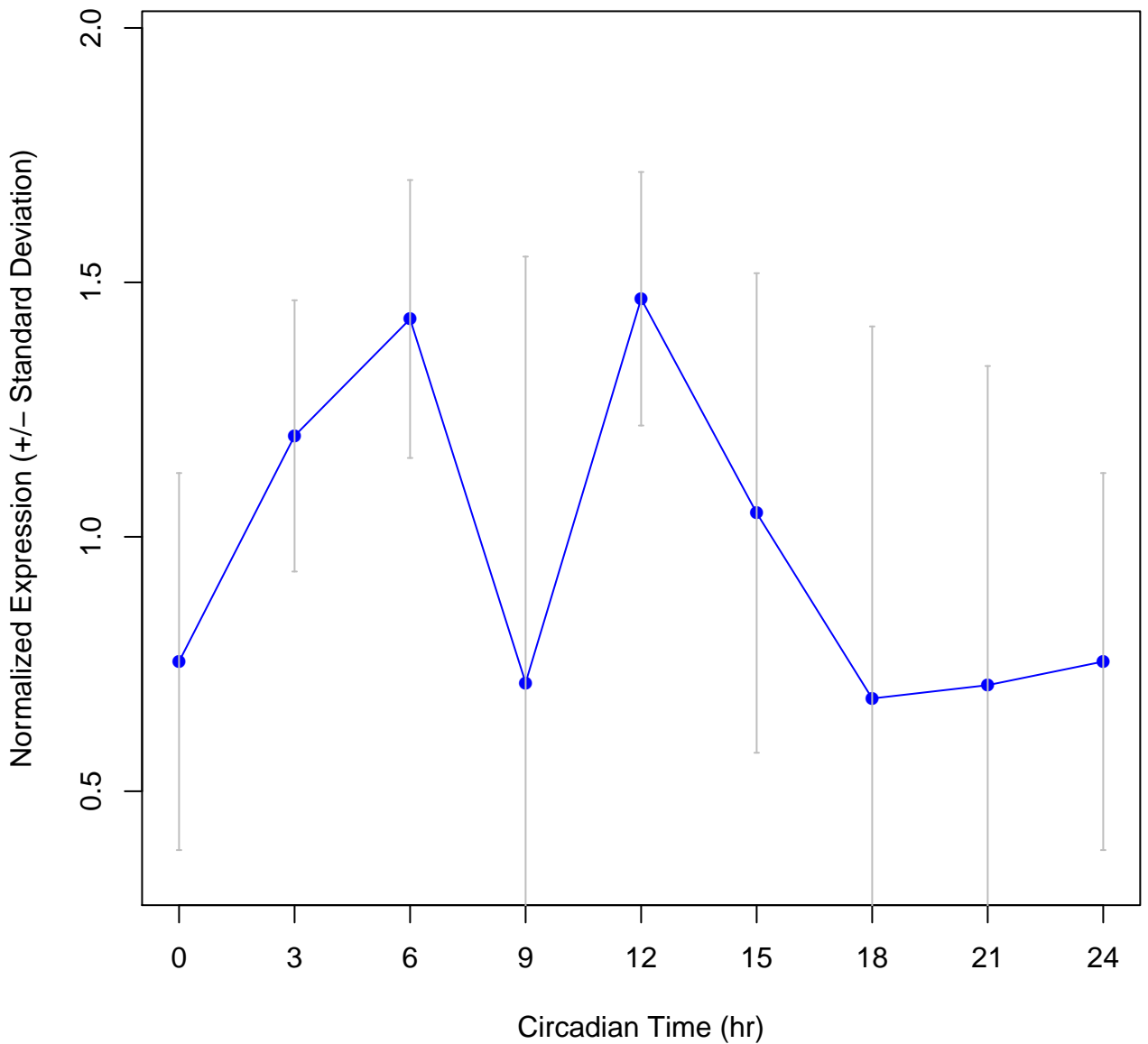
**Supplement Figure 3 wdr76**



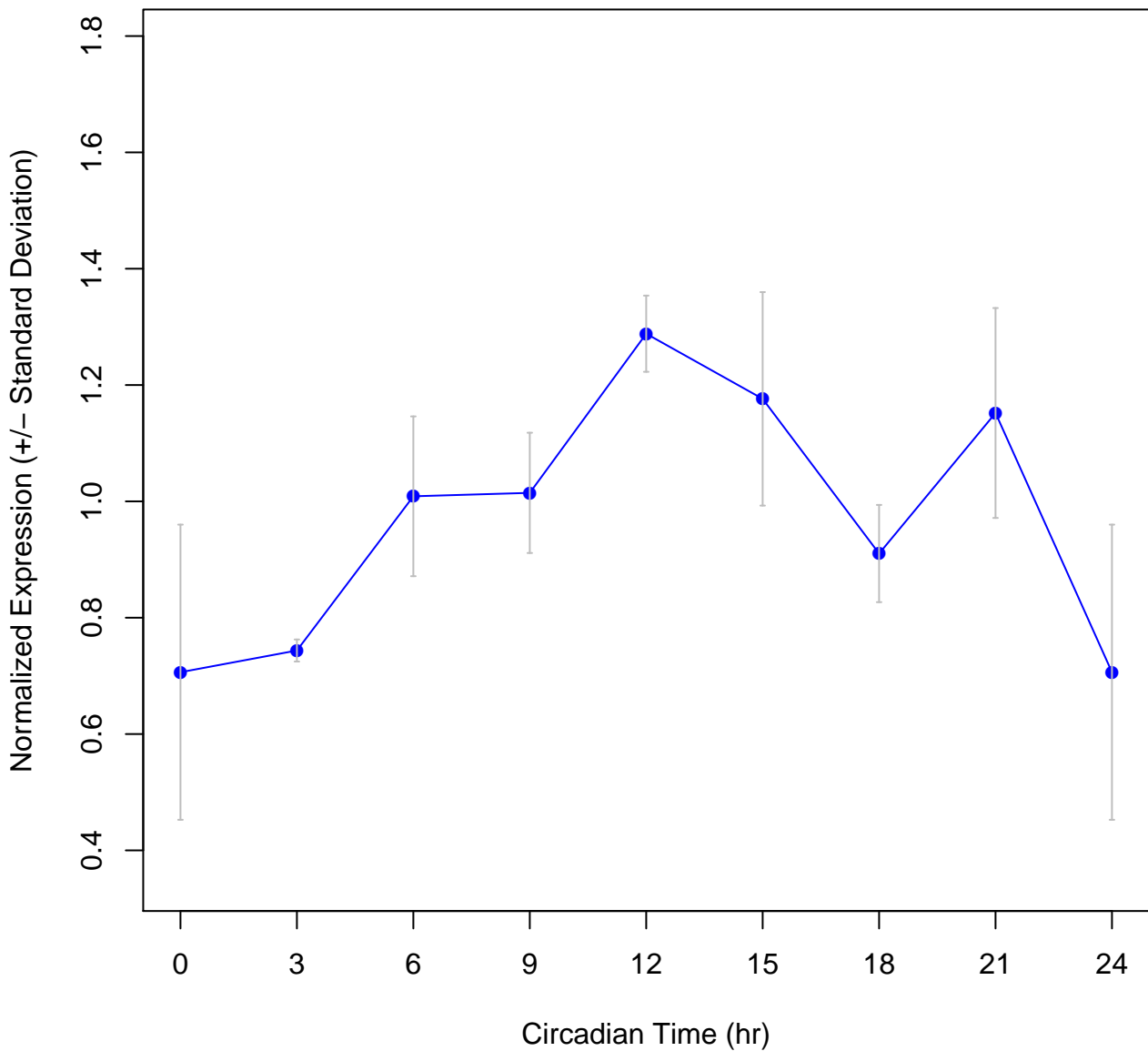
Supplement Figure 3 wnt10b



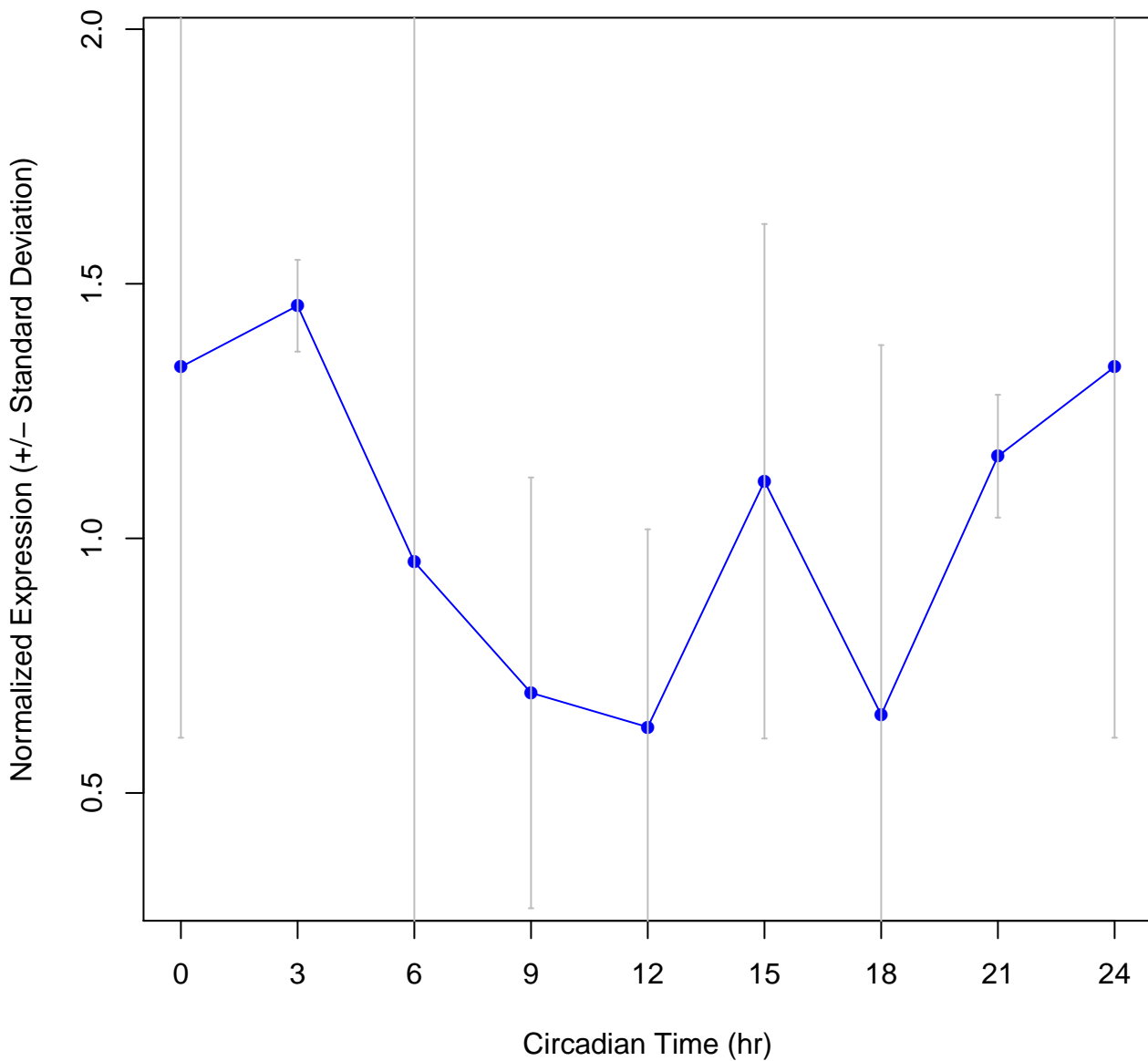
**Supplement Figure 3 wnt2b**



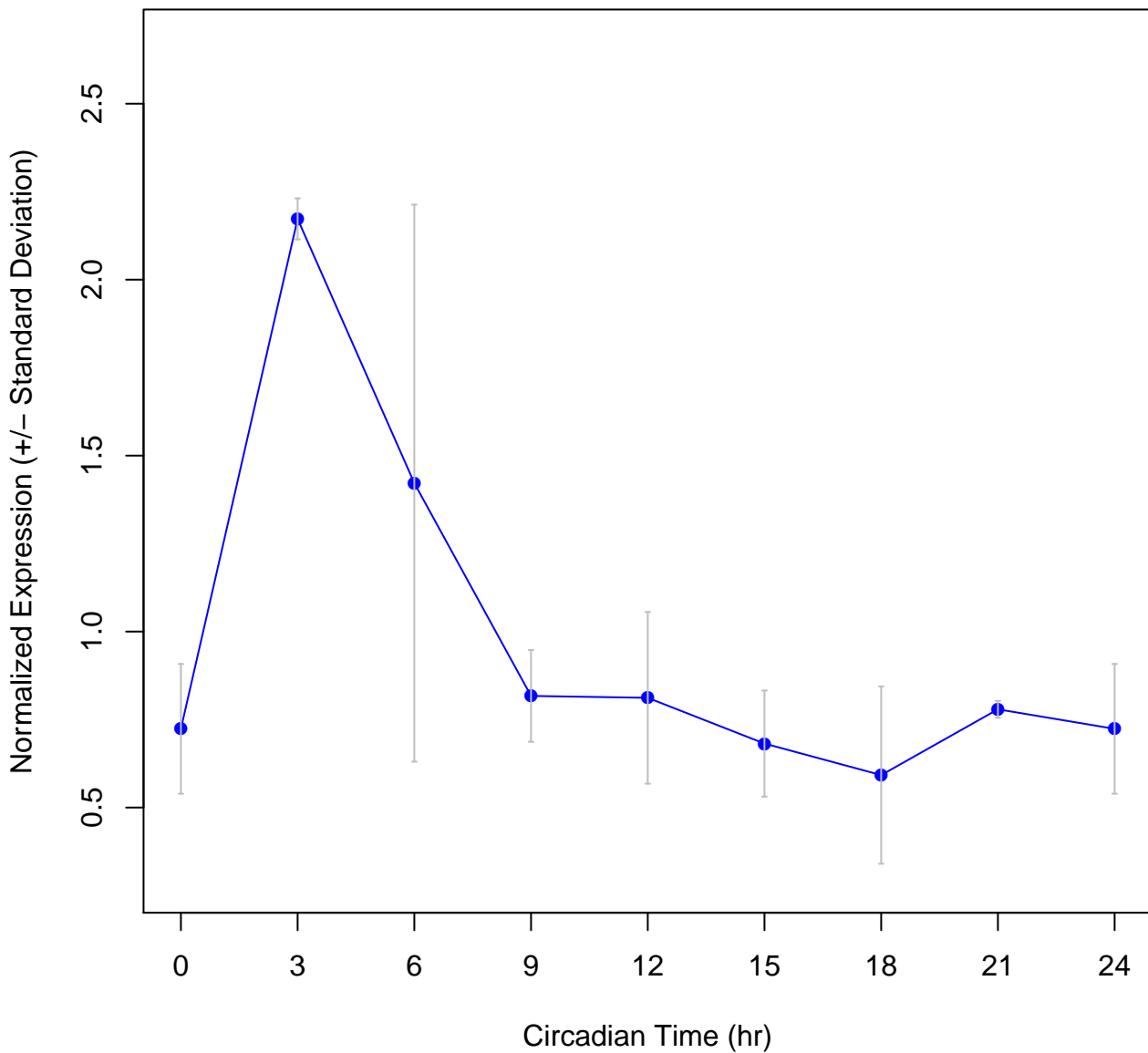
Supplement Figure 3 *wnt5a*



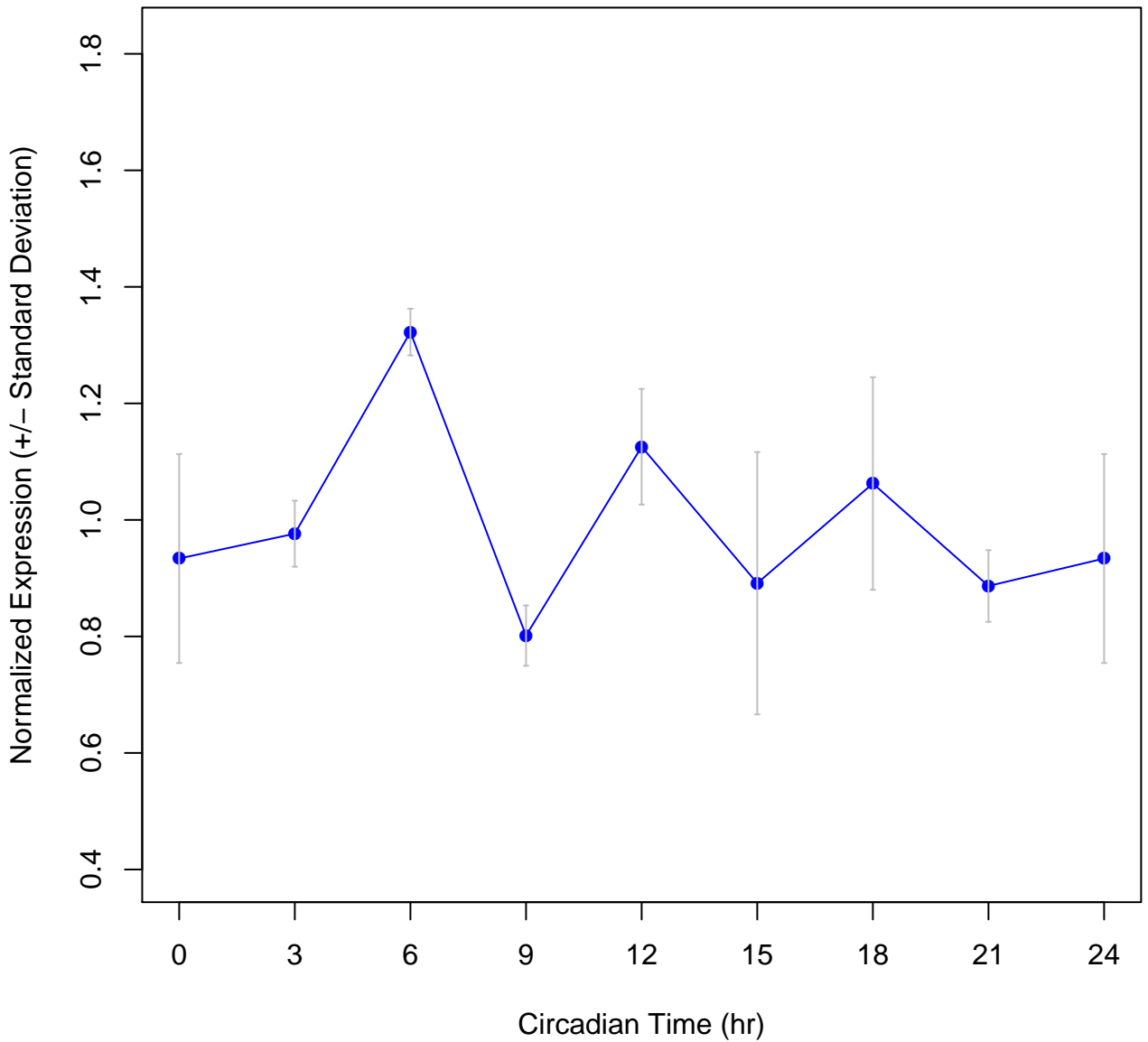
Supplement Figure 3 wt1



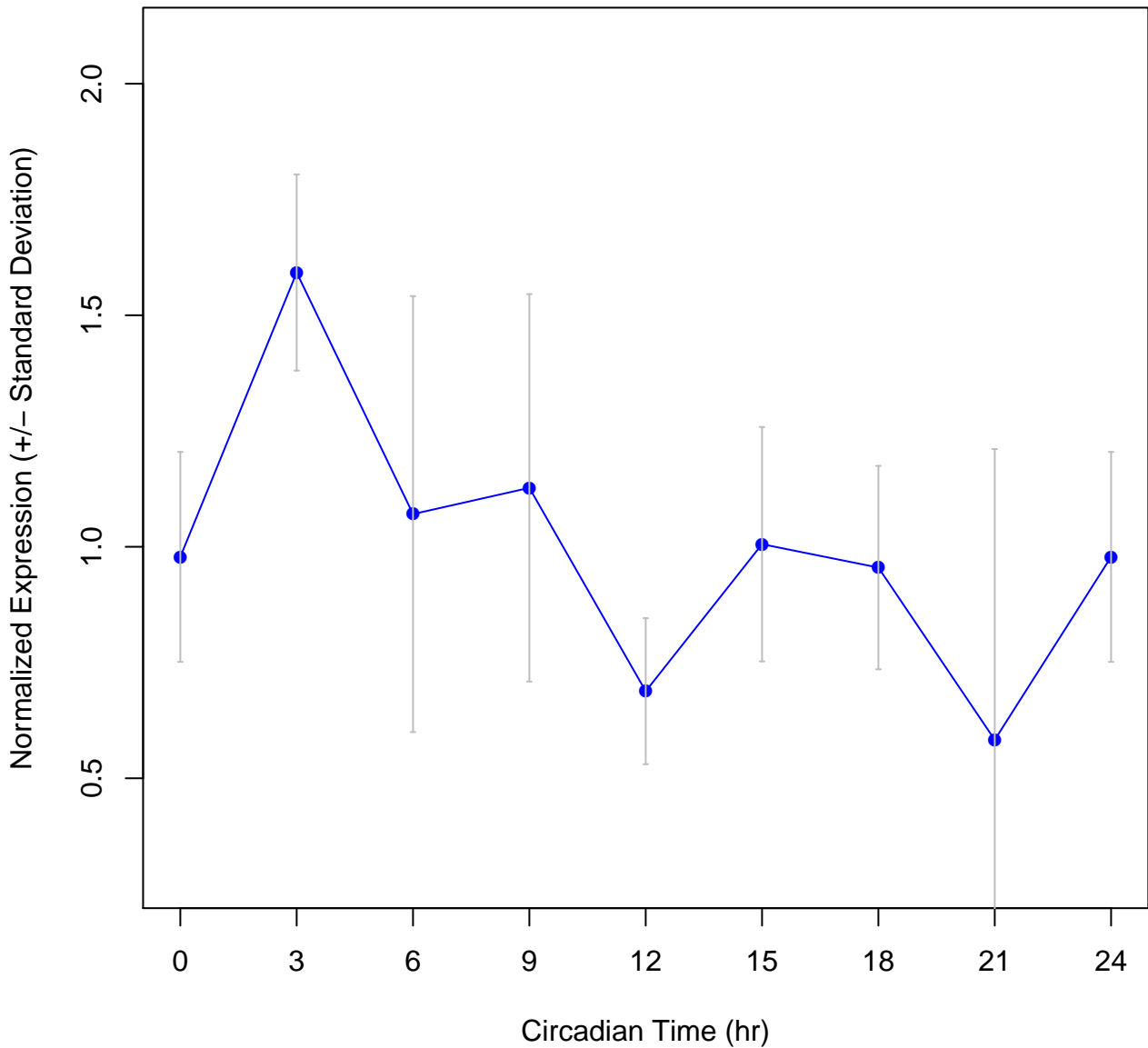
Supplement Figure 3 xpc



### Supplement Figure 3 xrcc1

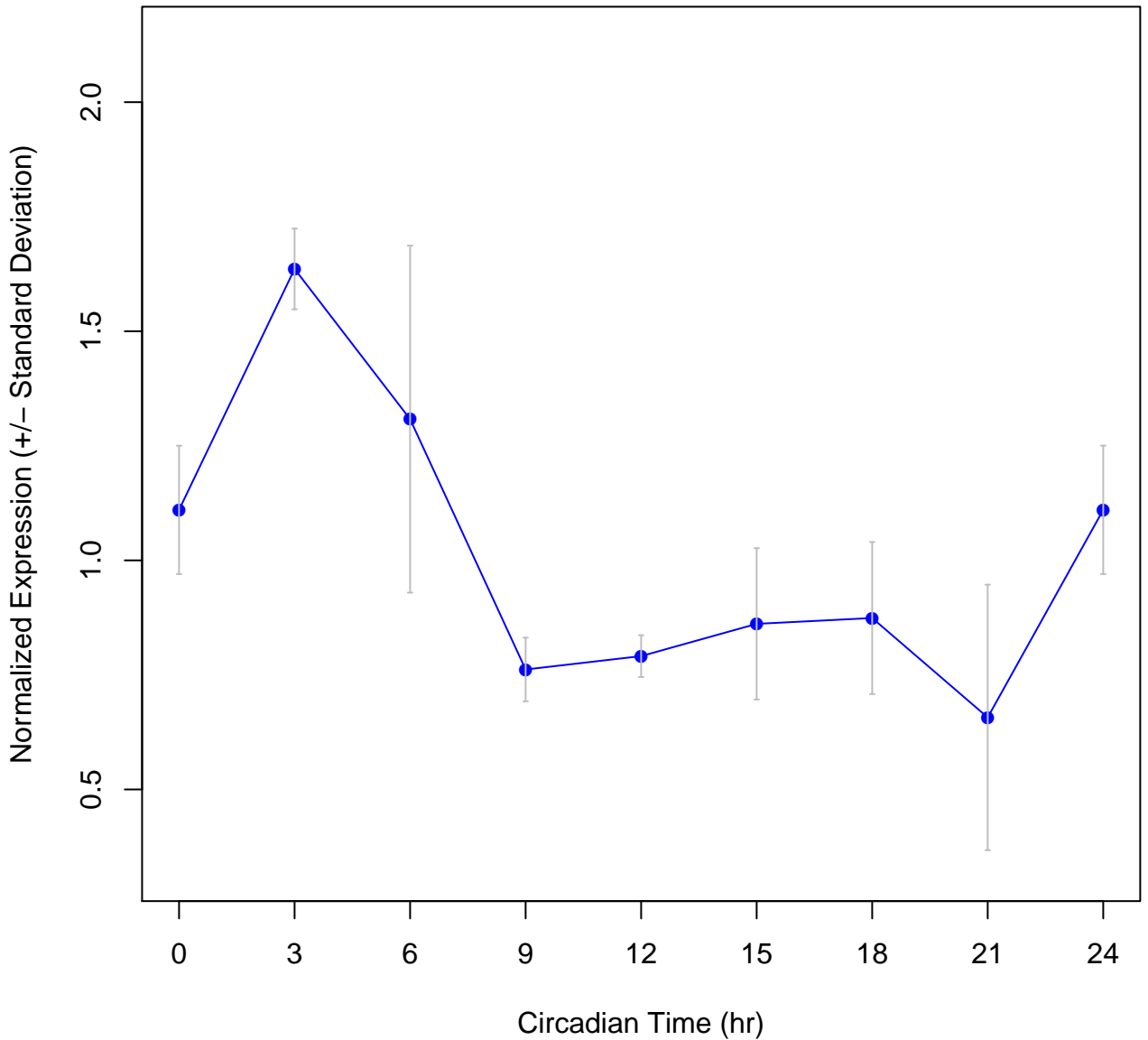


Supplement Figure 3 ybx2

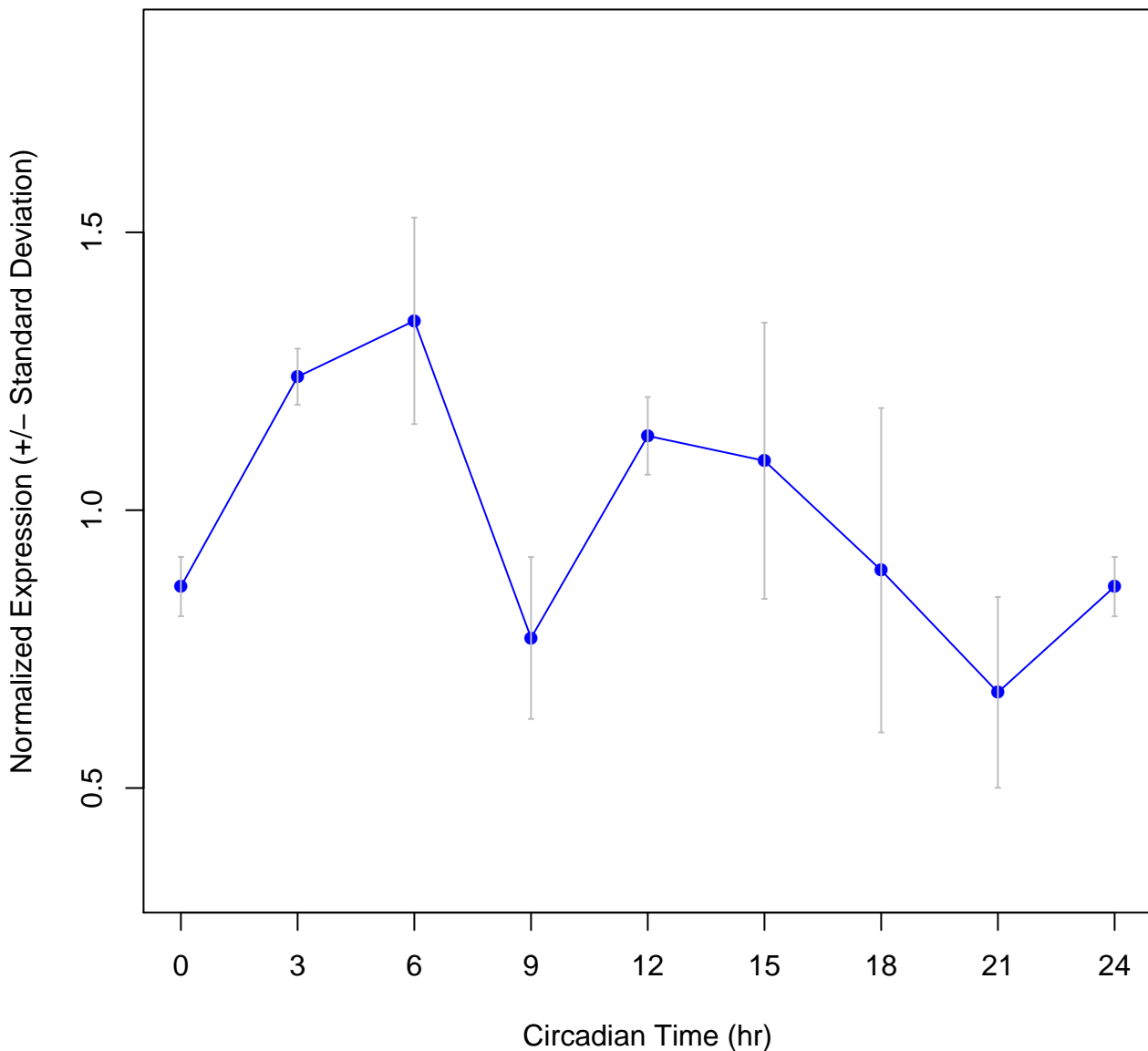




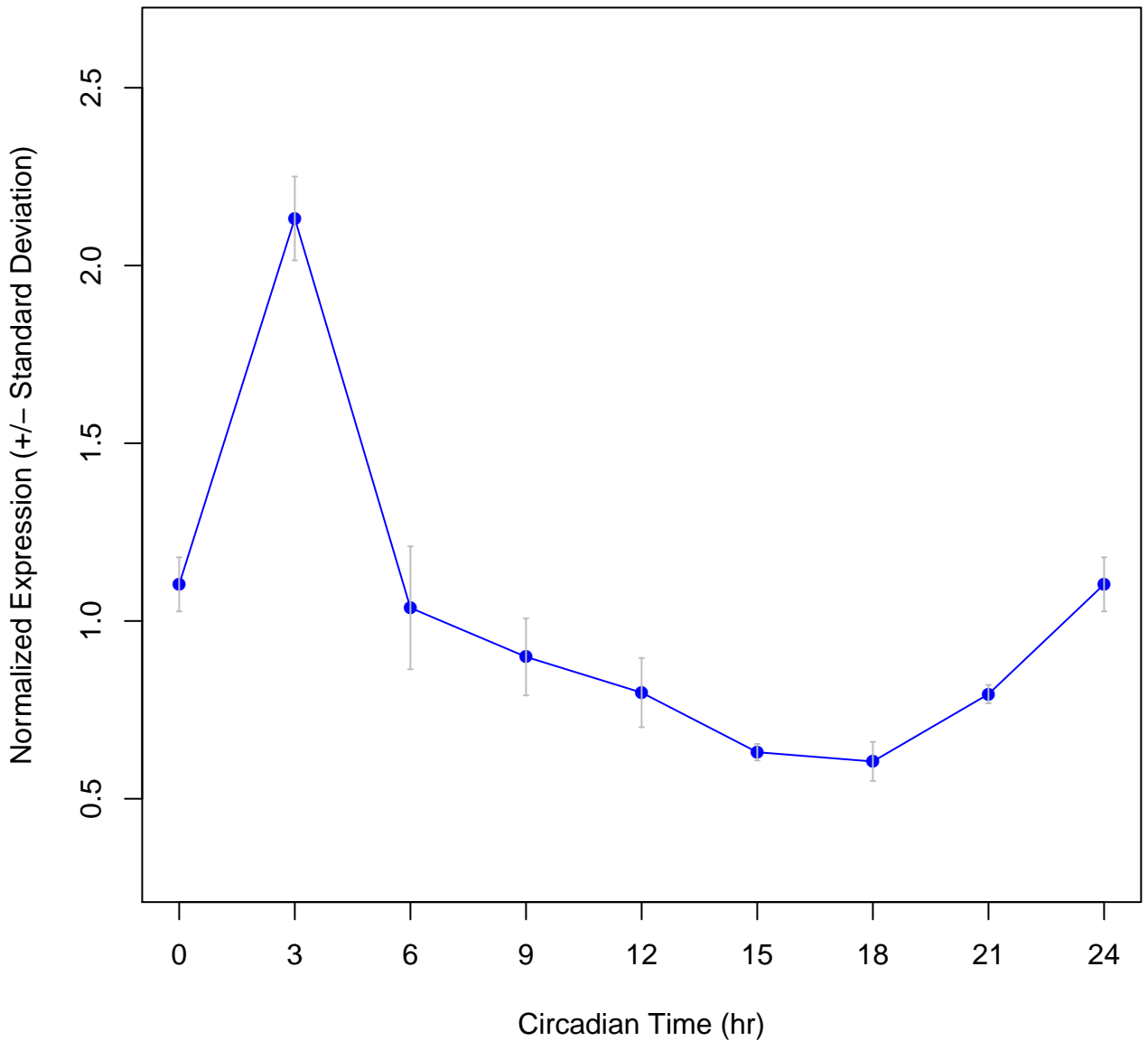
Supplement Figure 3 yme1



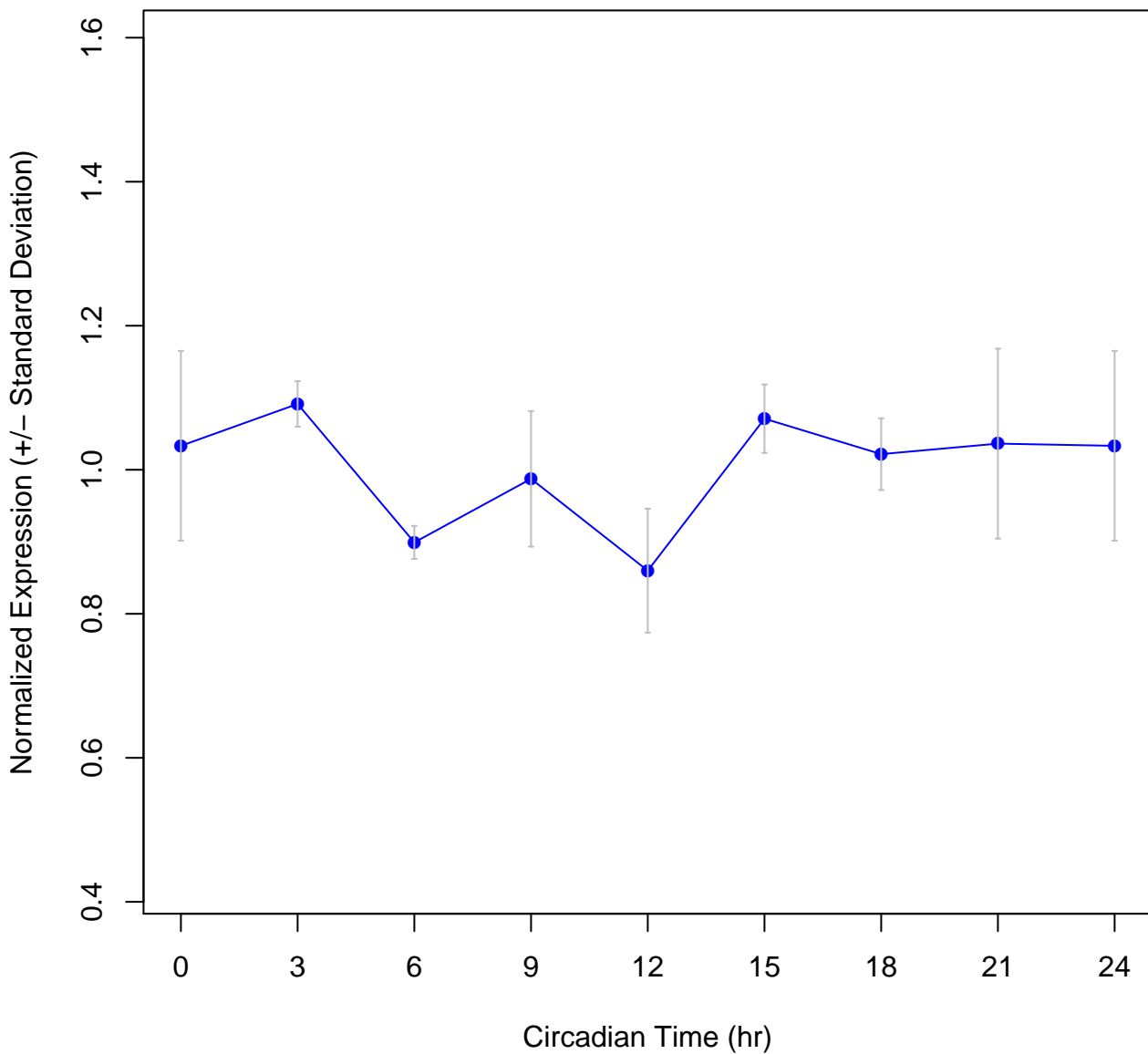
Supplement Figure 3 ywhaQ



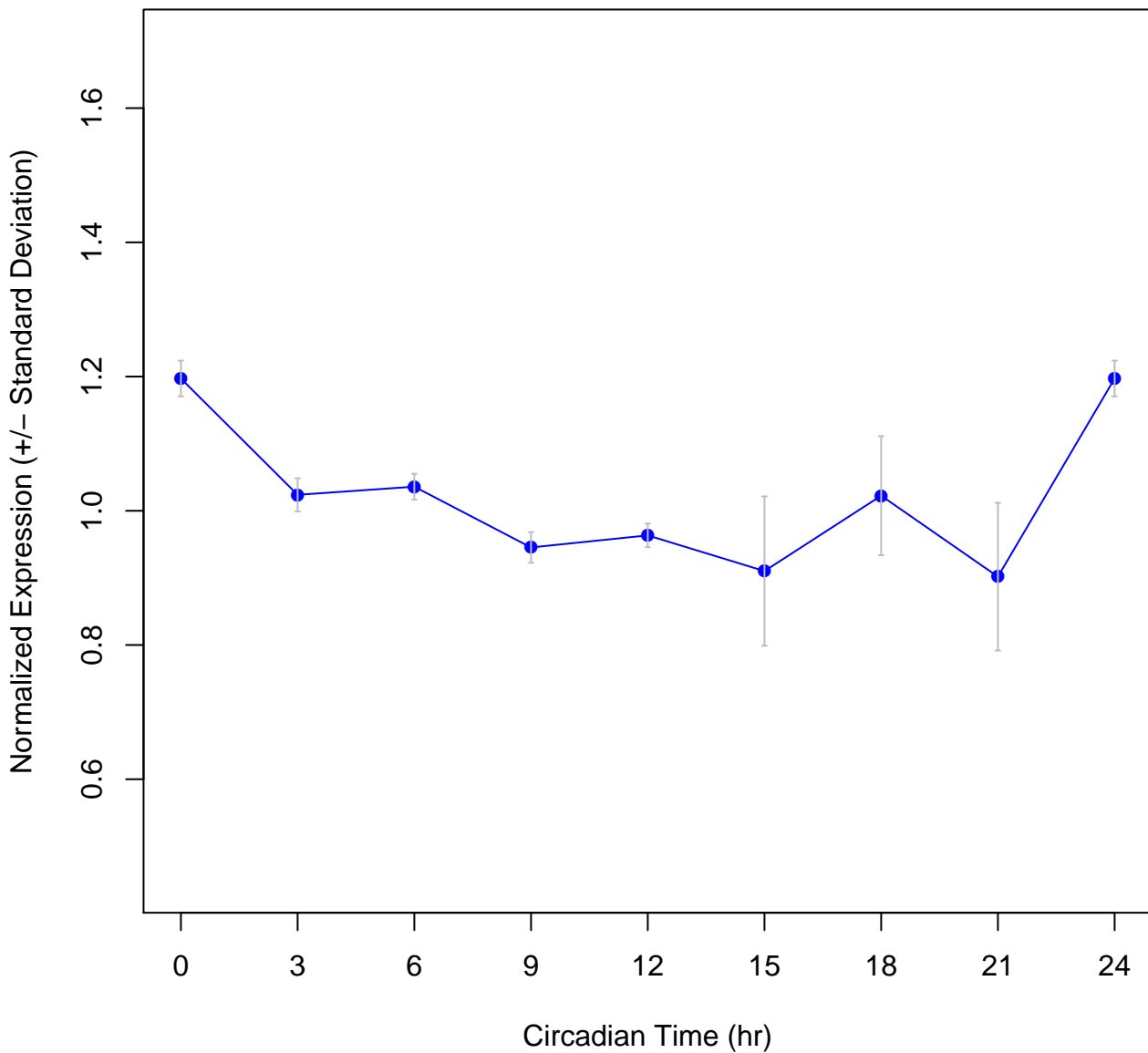
Supplement Figure 4 6-4 photolyase



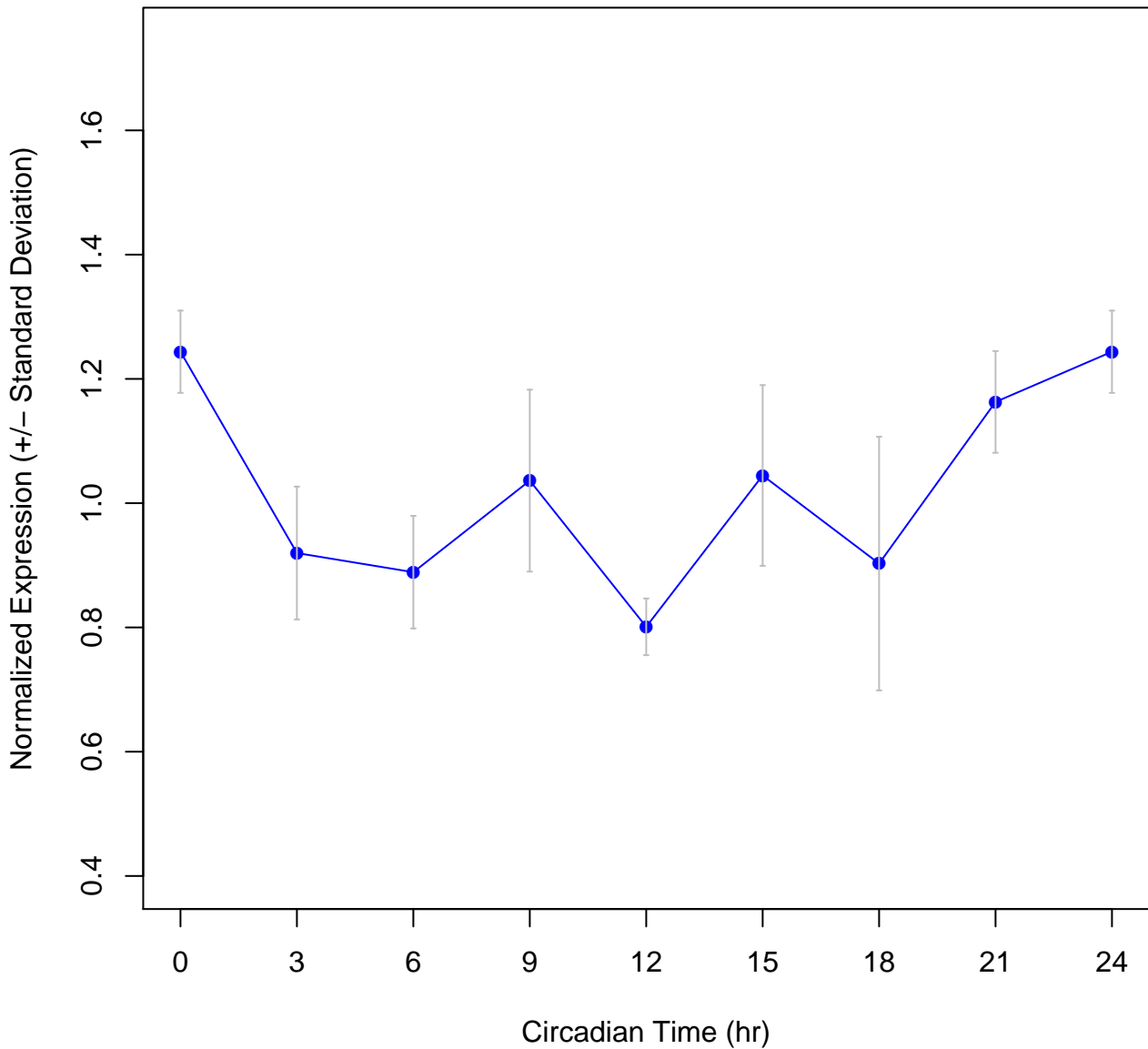
Supplement Figure 4 a2ml1



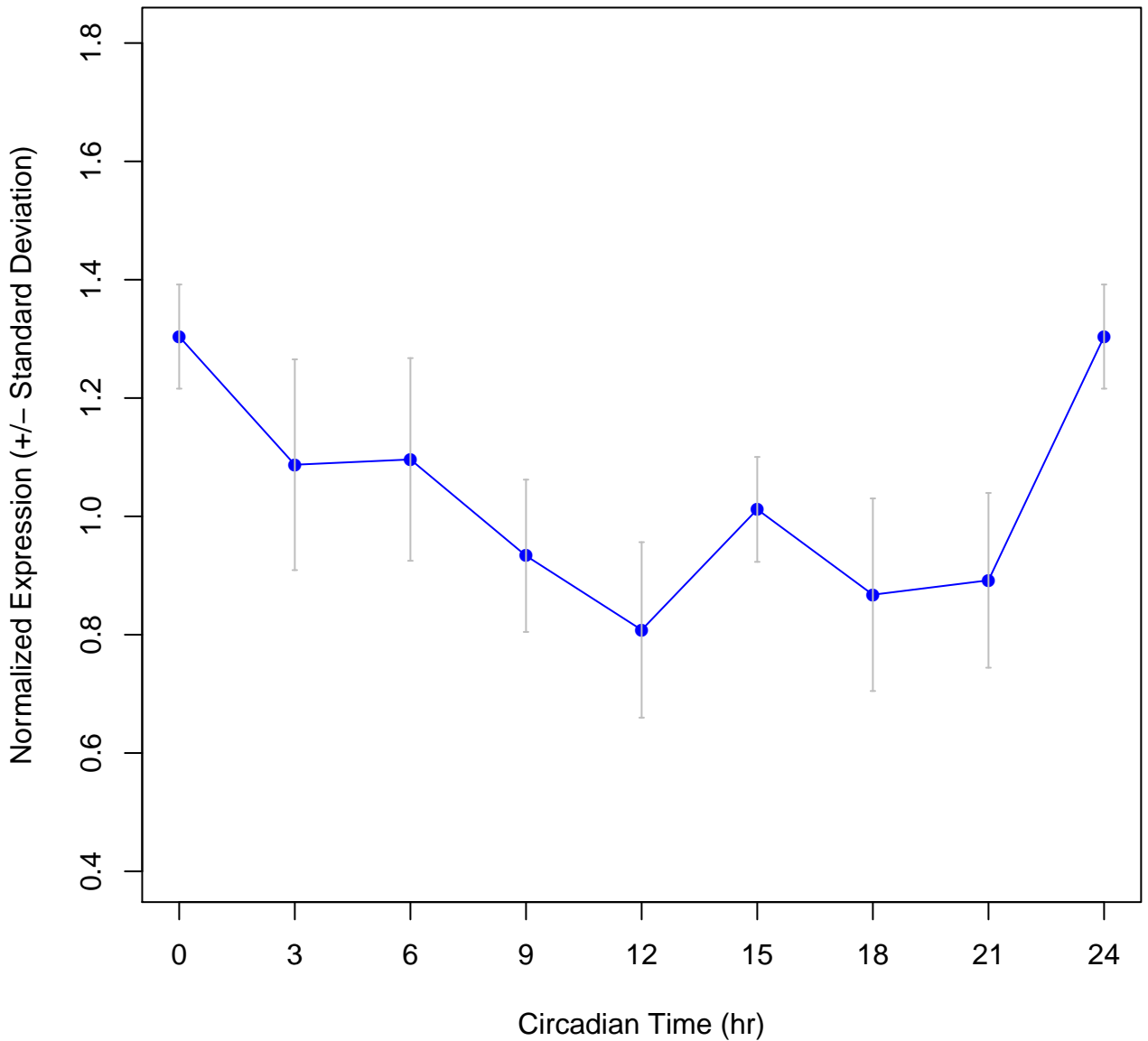
Supplement Figure 4 adamts2



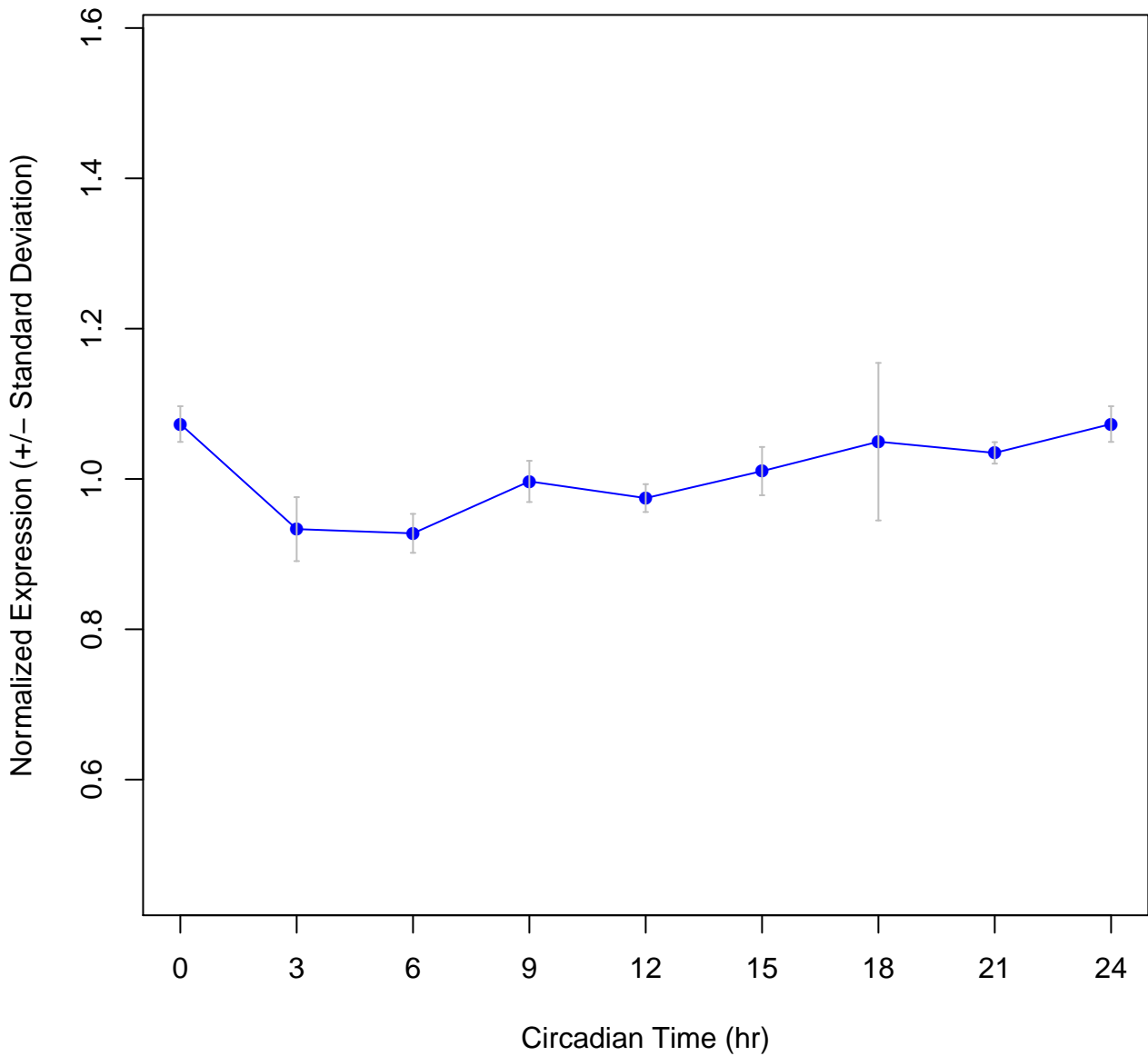
Supplement Figure 4 adcy2



Supplement Figure 4 adrb2

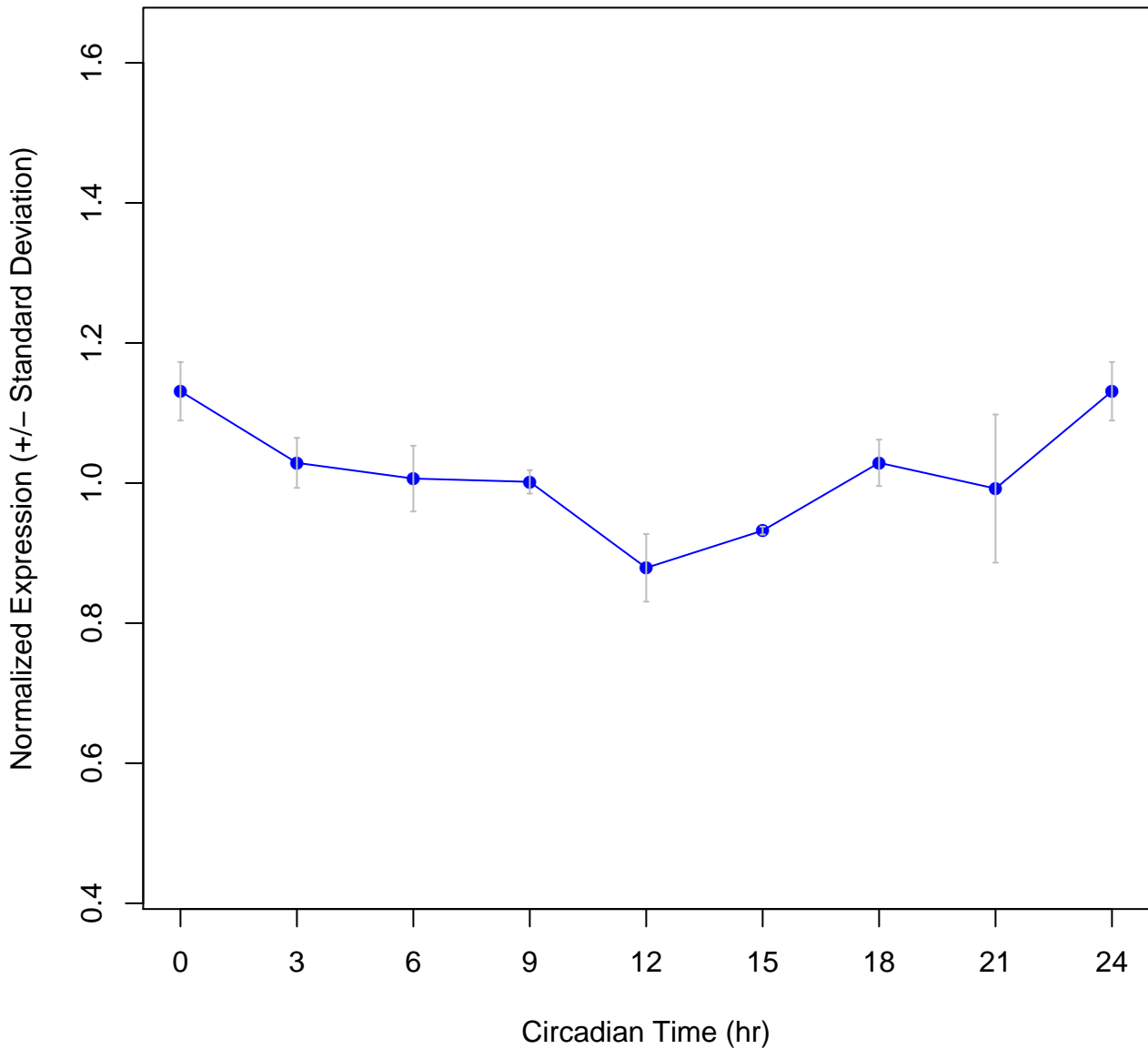


**Supplement Figure 4 akt1**

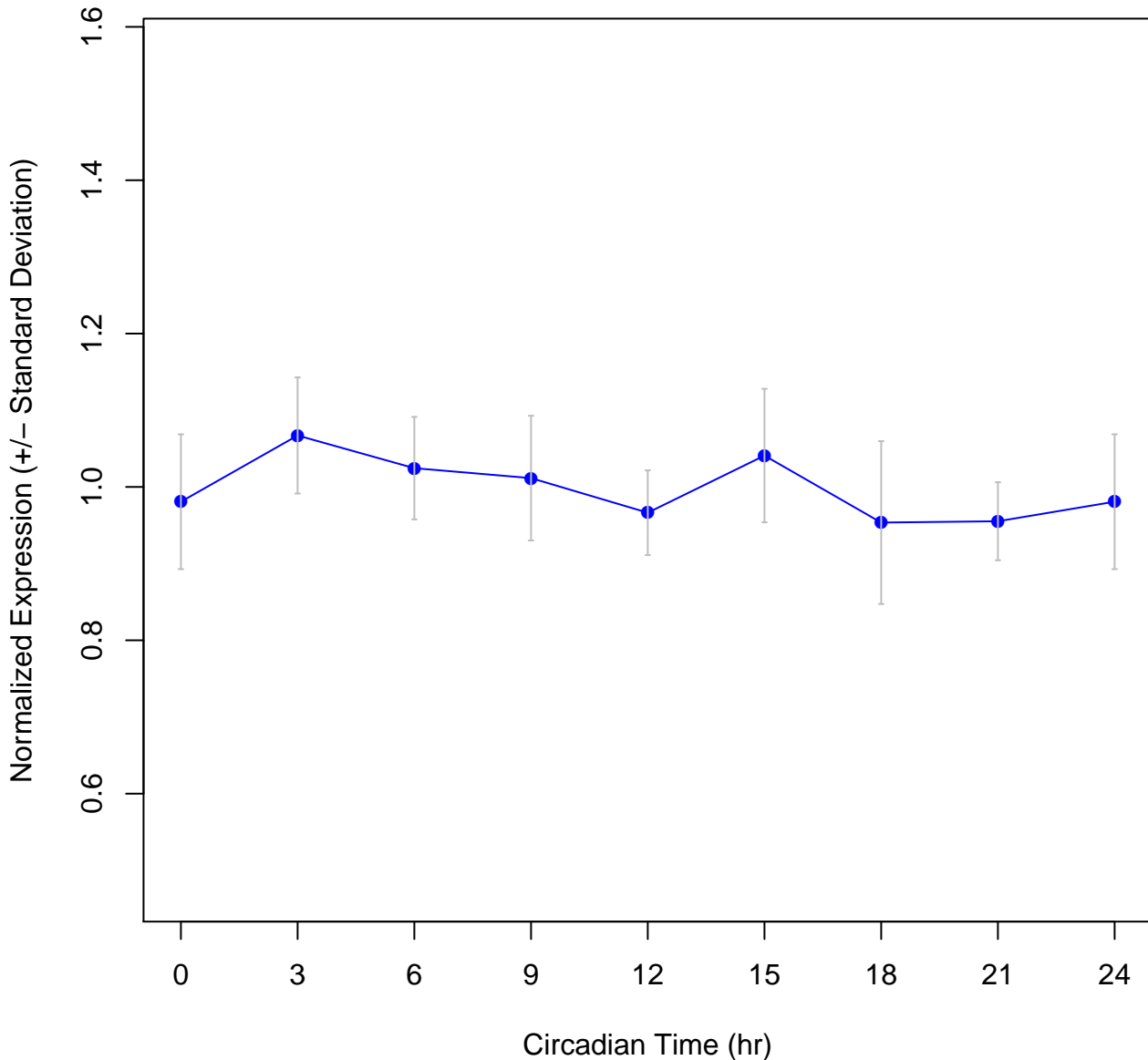




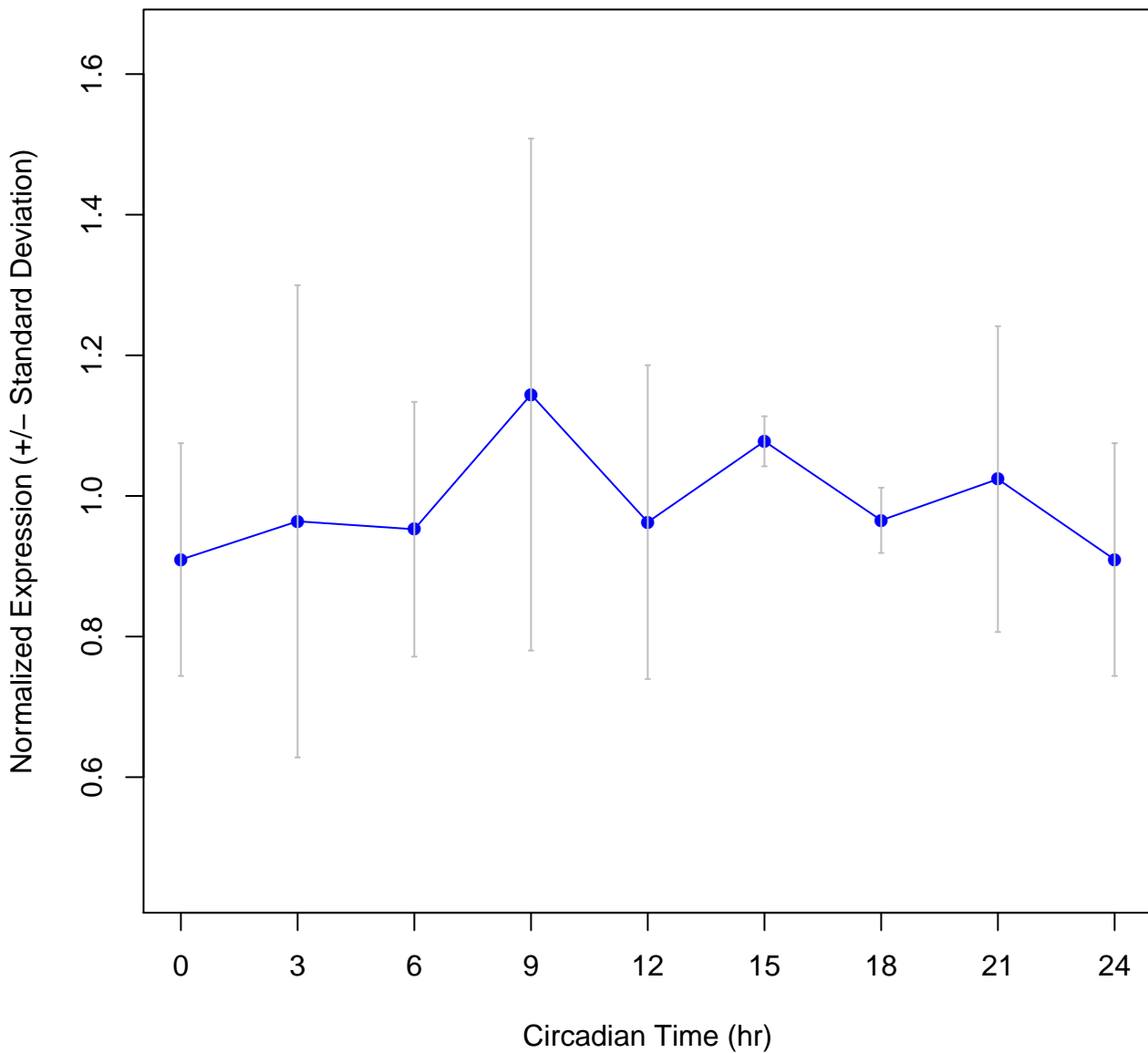
Supplement Figure 4 akt2



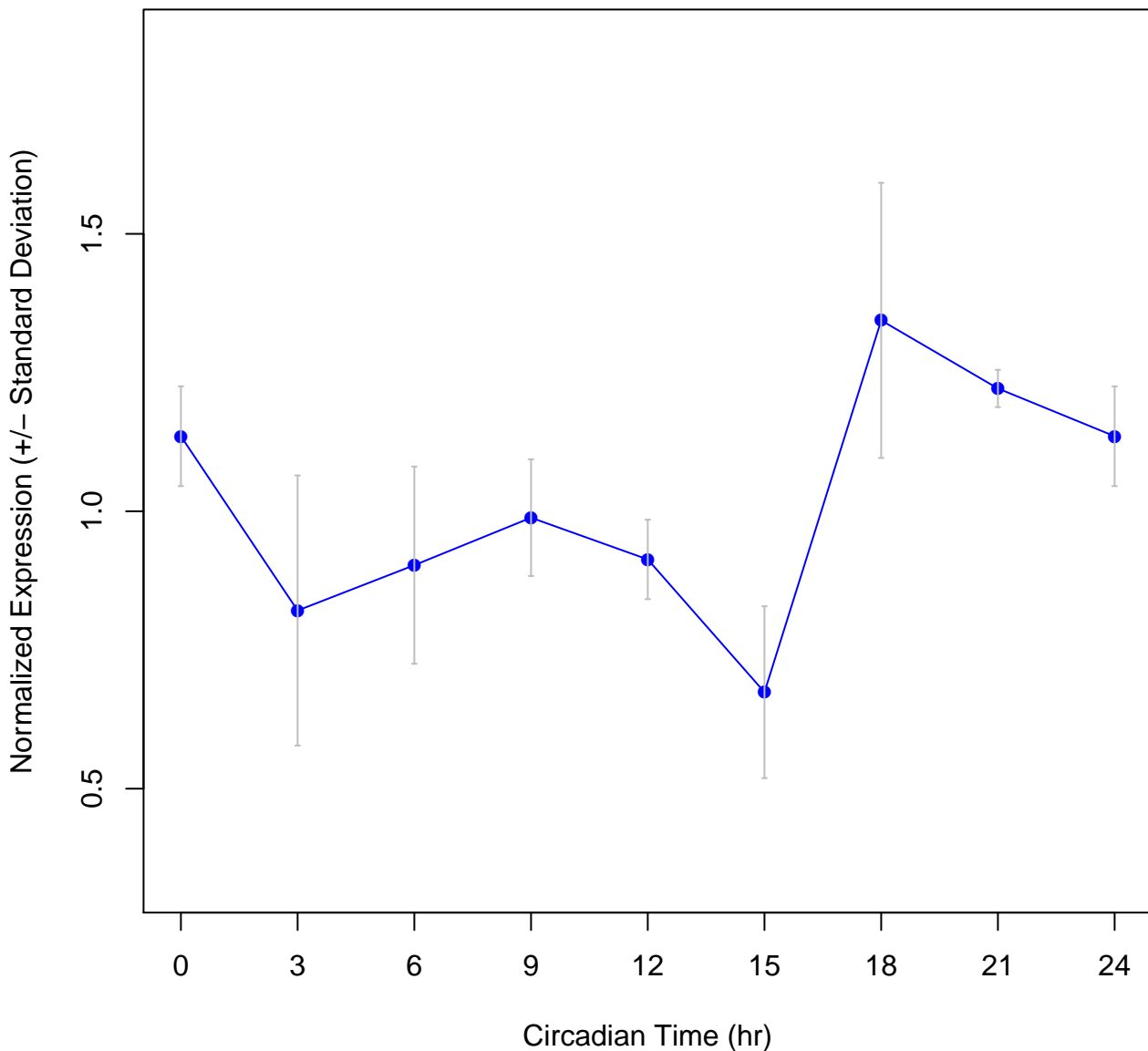
**Supplement Figure 4 akt3**



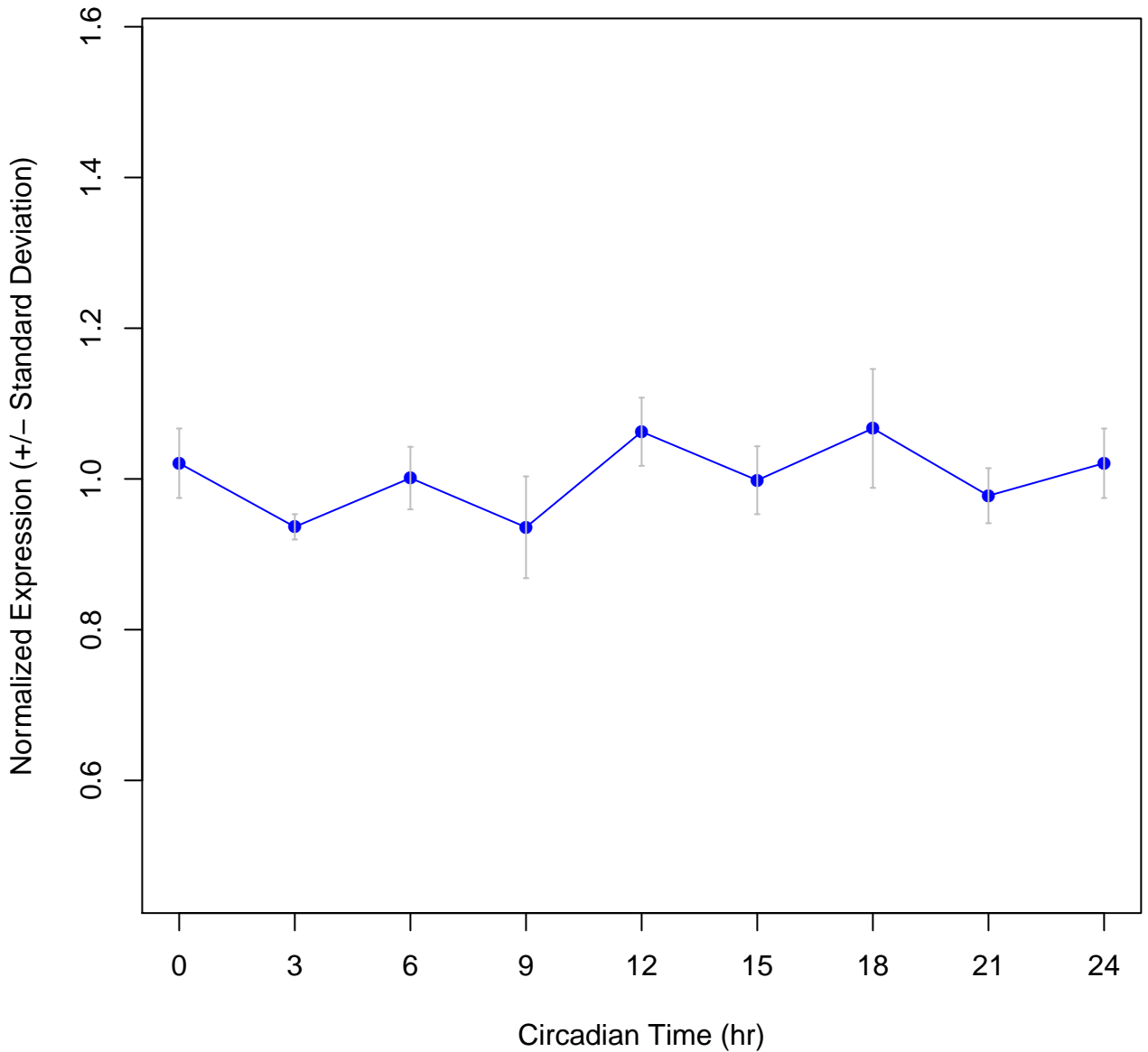
Supplement Figure 4 apex2



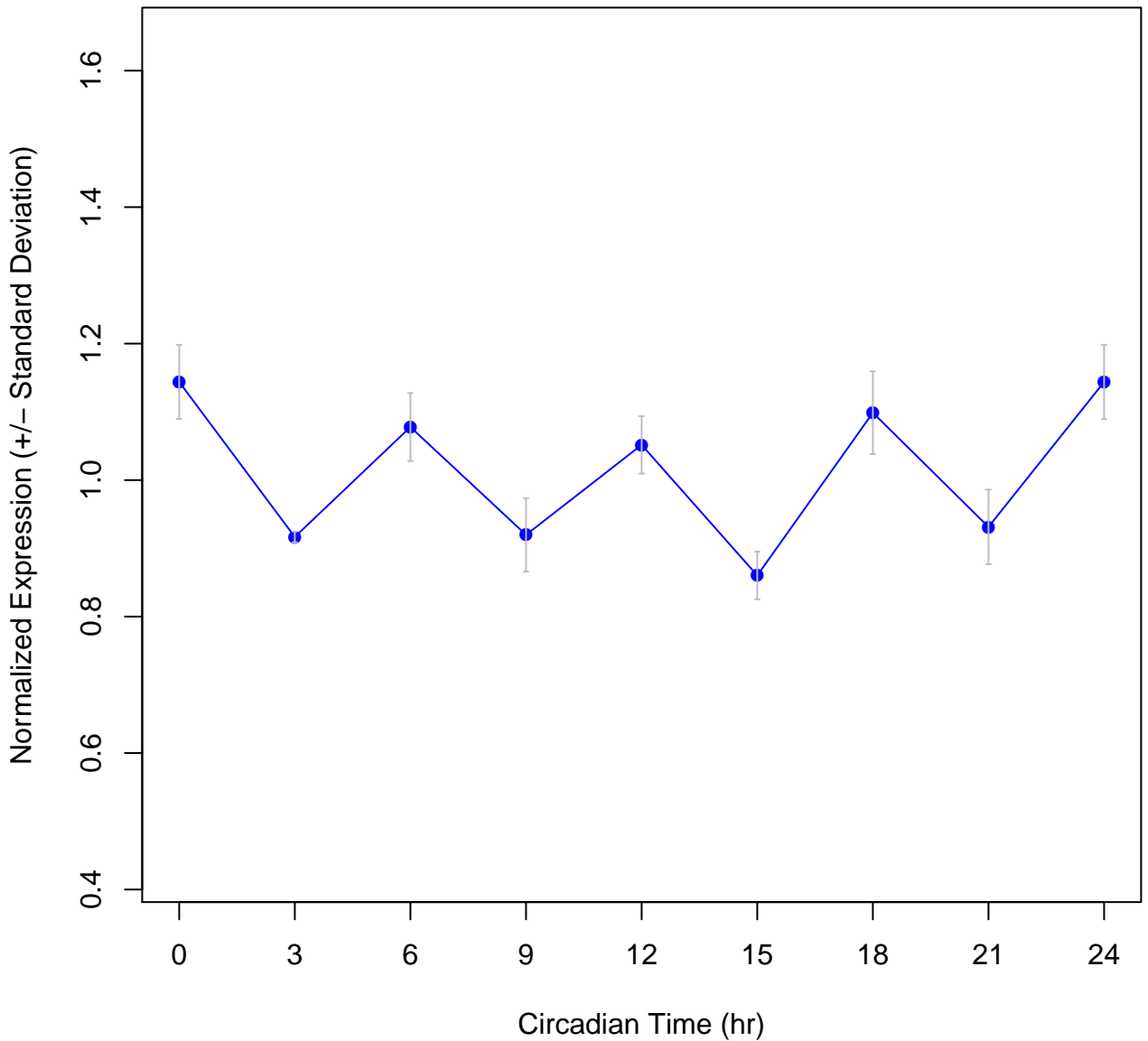
Supplement Figure 4 arhgap19



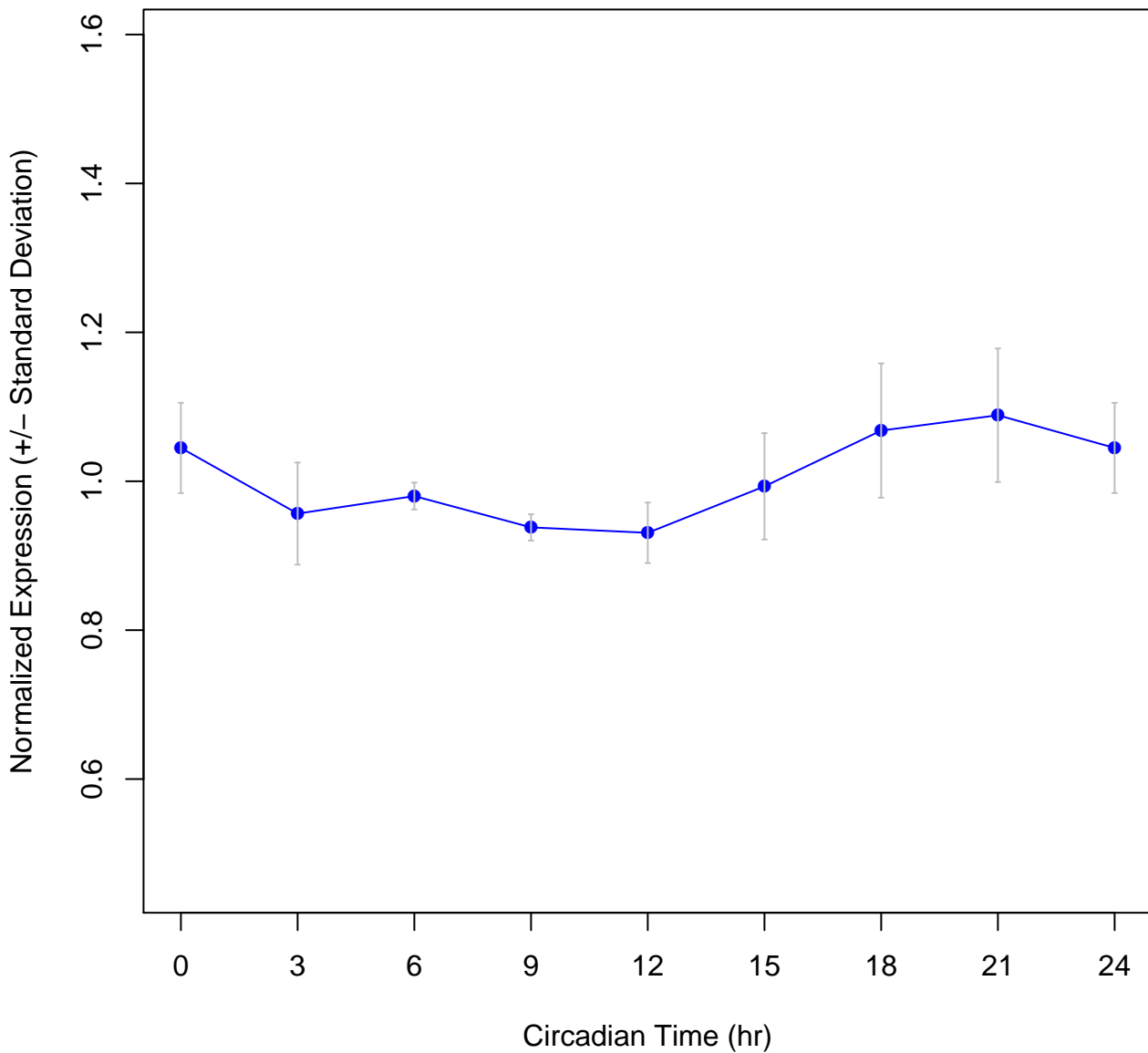
Supplement Figure 4 arid1a



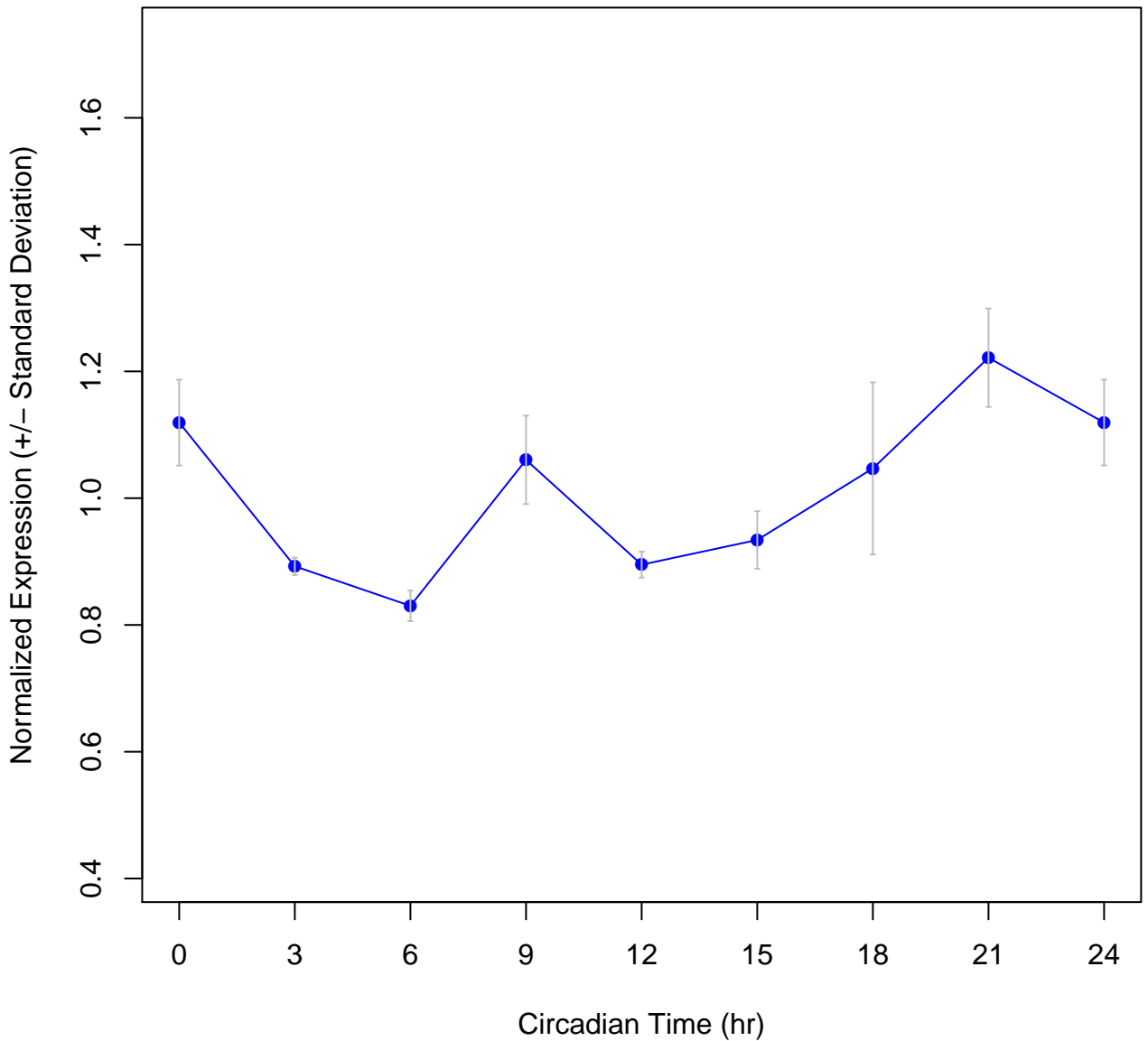
## Supplement Figure 4 ash2l



Supplement Figure 4 asic1

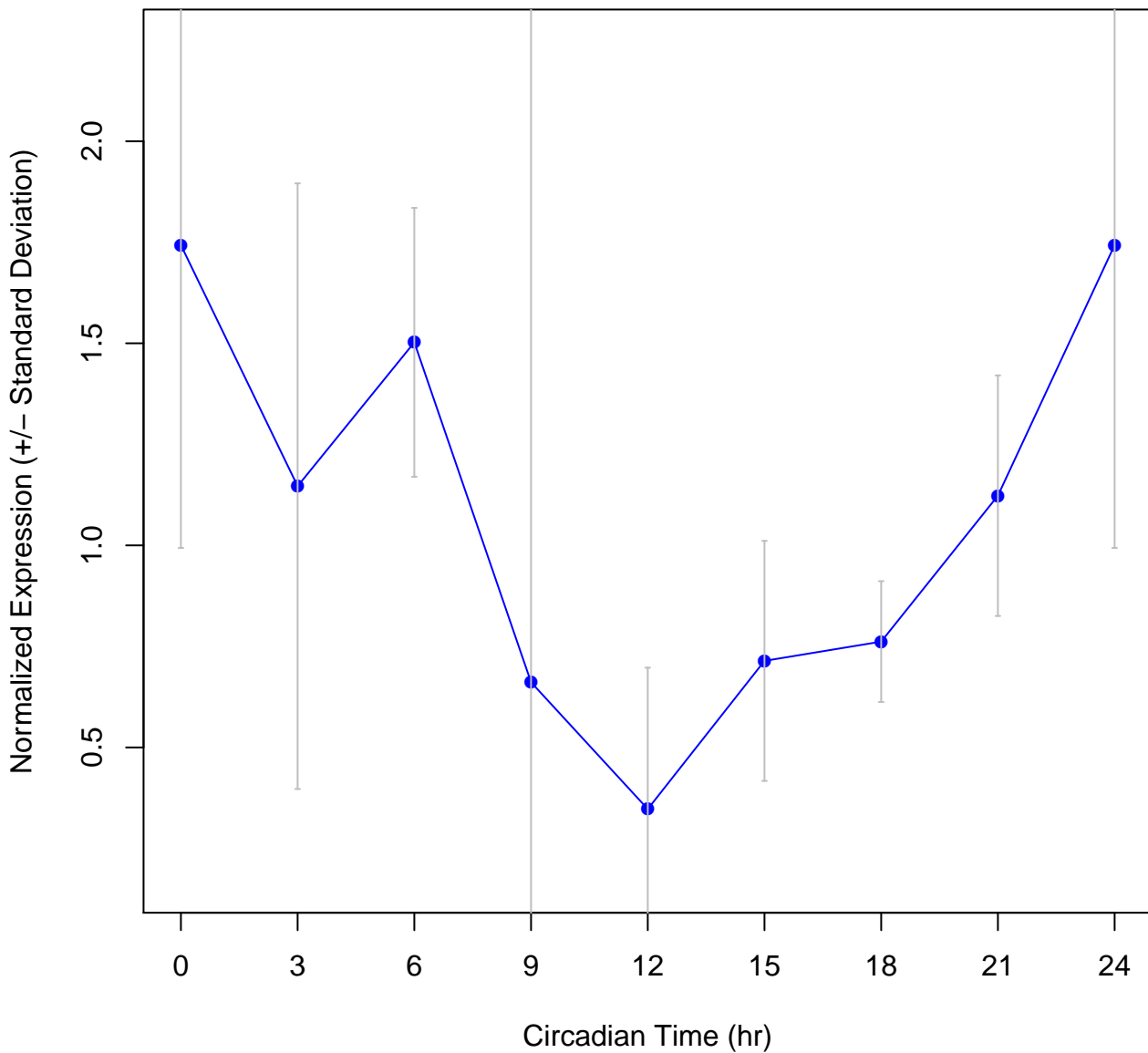


Supplement Figure 4 atm

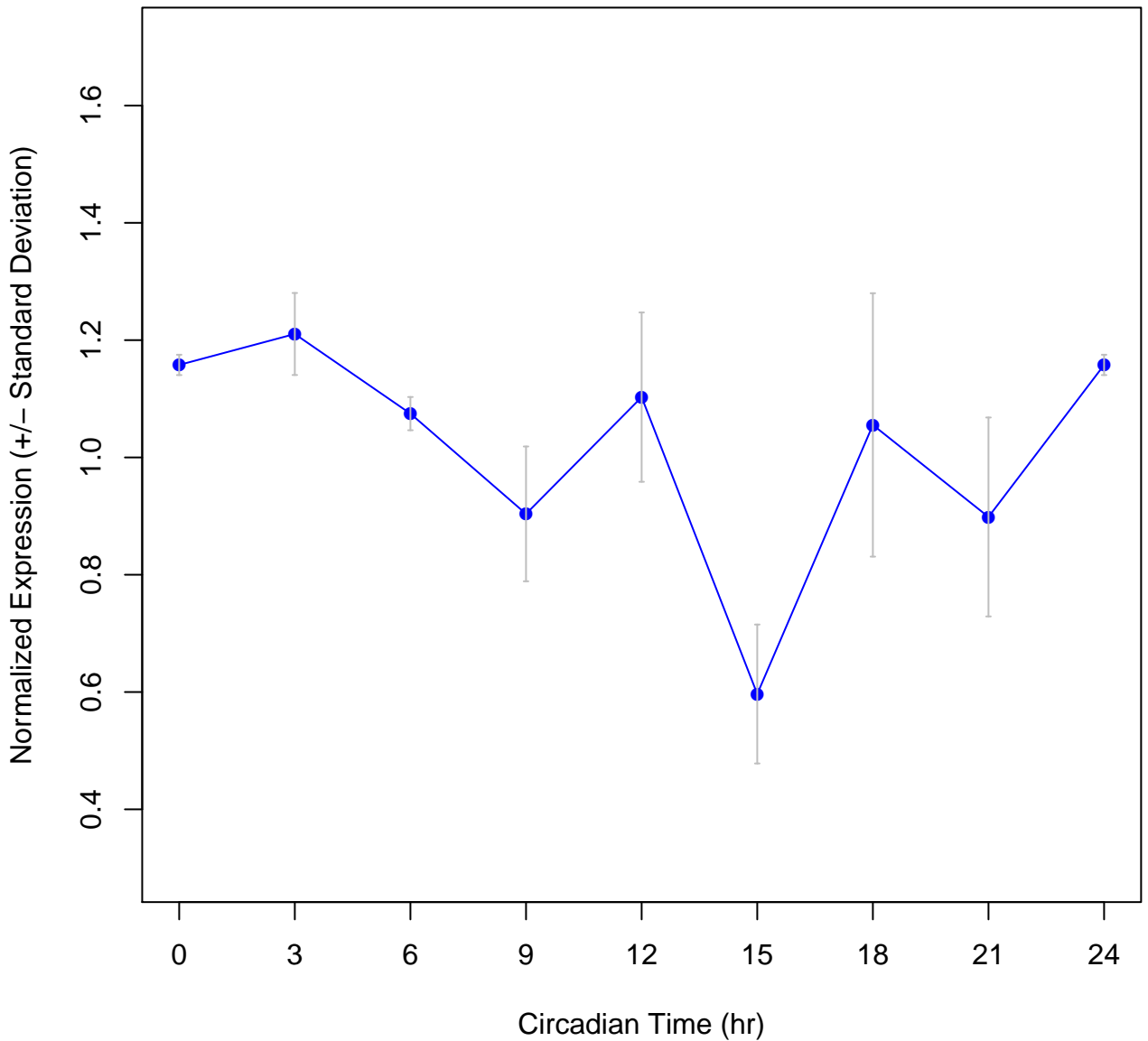




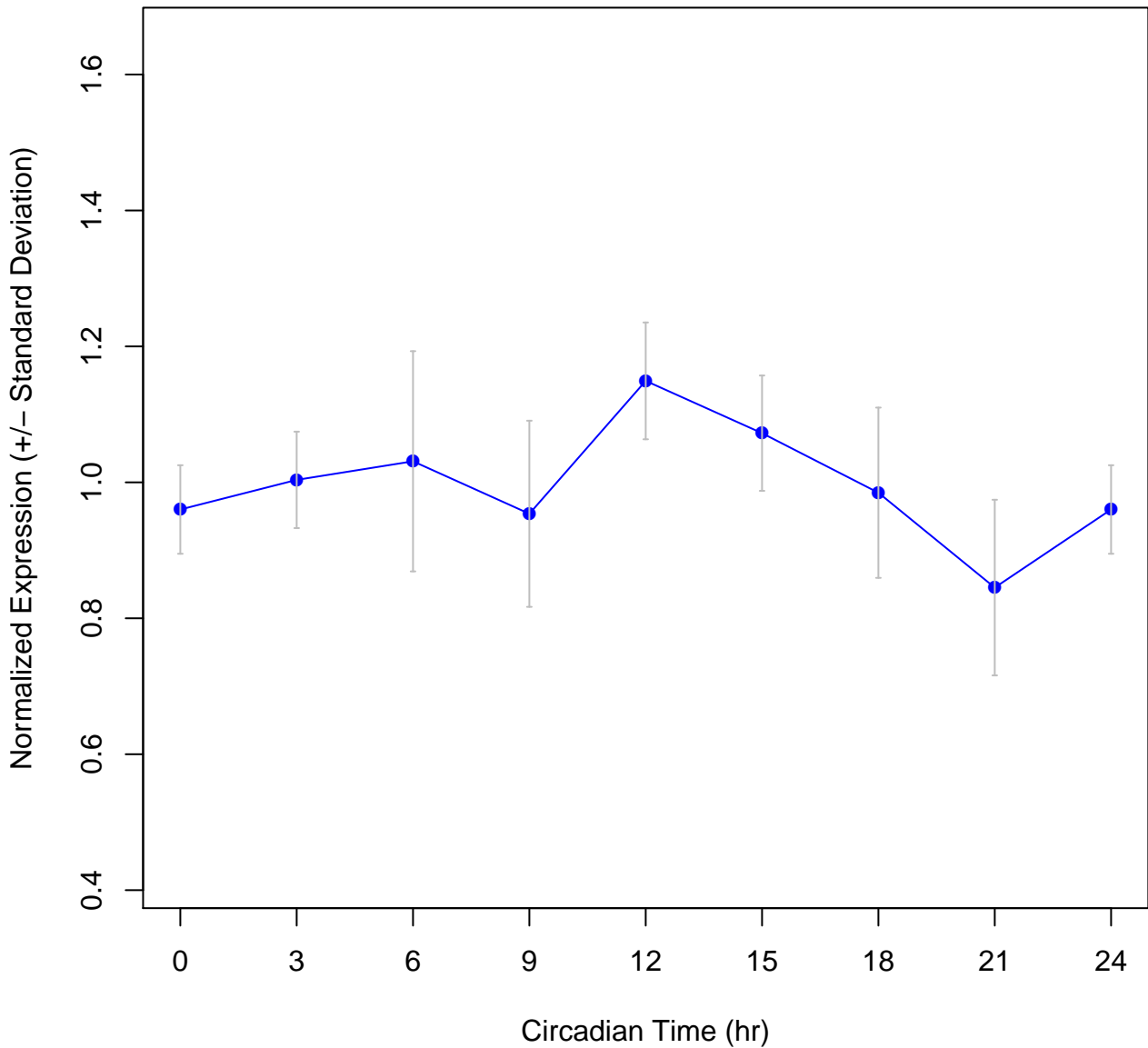
Supplement Figure 4 atp2a1



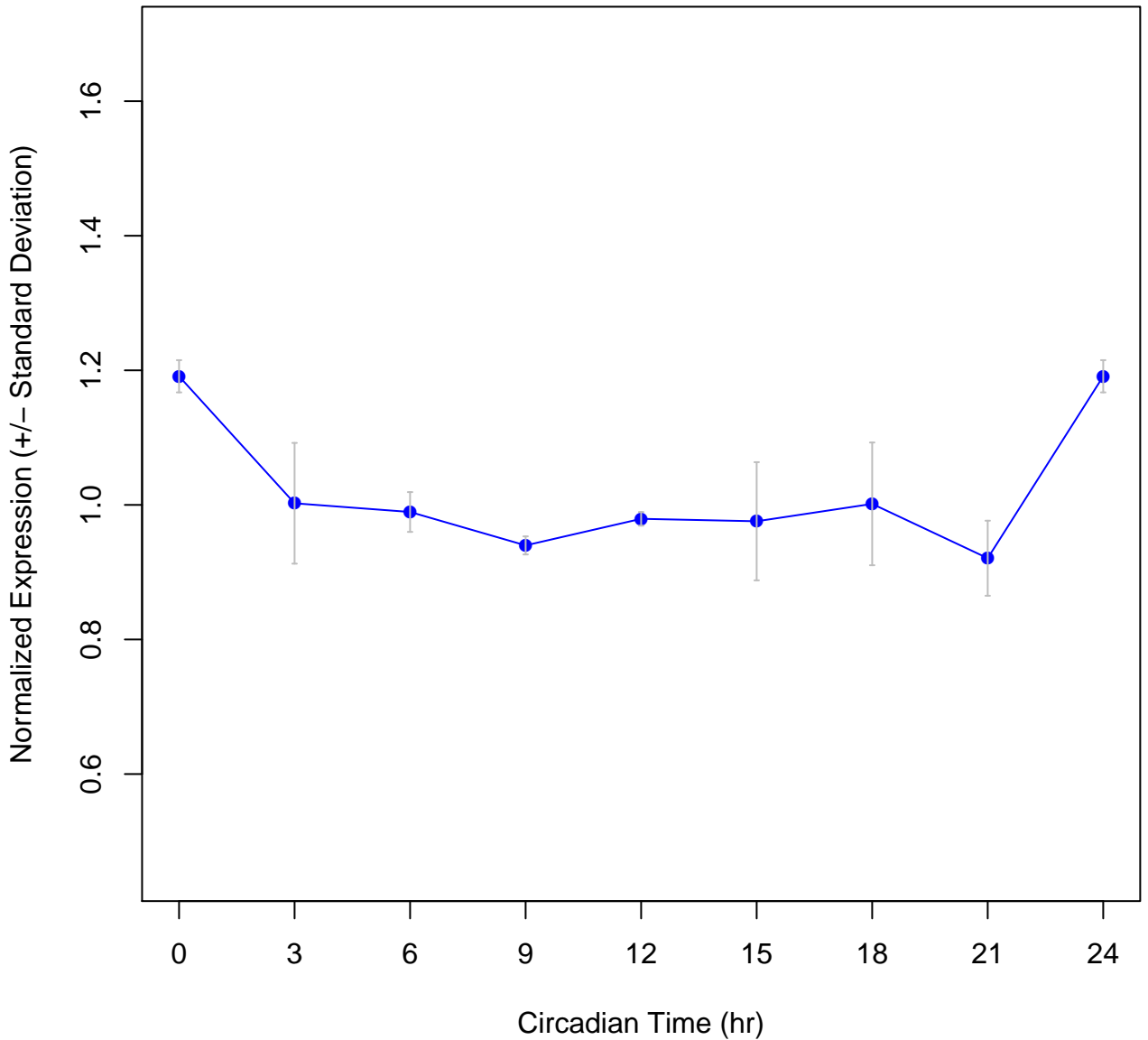
## Supplement Figure 4 aurka



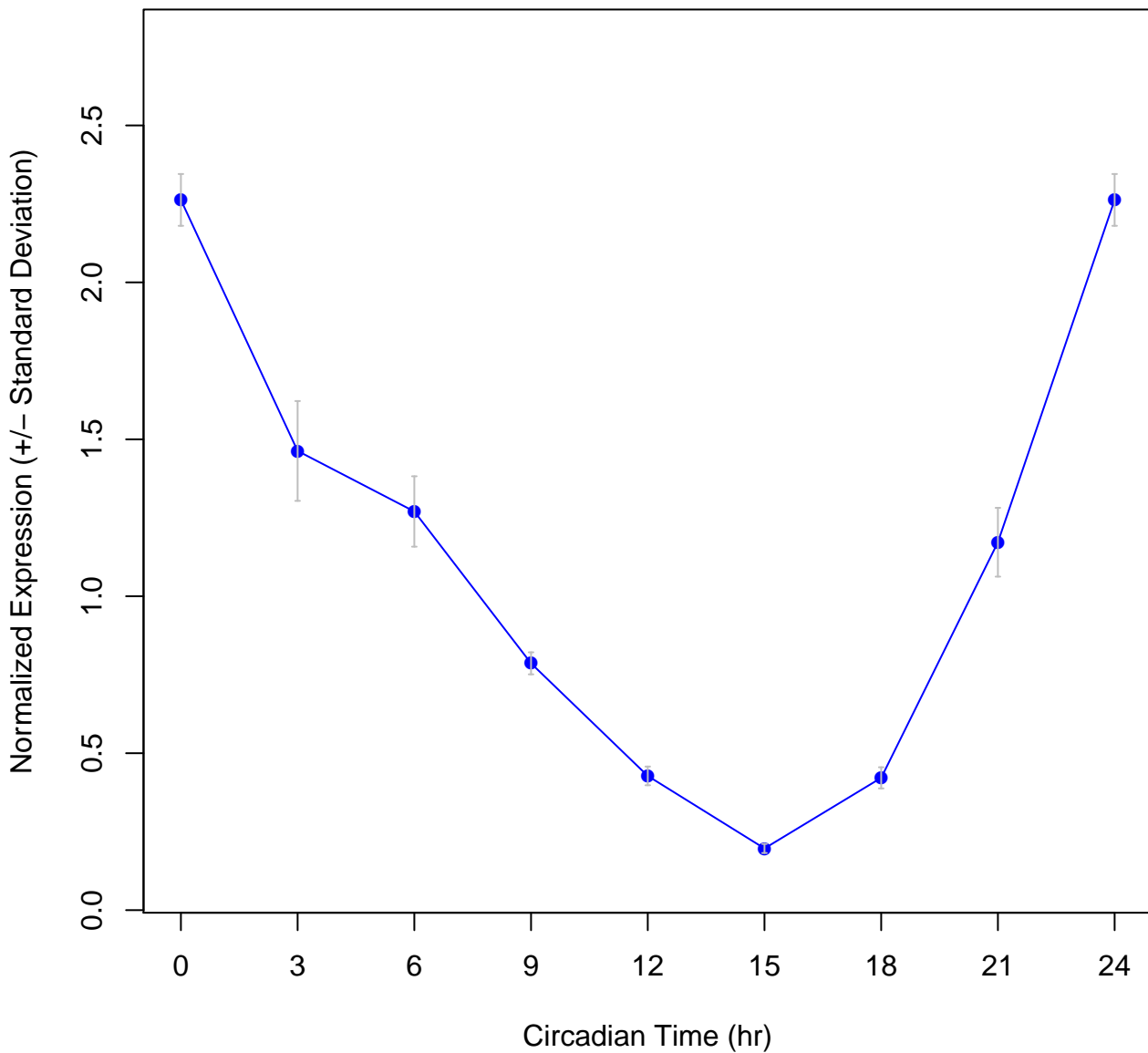
Supplement Figure 4 *bcl1*



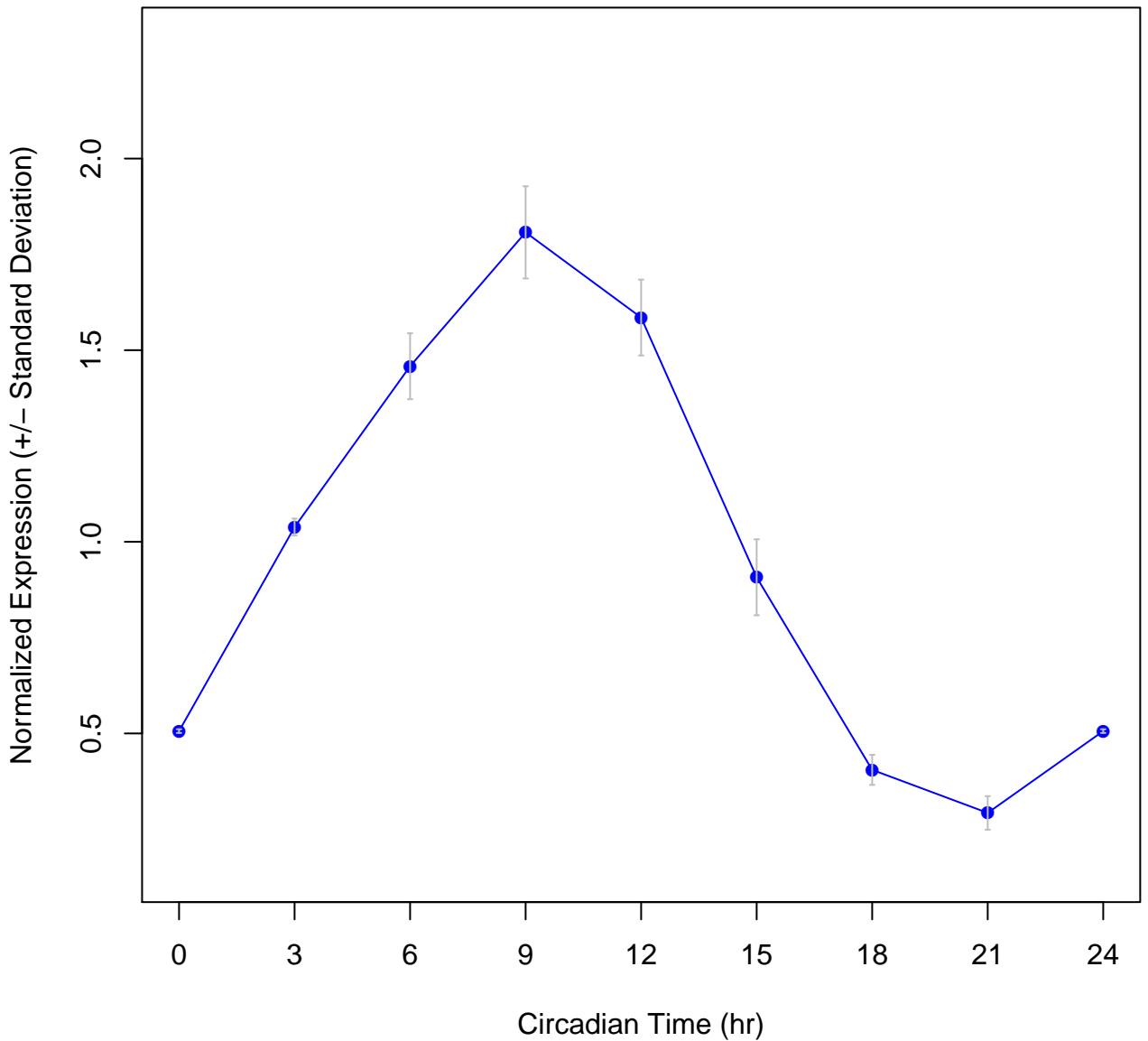
Supplement Figure 4 bcl2



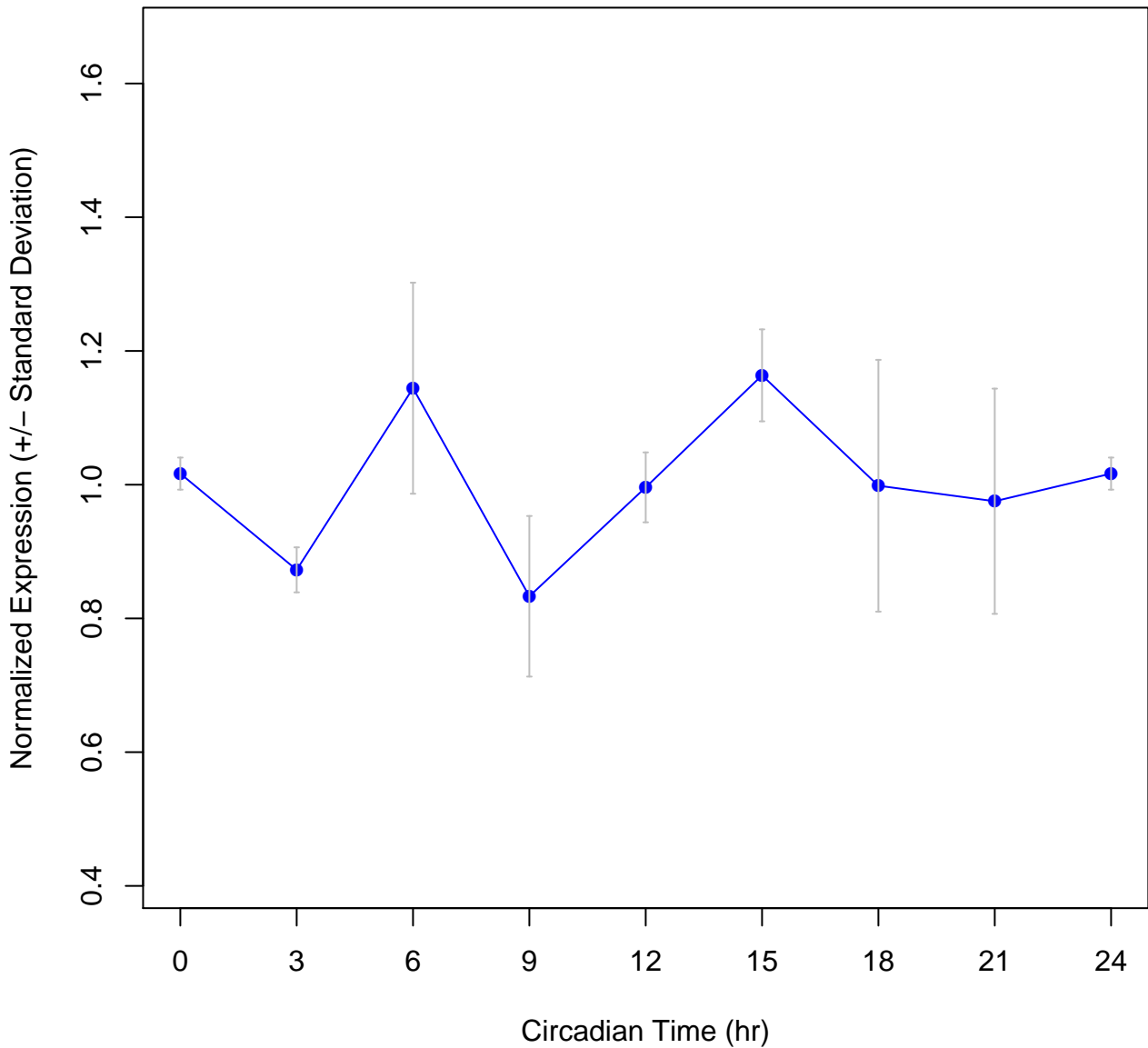
Supplement Figure 4 bhlhe40



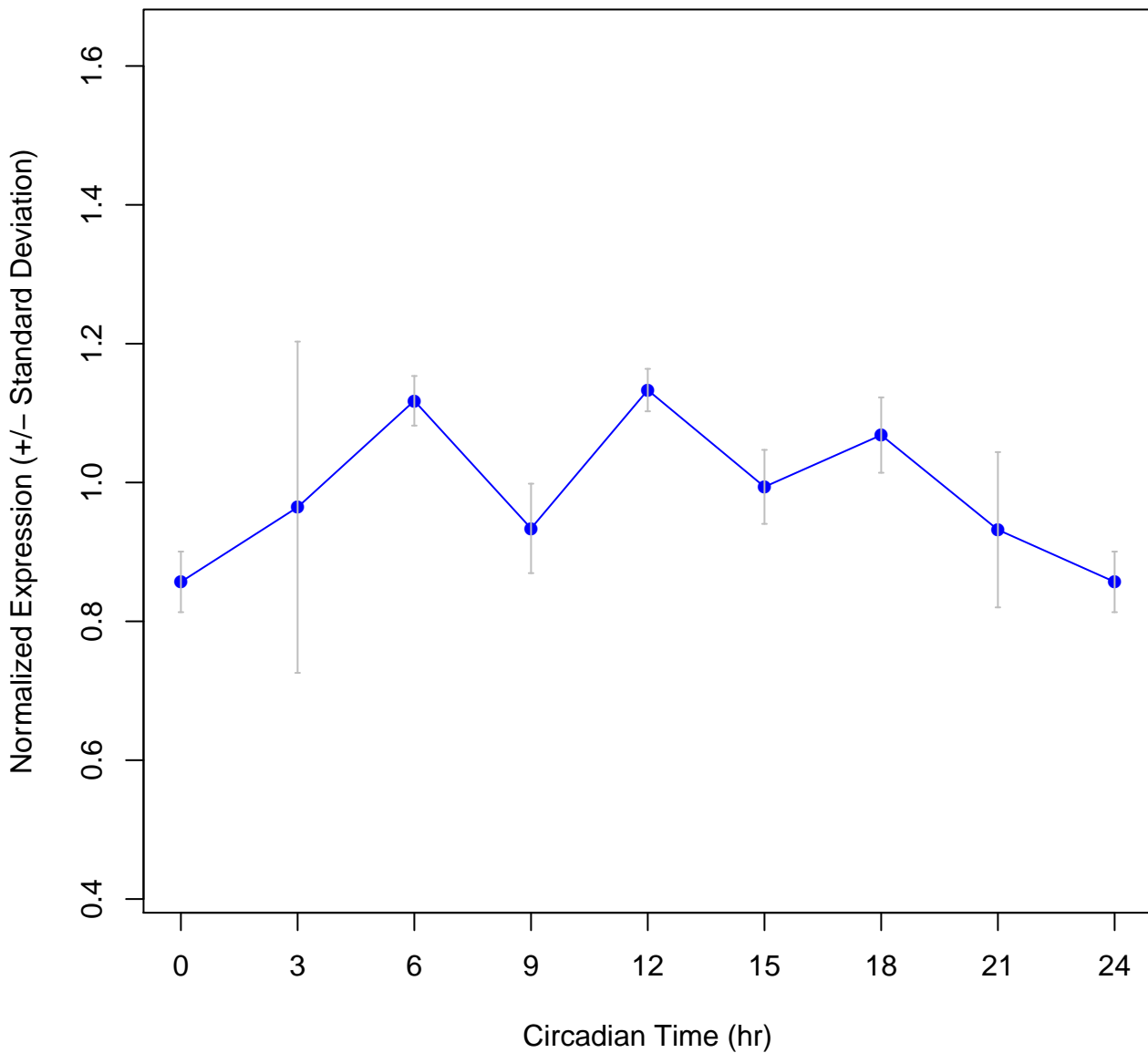
Supplement Figure 4 bmal1



**Supplement Figure 4 bmp7**

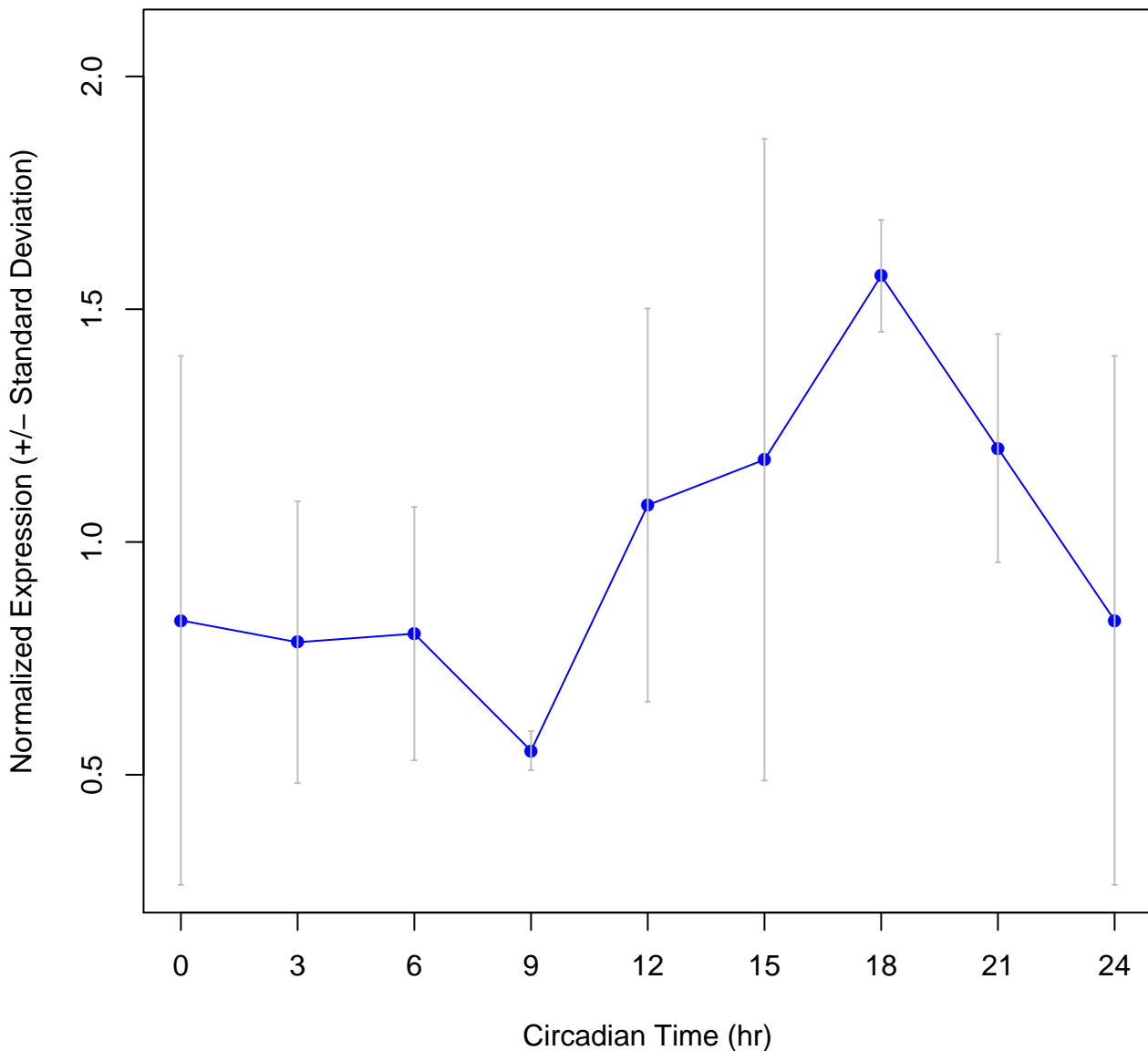


Supplement Figure 4 bmpr1b

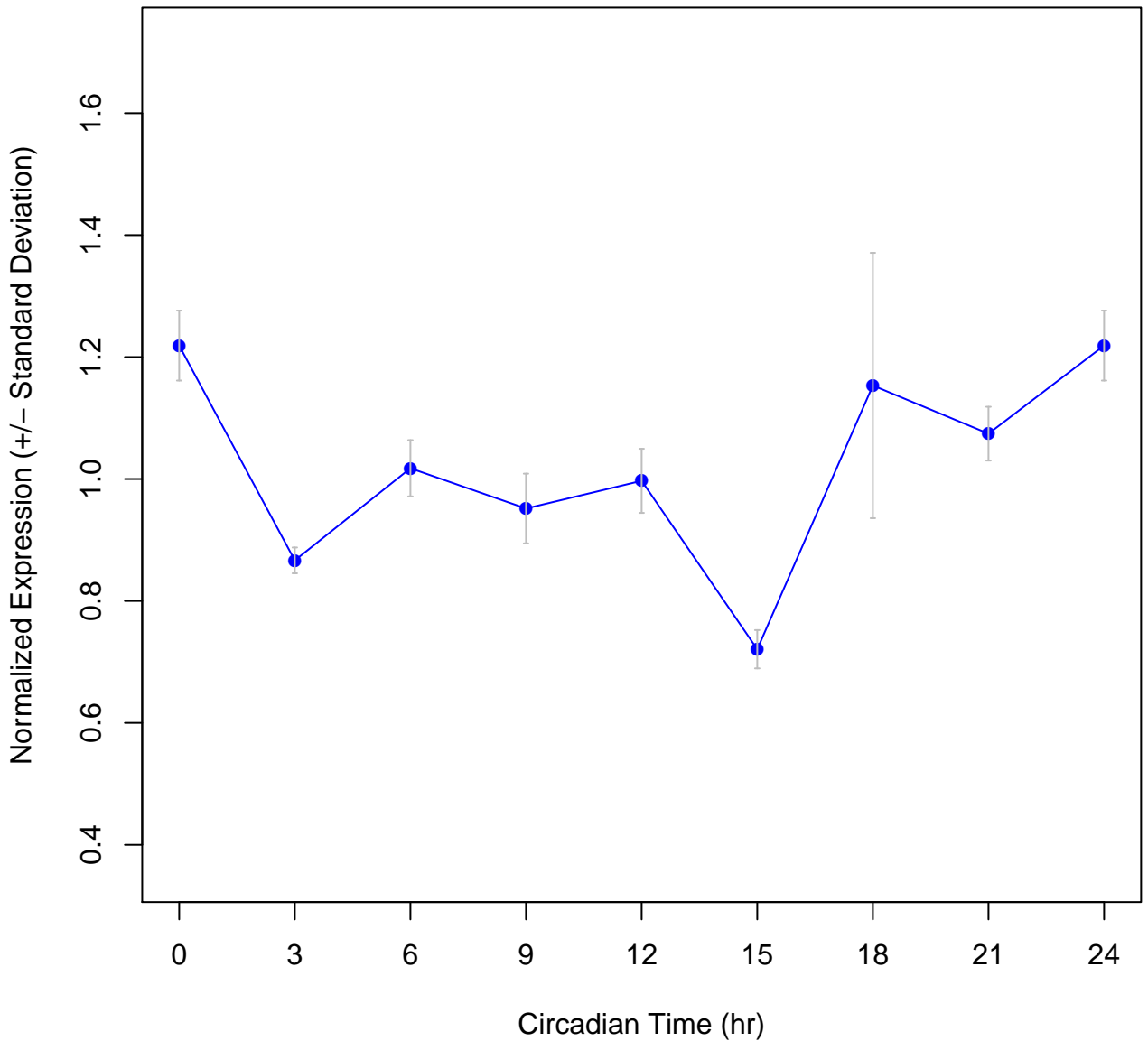




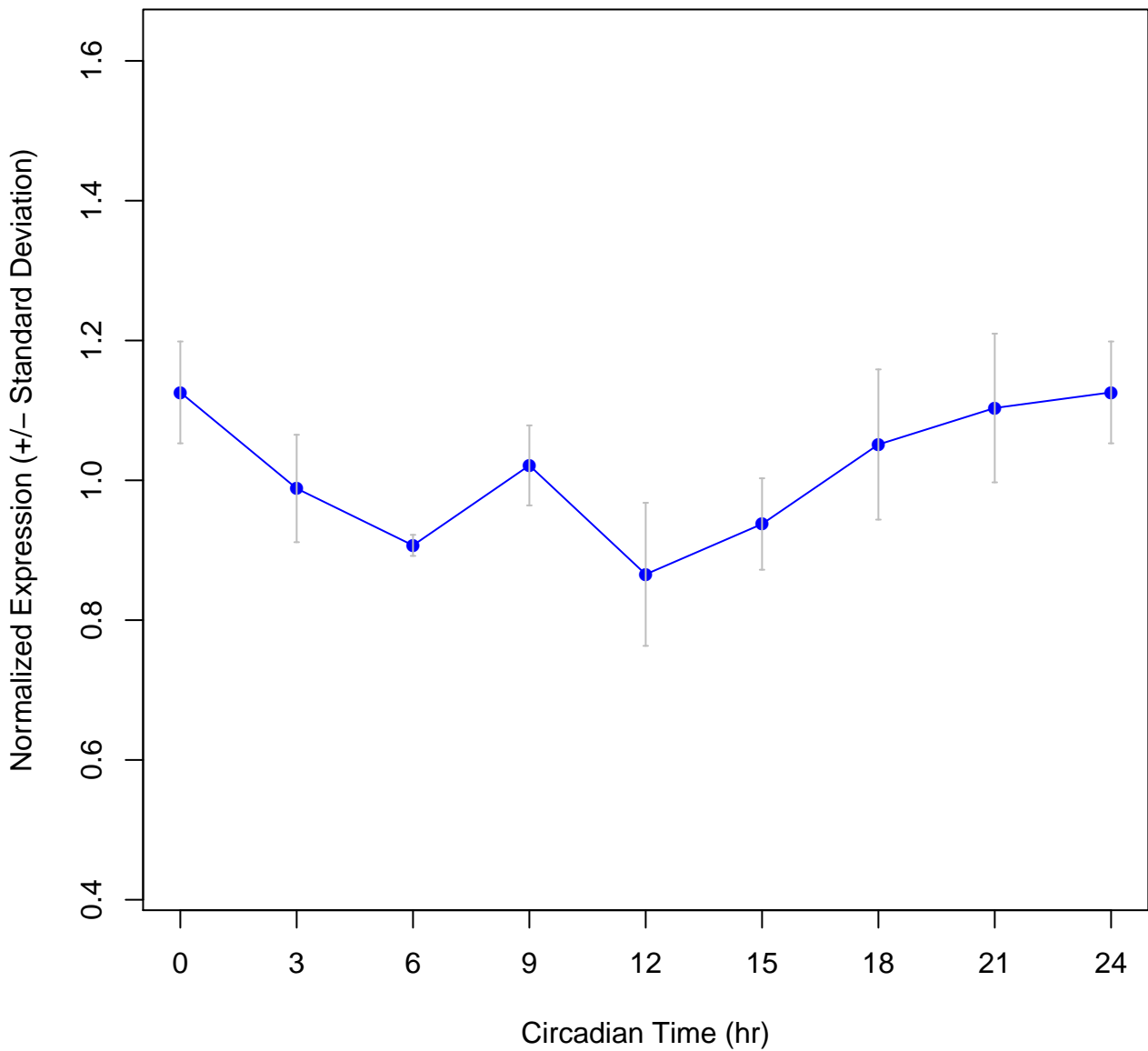
Supplement Figure 4 bora



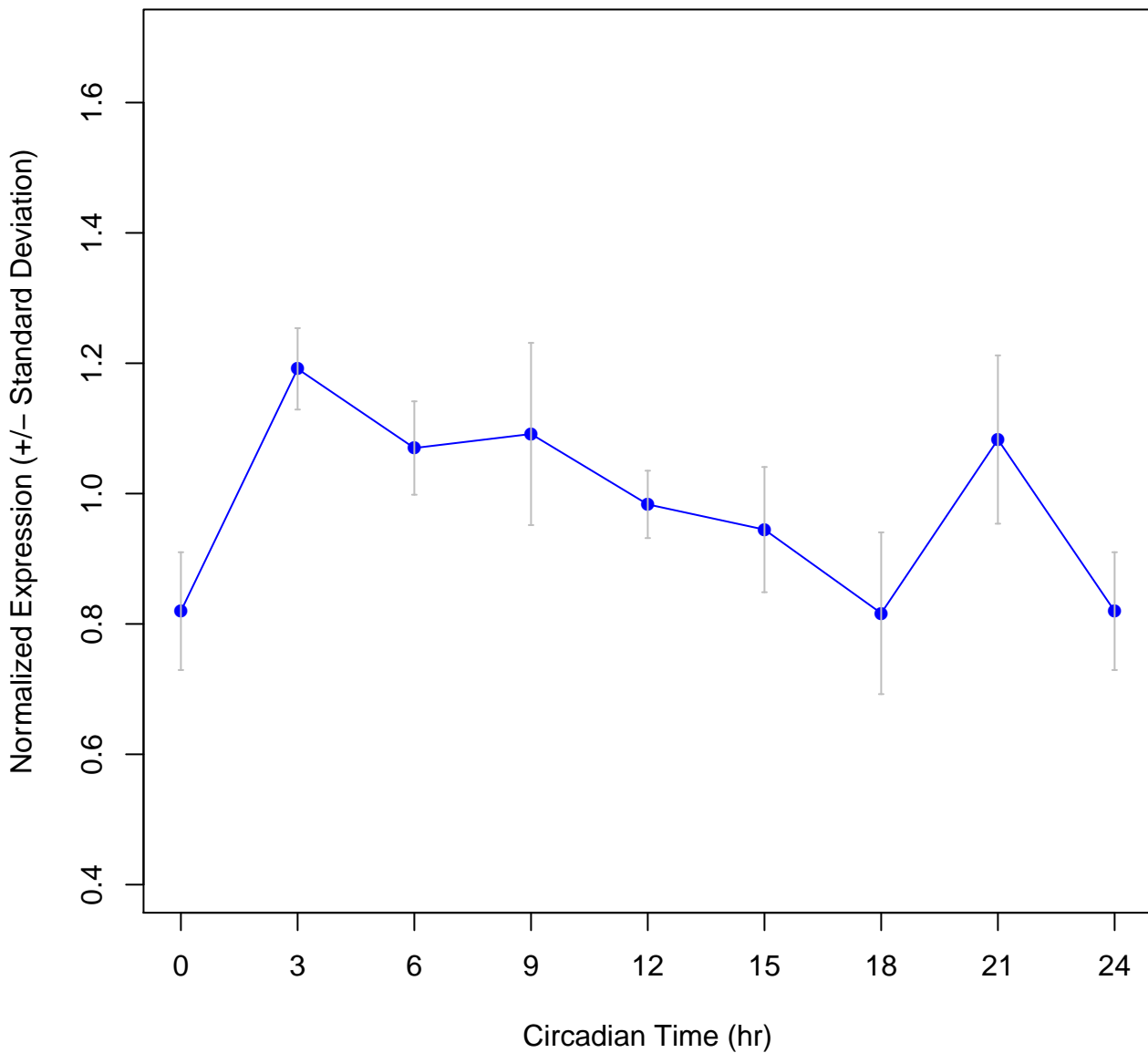
## Supplement Figure 4 brca2



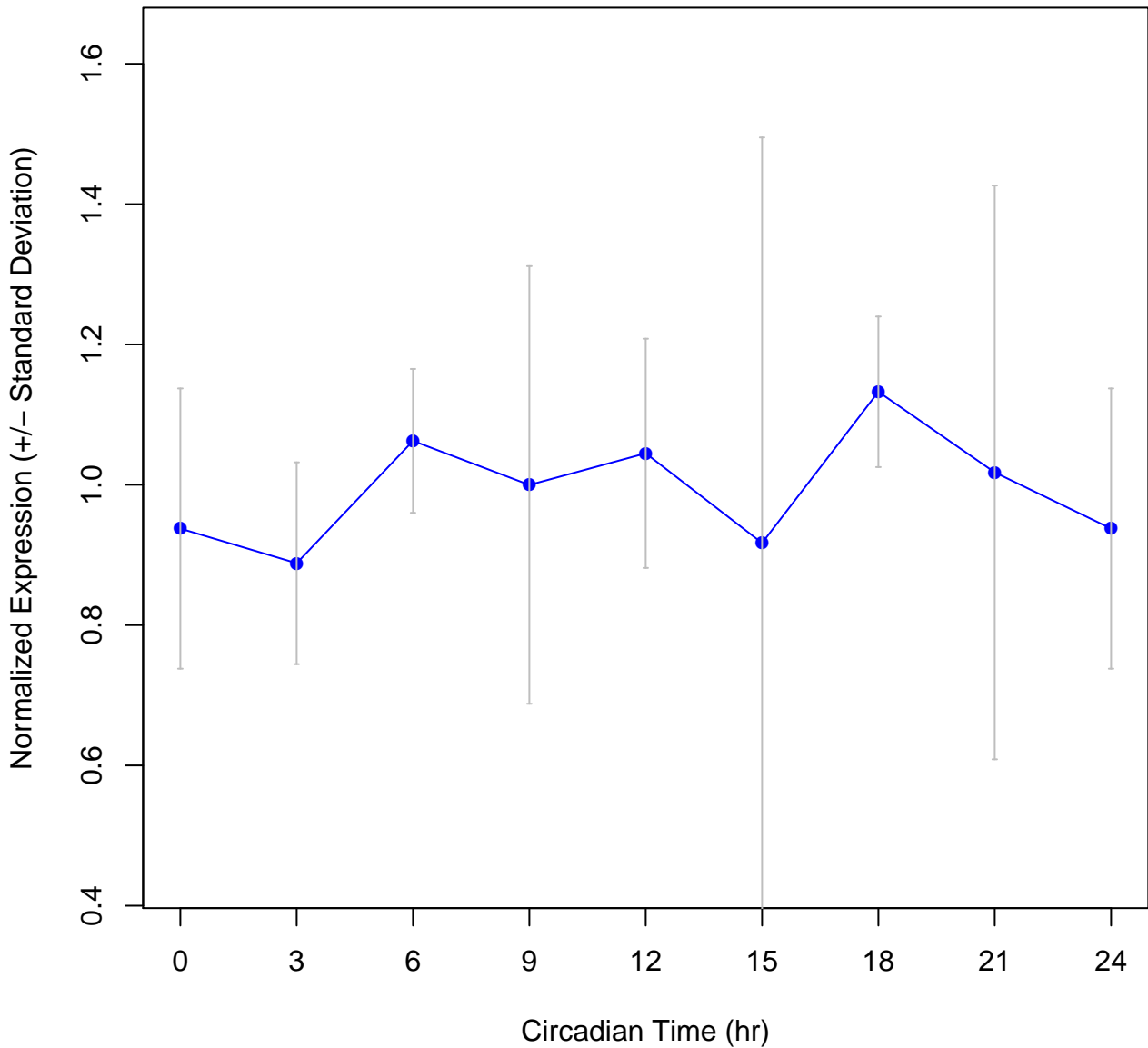
Supplement Figure 4 camk1g



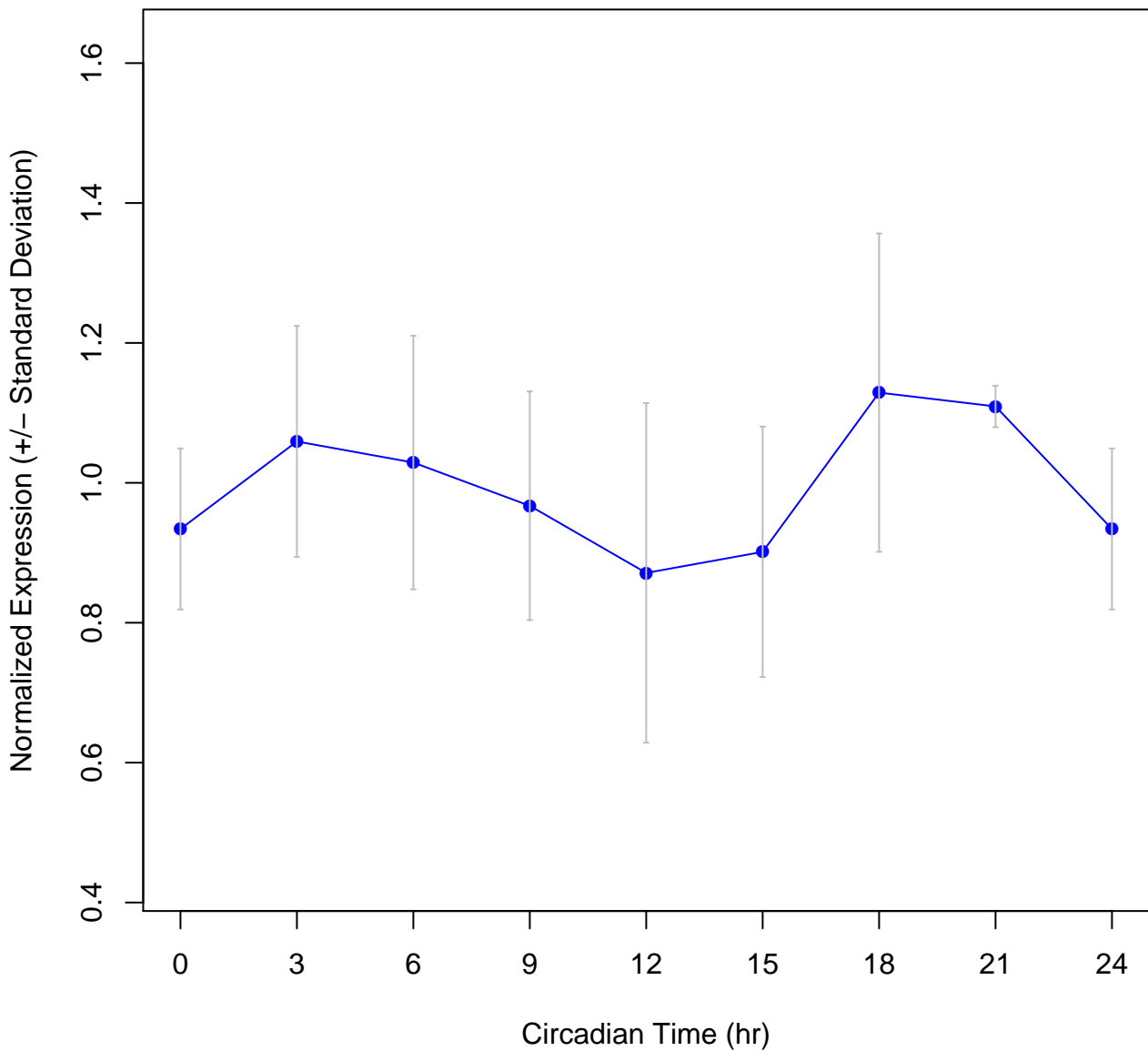
Supplement Figure 4 camk2a



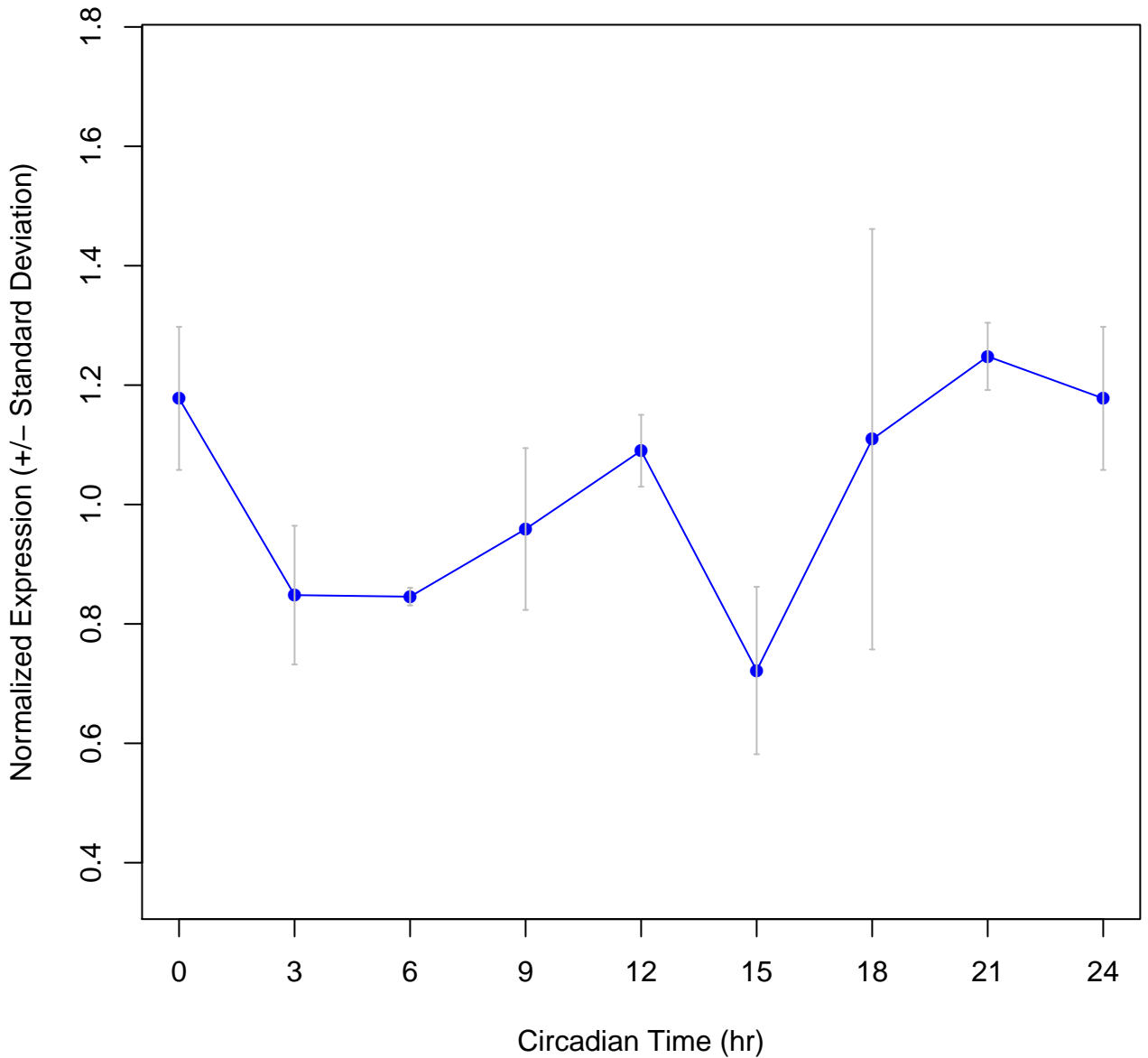
Supplement Figure 4 ccnb1



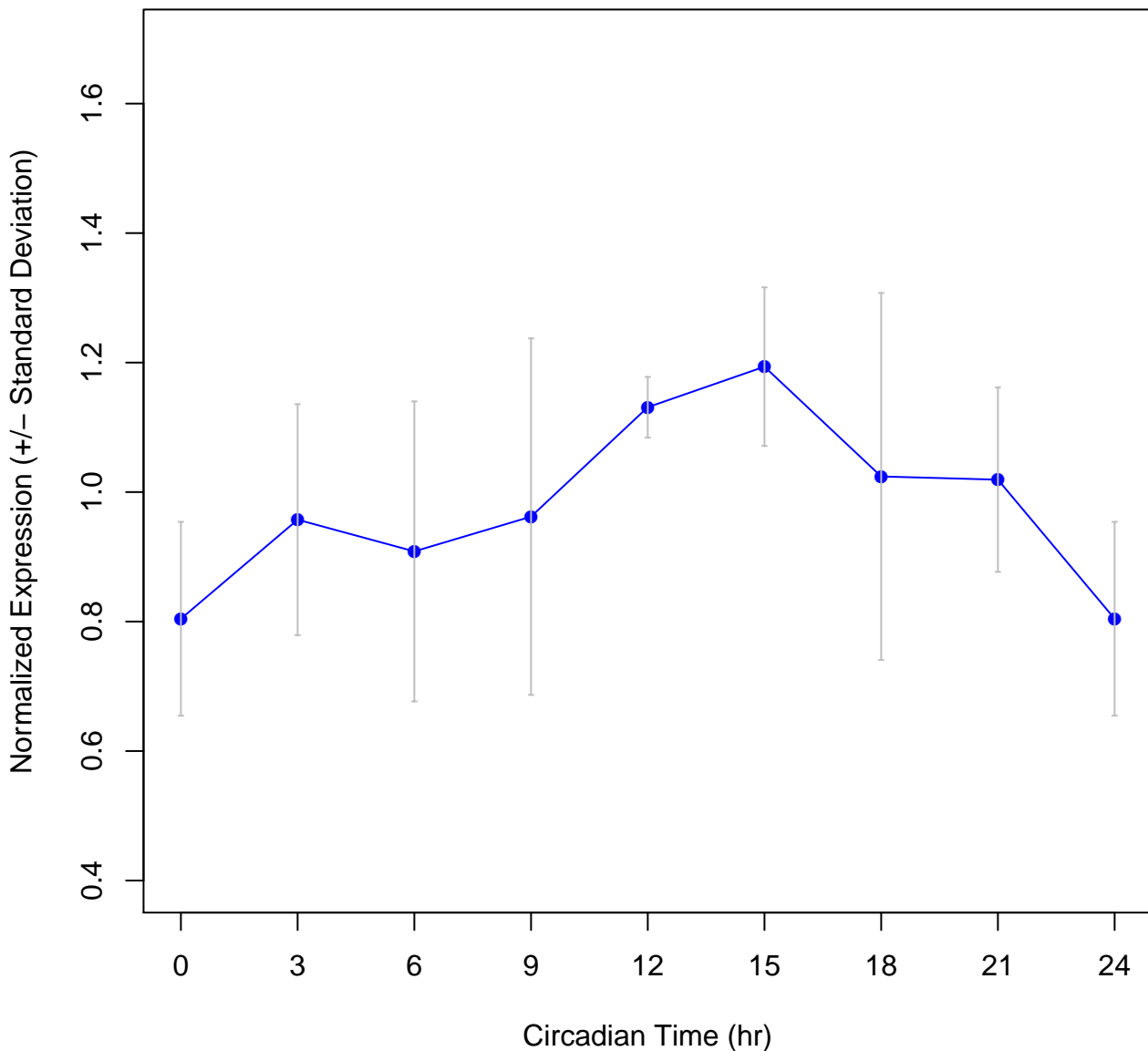
Supplement Figure 4 ccnb2



### Supplement Figure 4 ccnb3

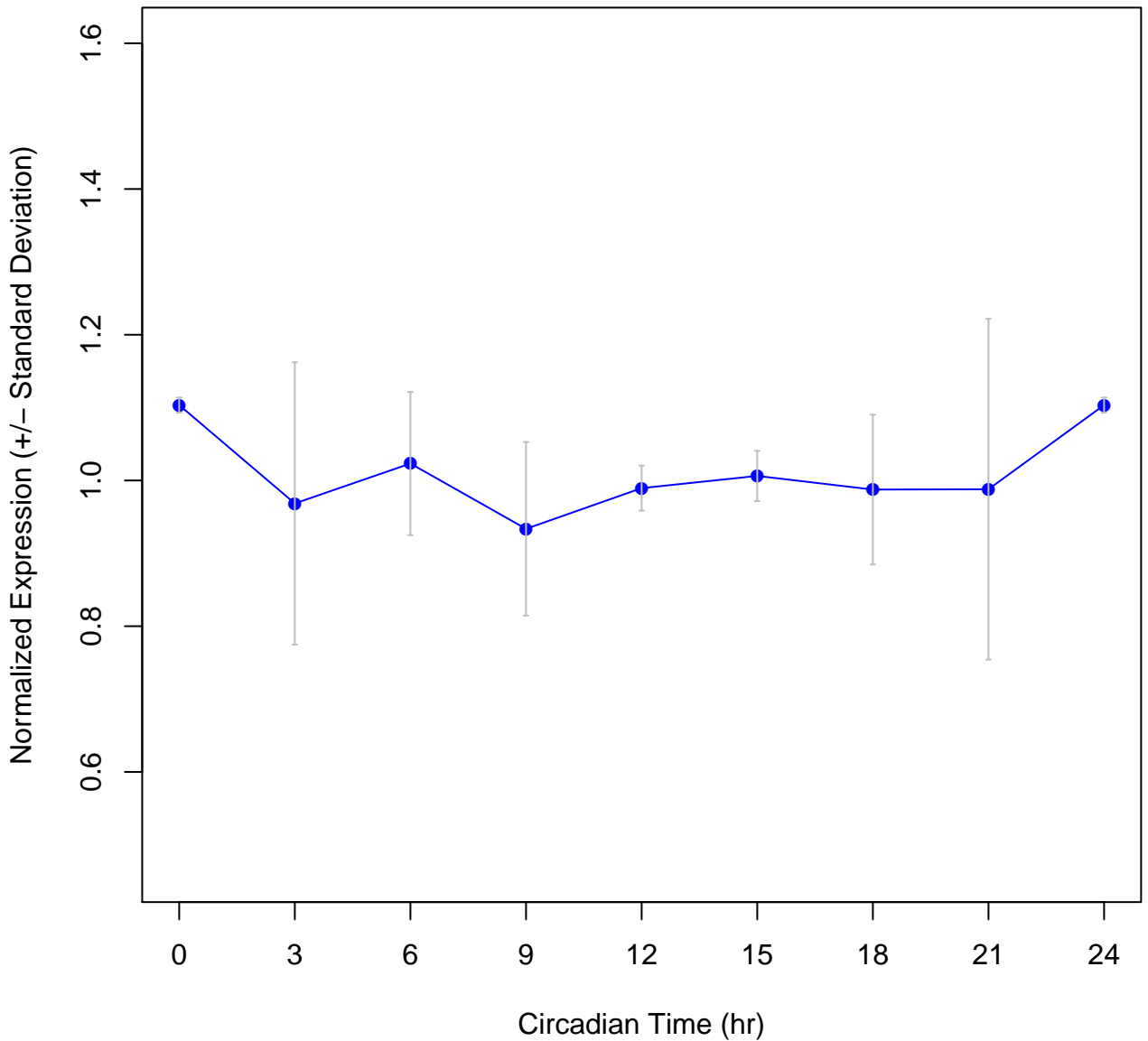


Supplement Figure 4 ccnf

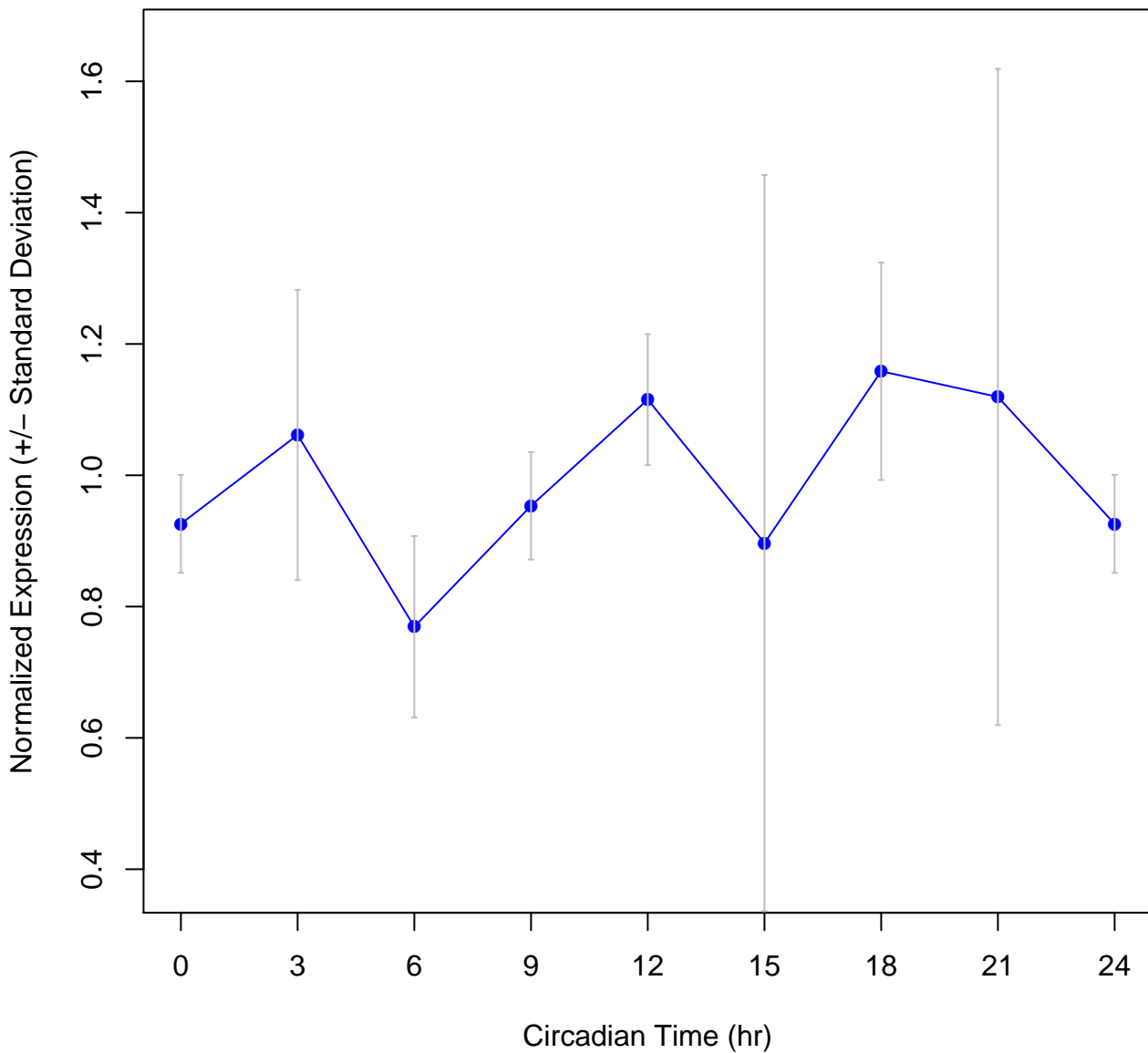




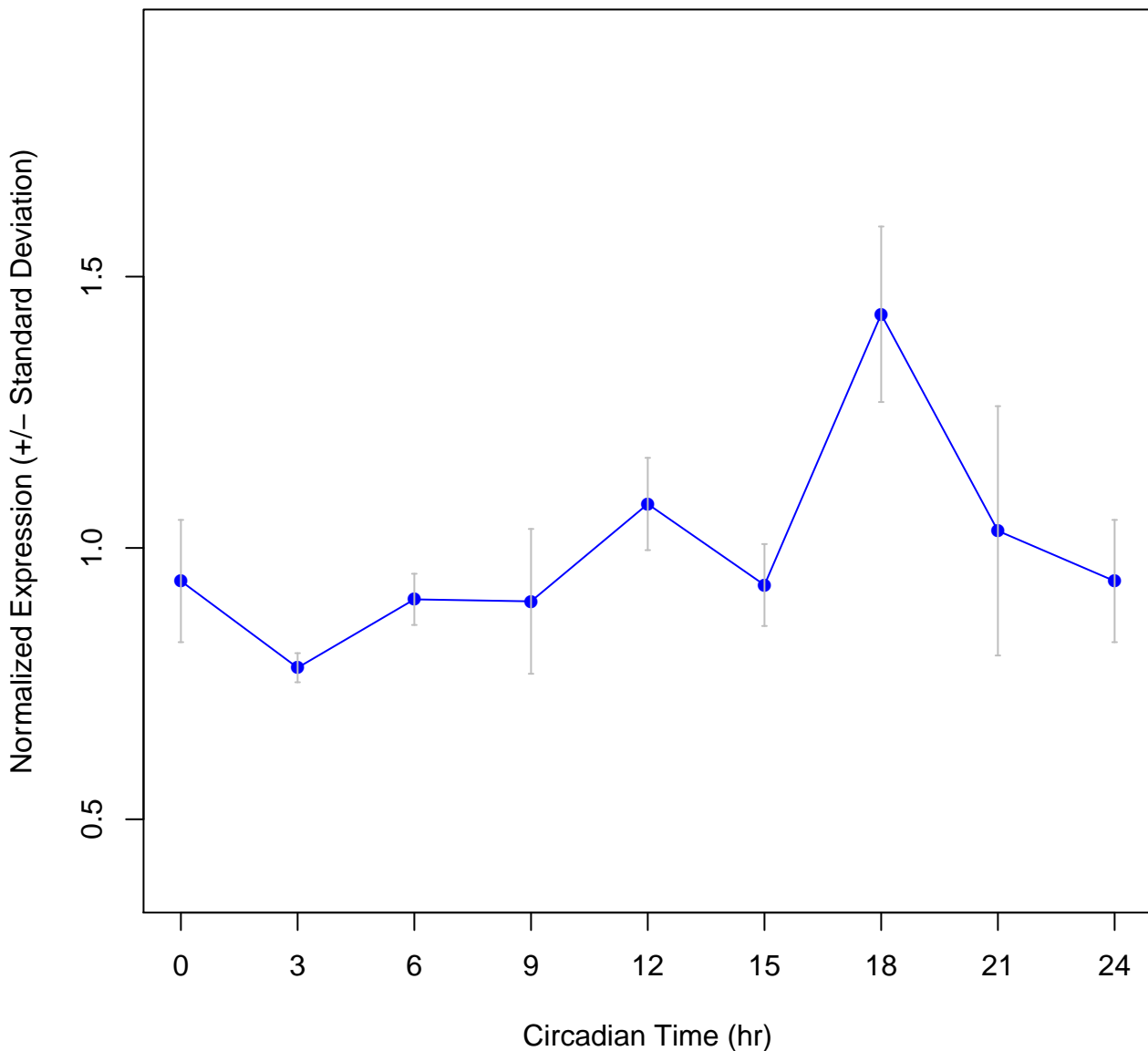
### Supplement Figure 4 cd44



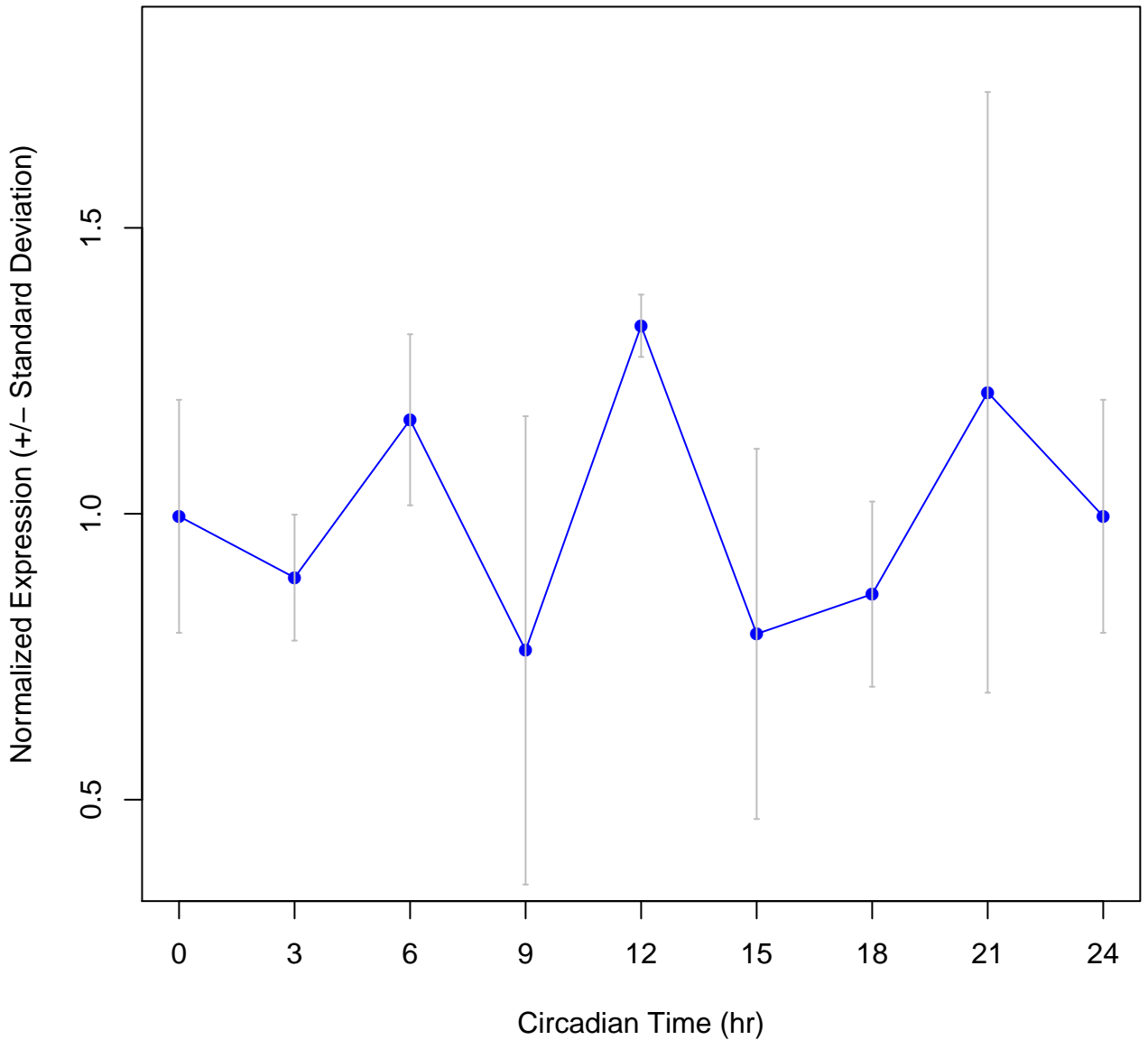
Supplement Figure 4 cdc20



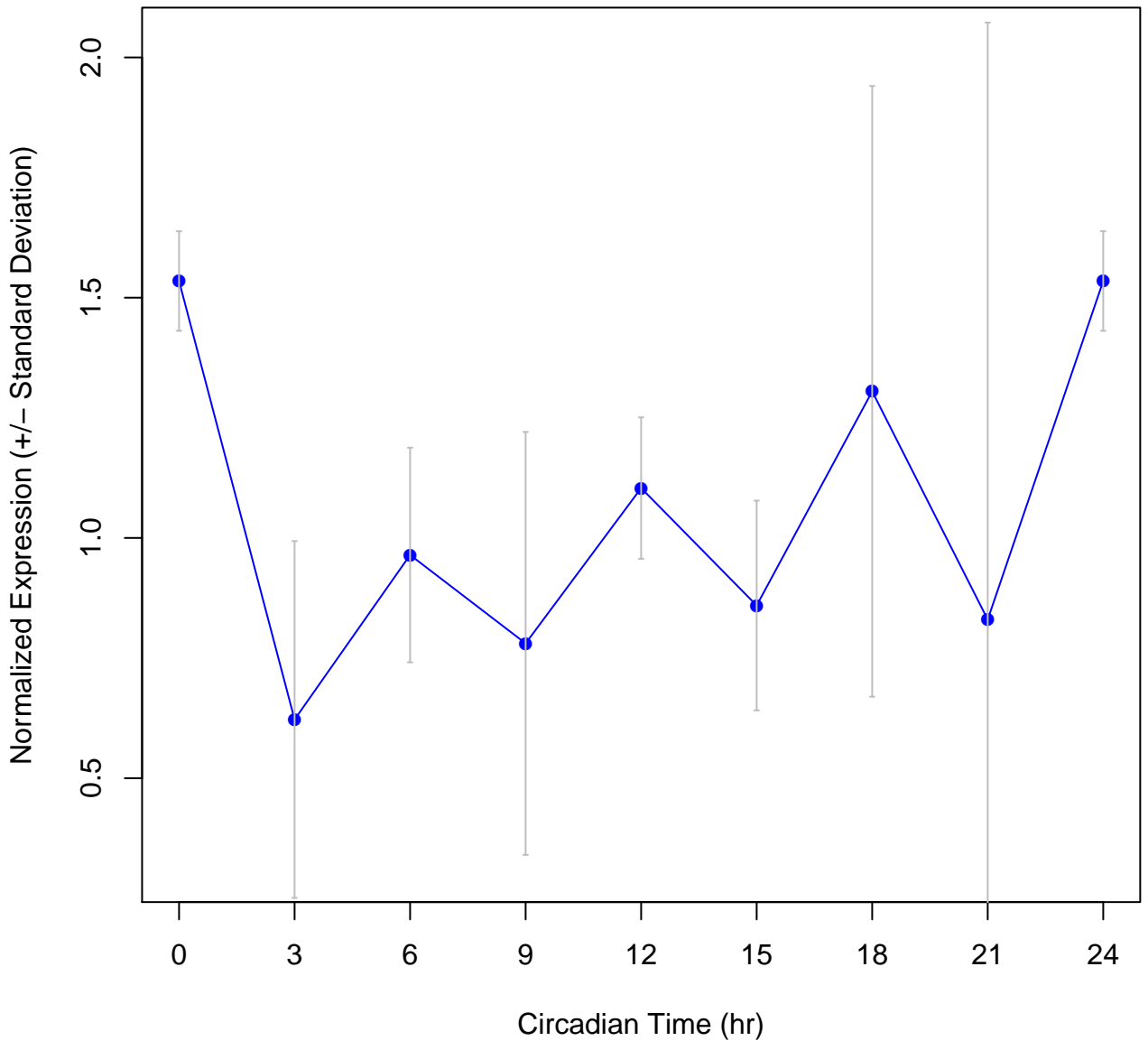
Supplement Figure 4 *cdc25b*



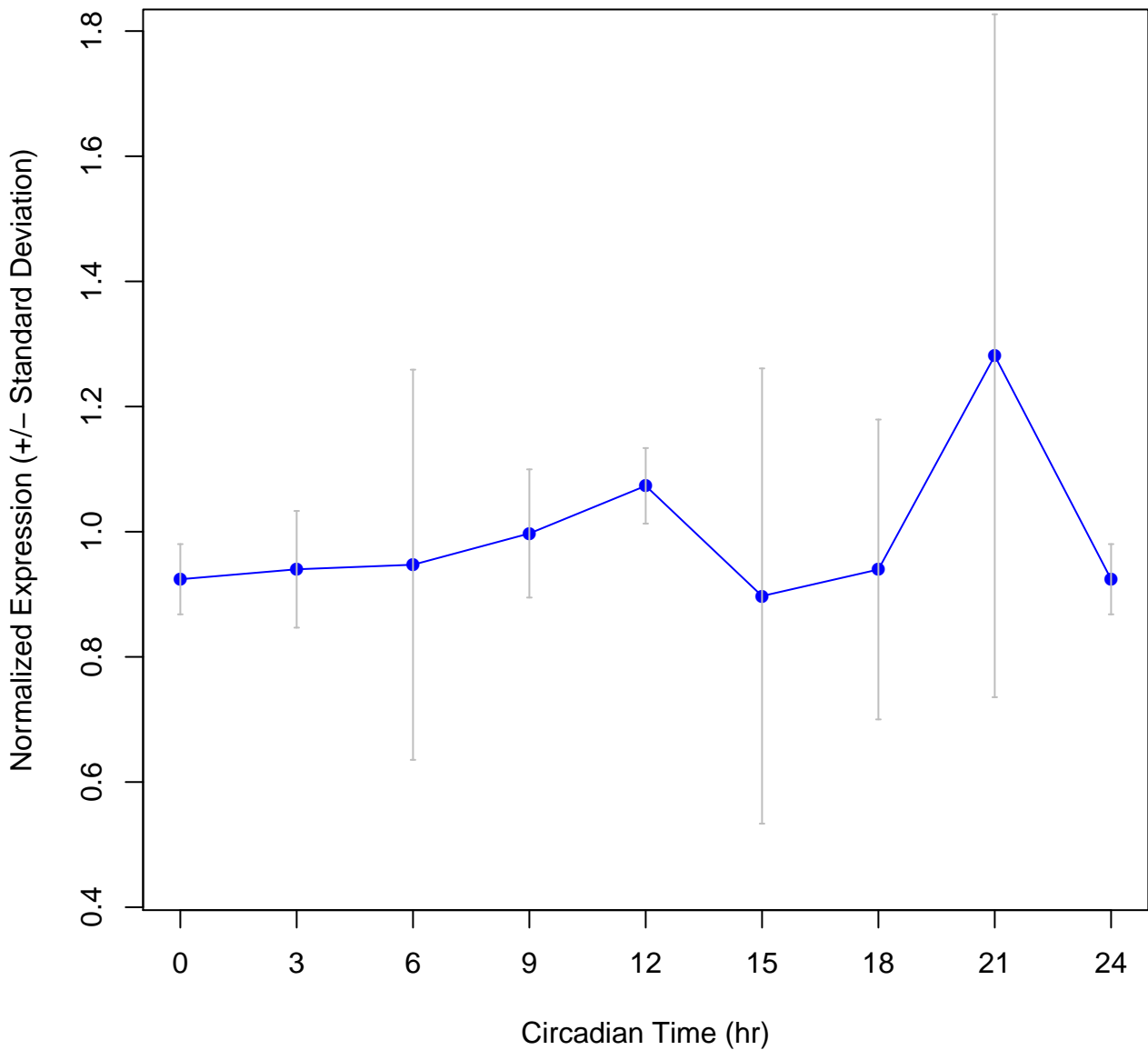
**Supplement Figure 4 cdca7**



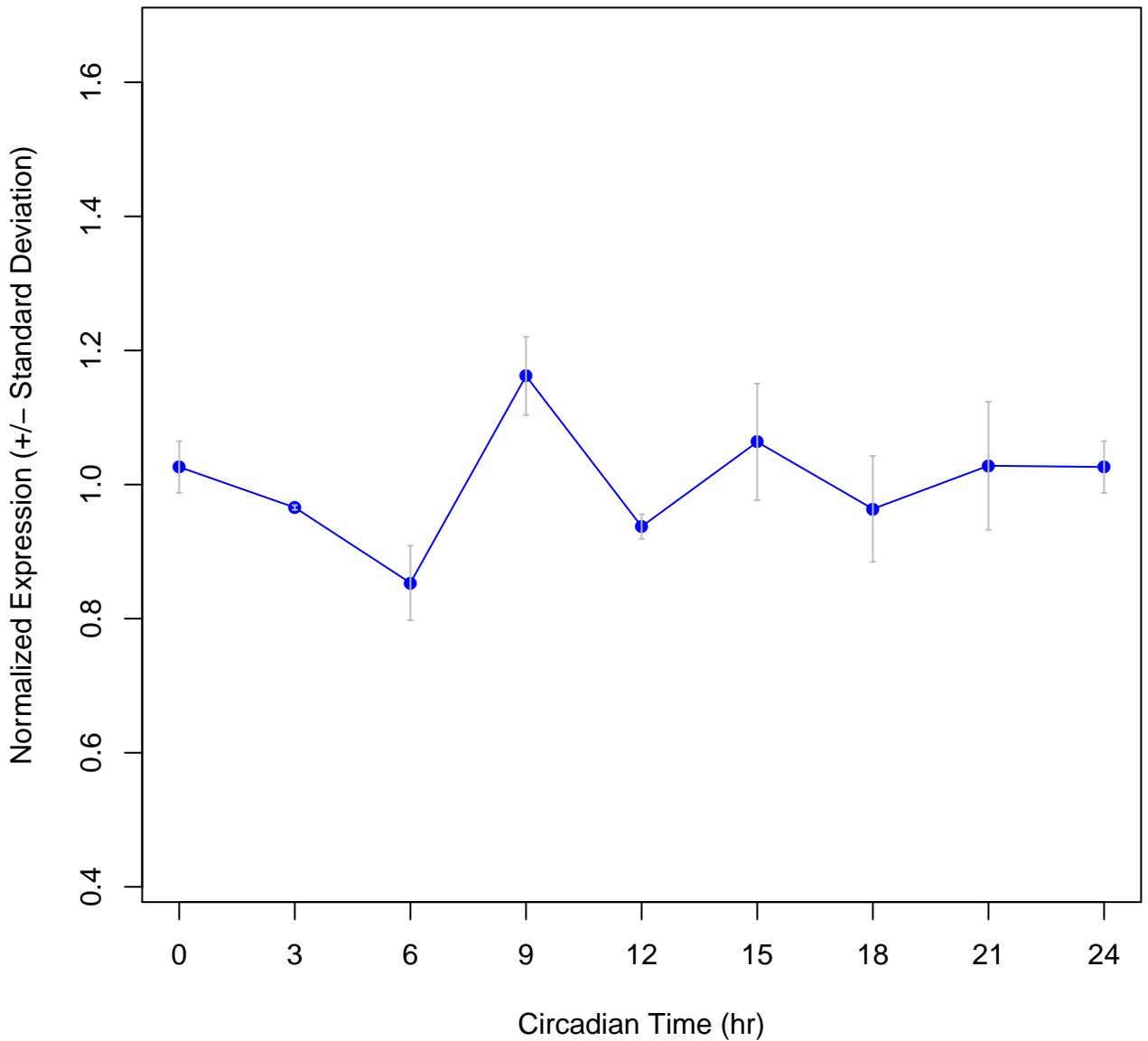
**Supplement Figure 4 cdh15**



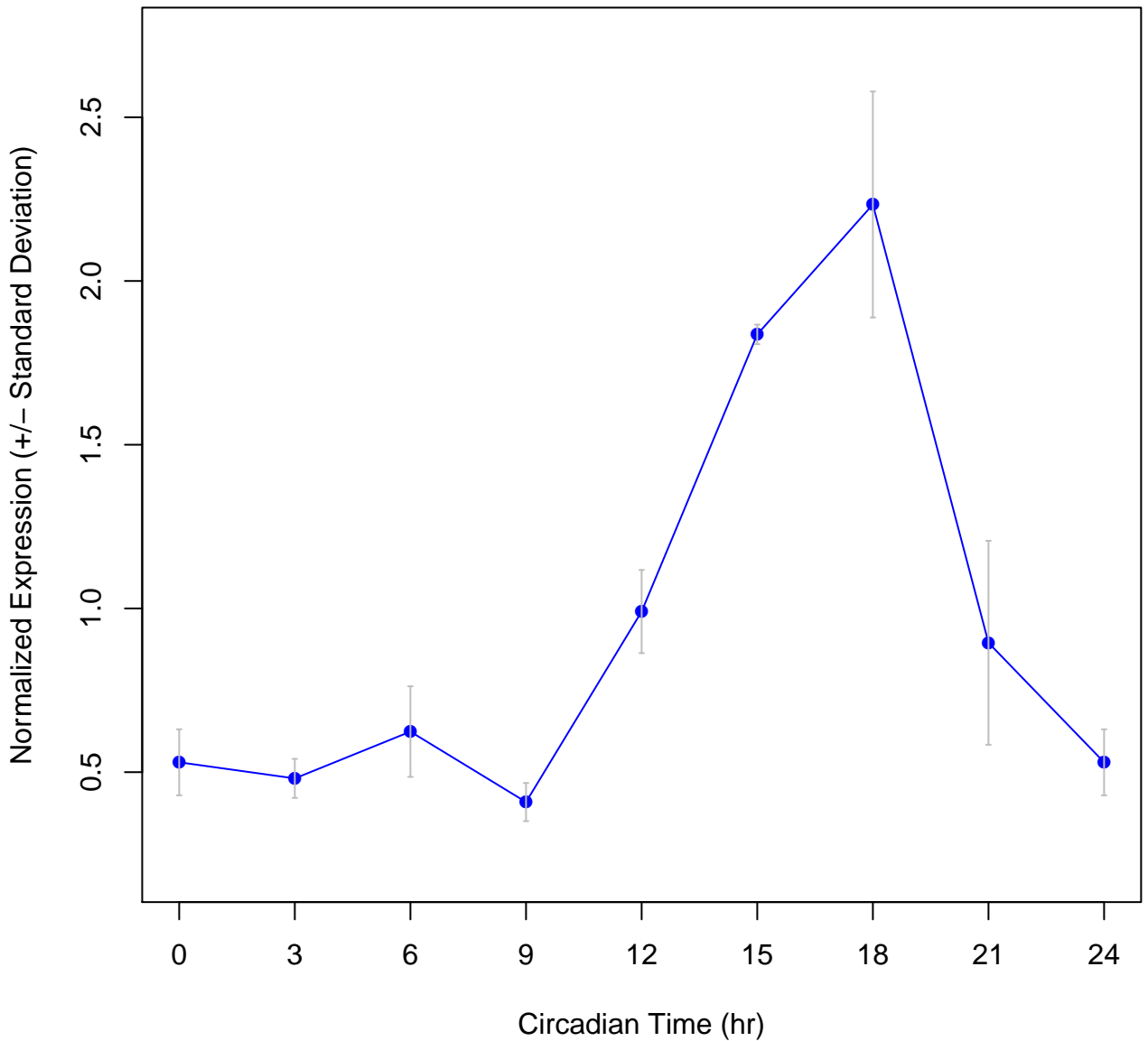
### Supplement Figure 4 cdk1



## Supplement Figure 4 cdk7

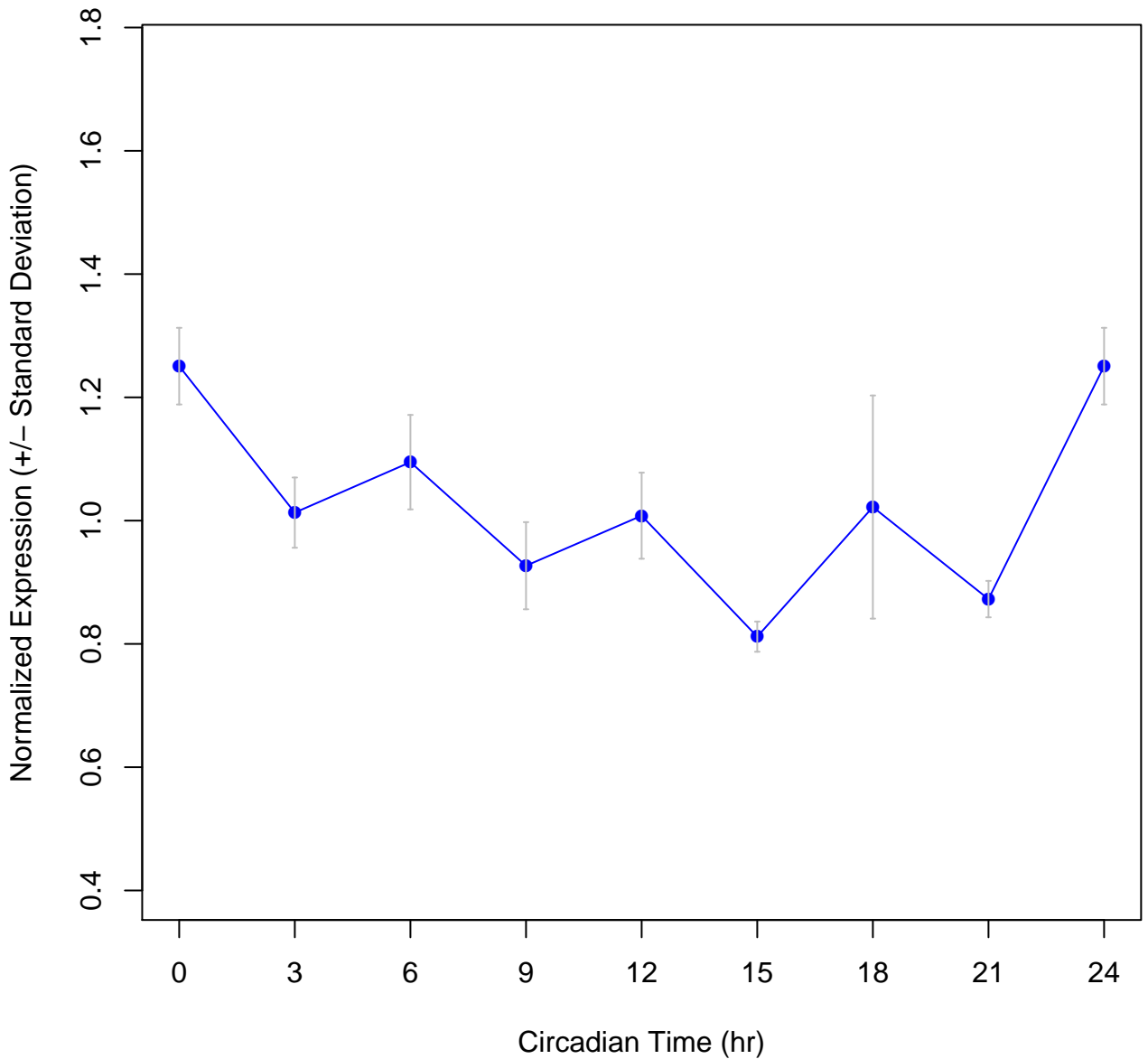


Supplement Figure 4 cdkn1a

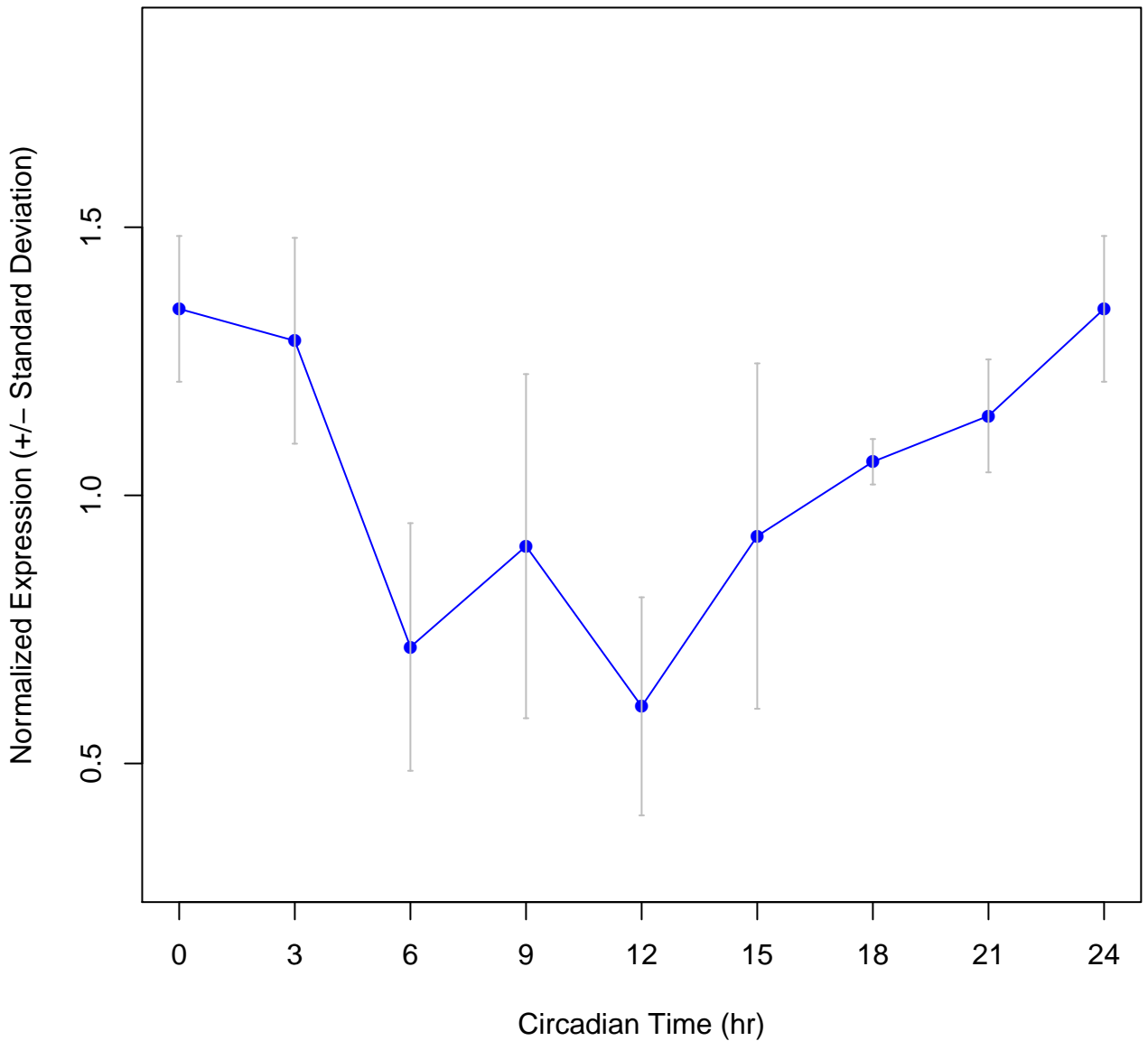




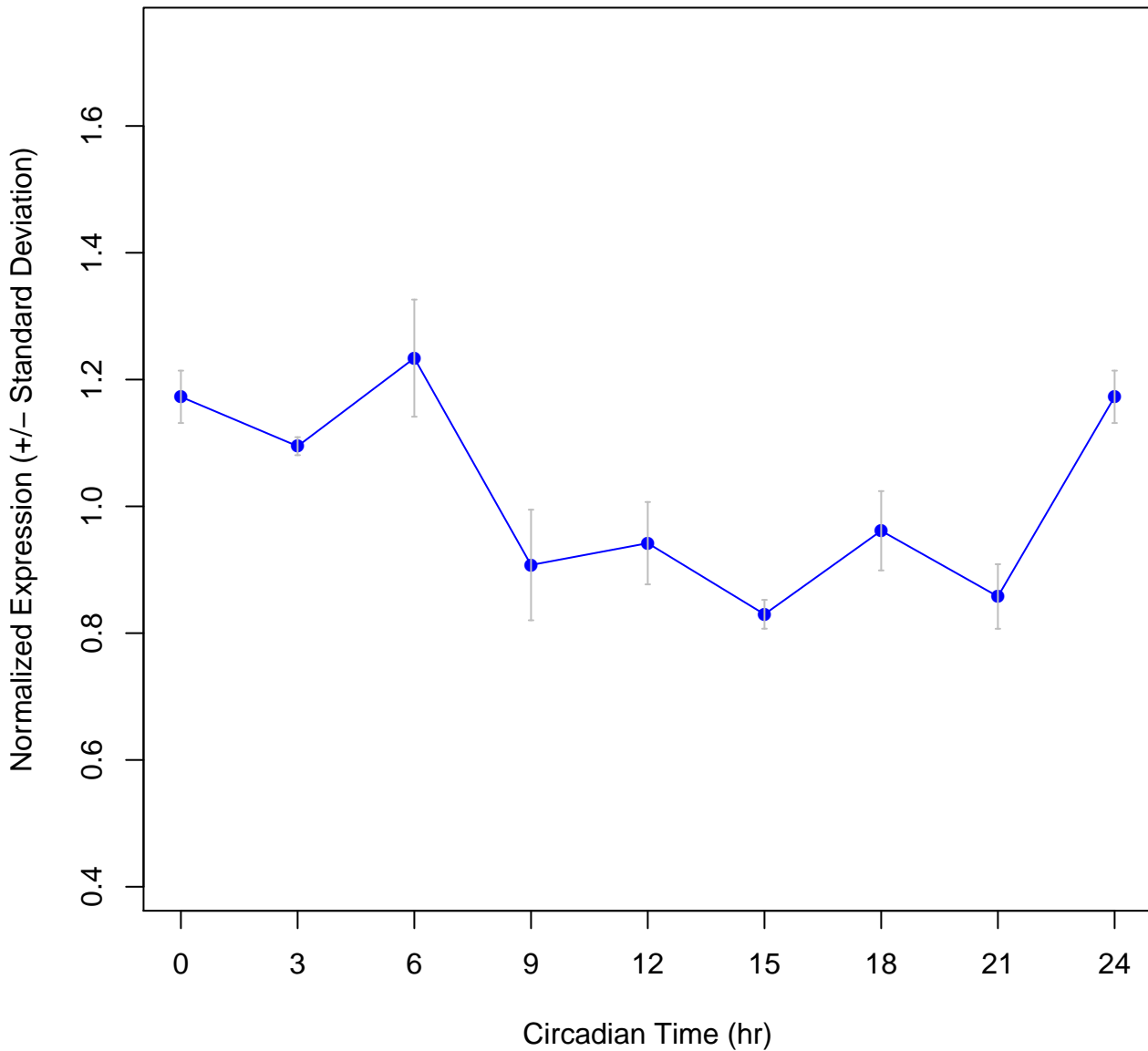
## Supplement Figure 4 chk1



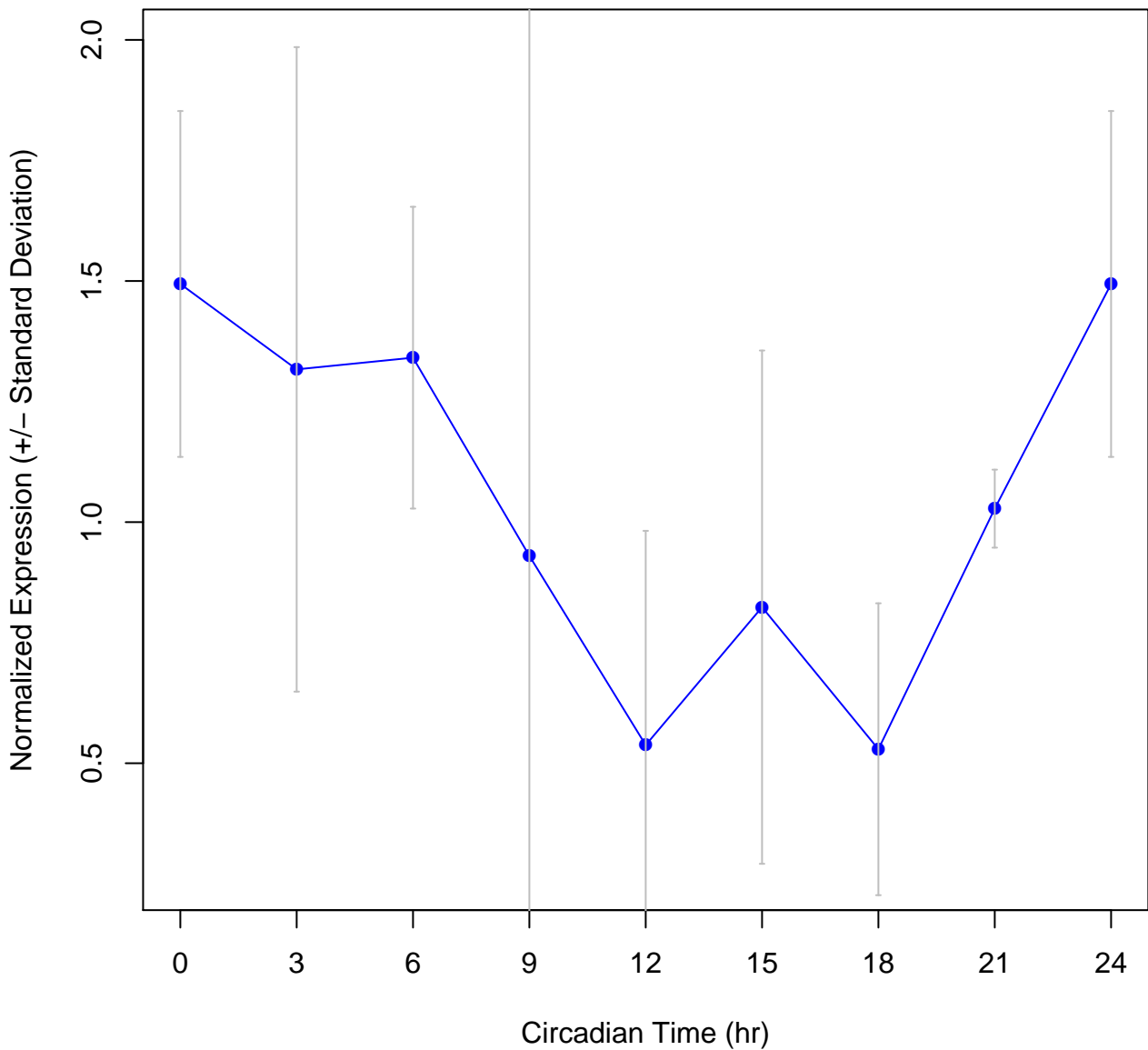
Supplement Figure 4 chrnb1



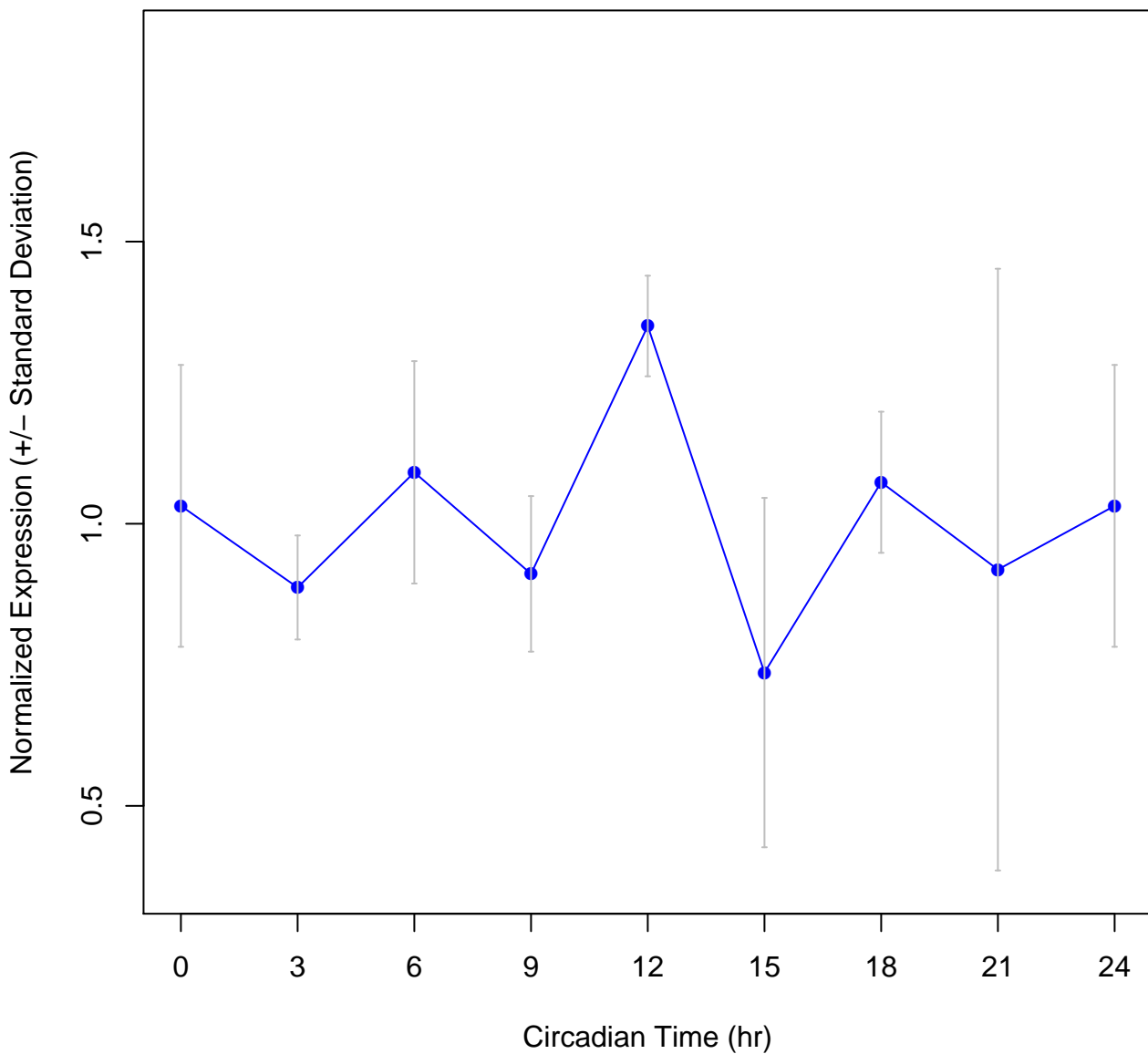
Supplement Figure 4 ck1e



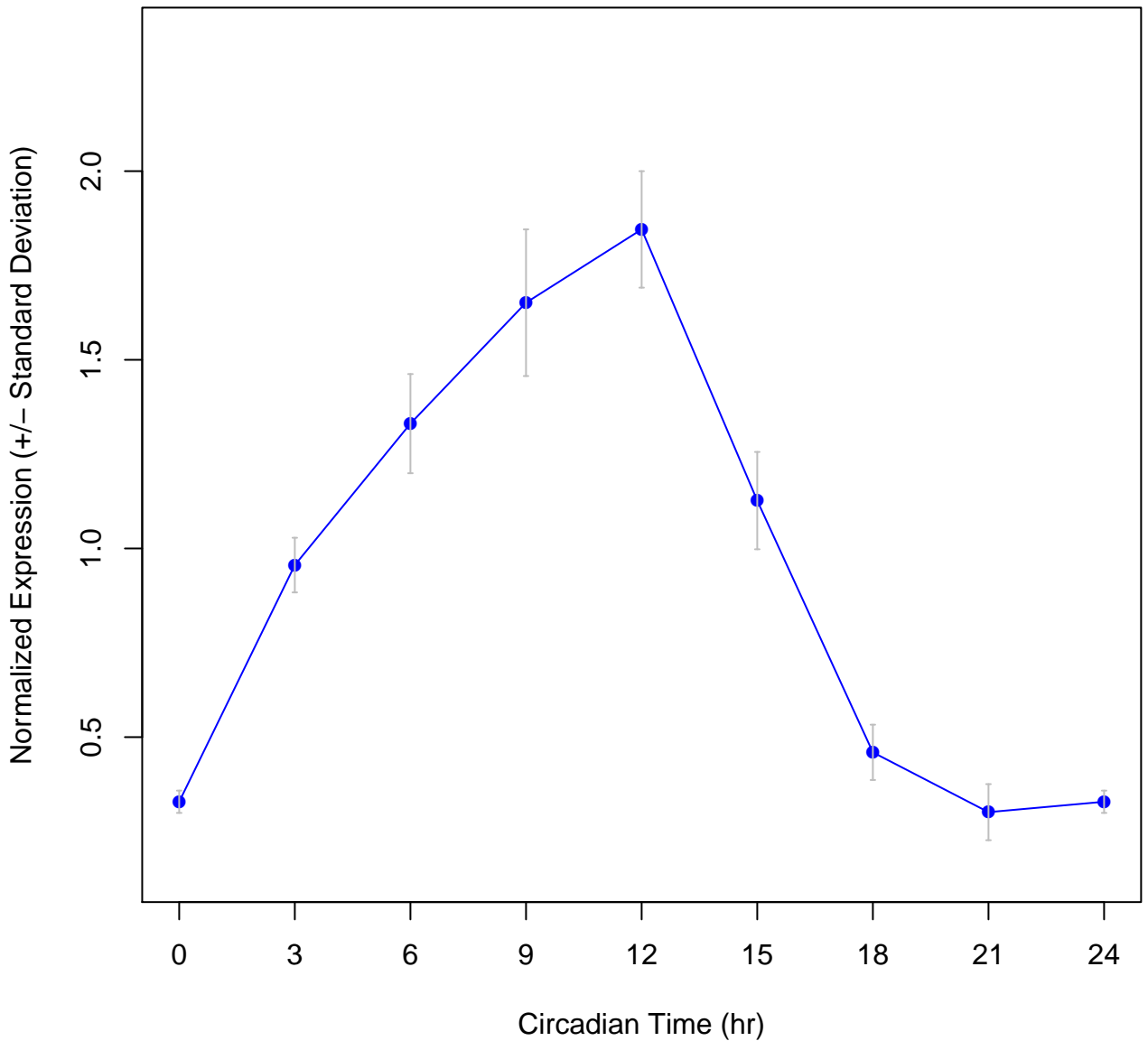
**Supplement Figure 4 ckm**



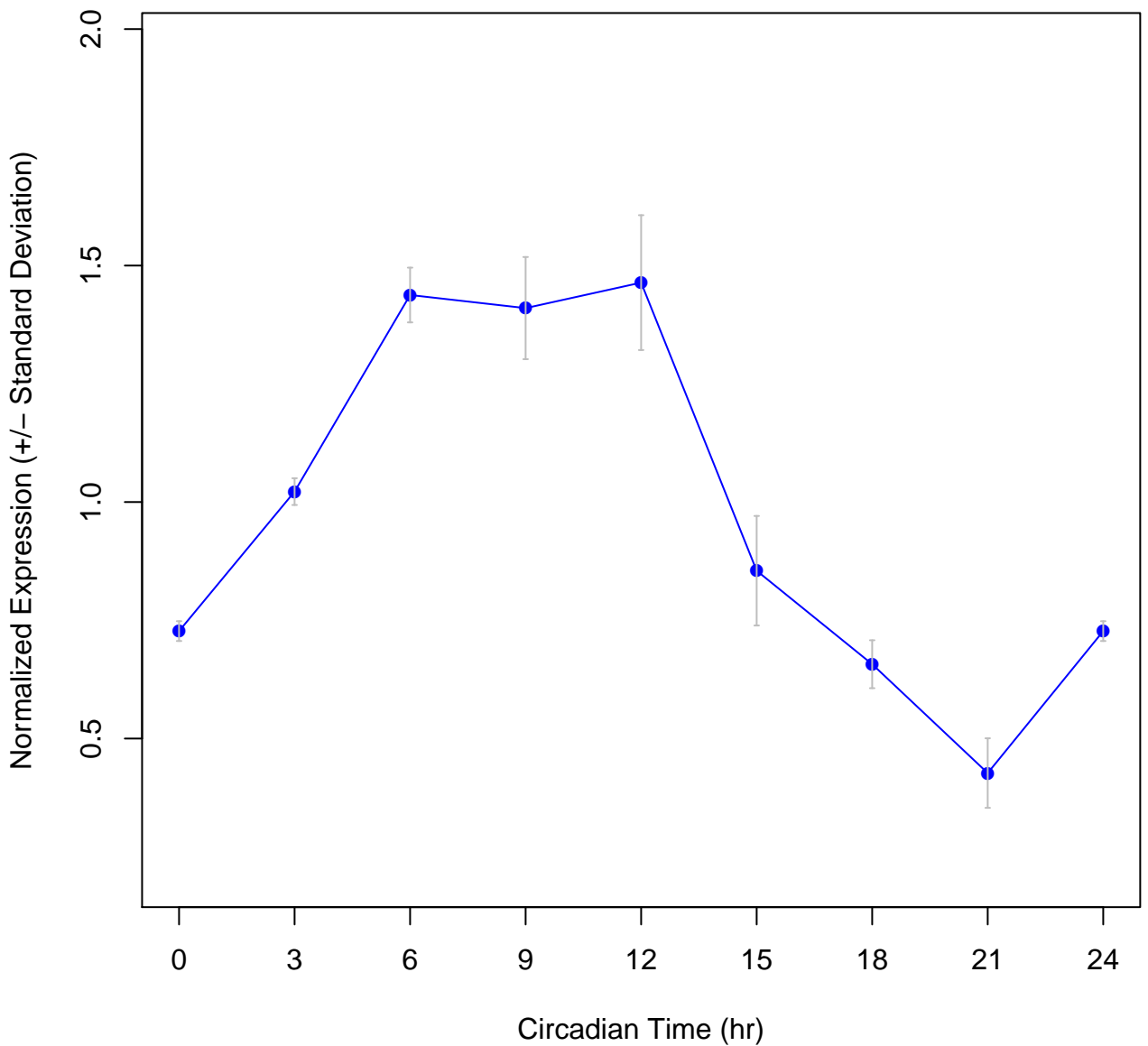
Supplement Figure 4 cks2



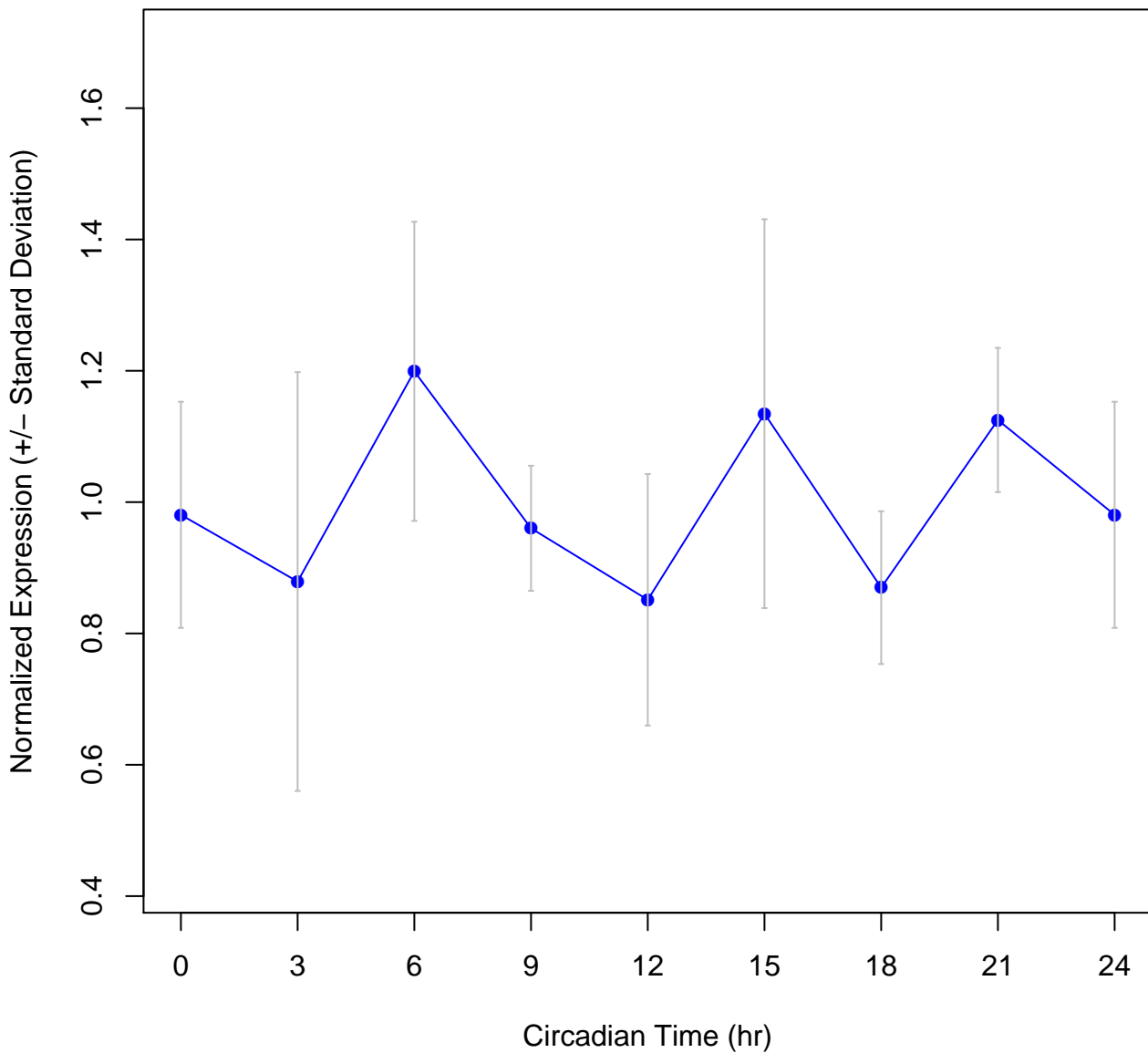
## Supplement Figure 4 clocka



**Supplement Figure 4 clockb**

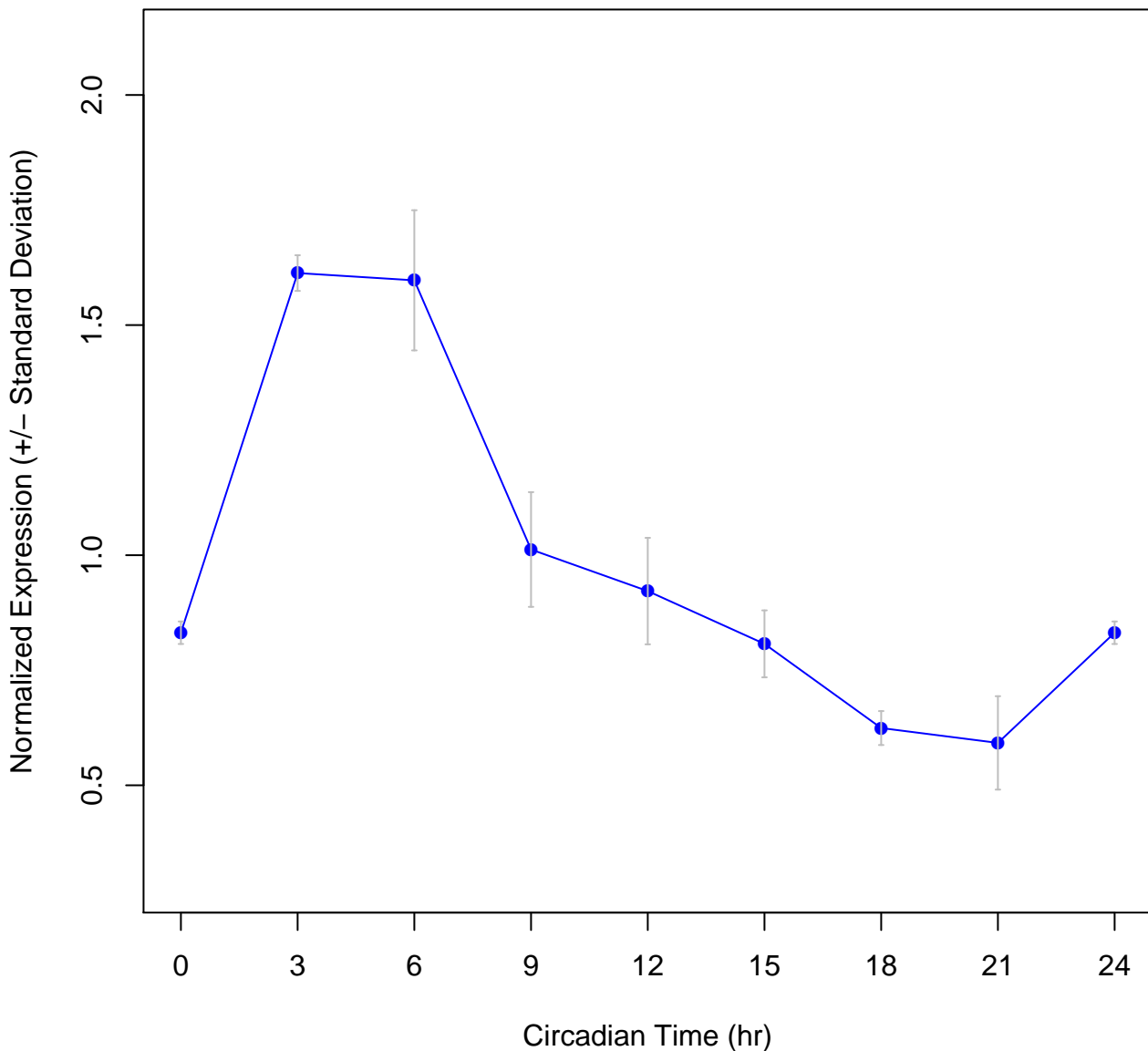


Supplement Figure 4 col9a1

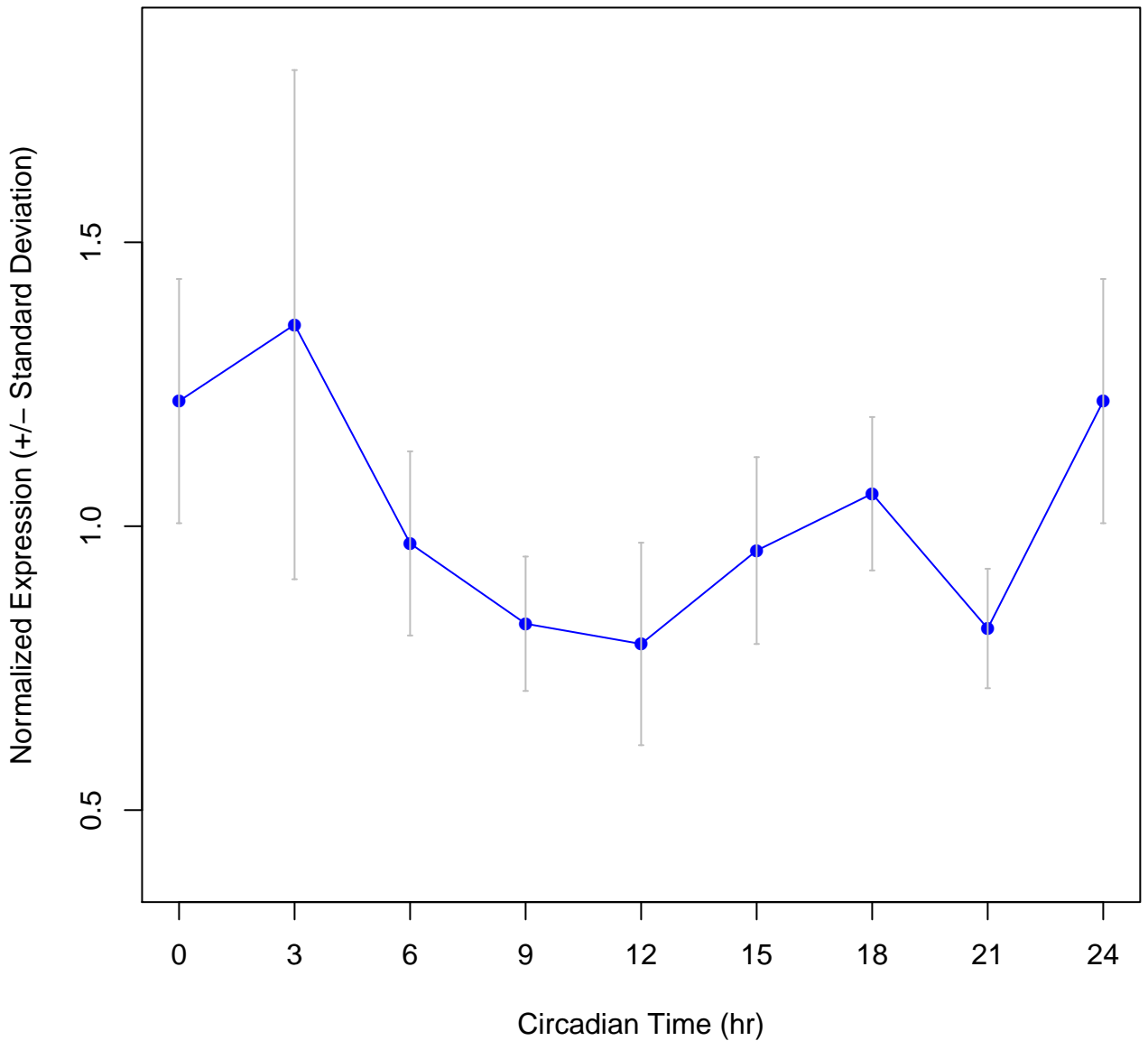




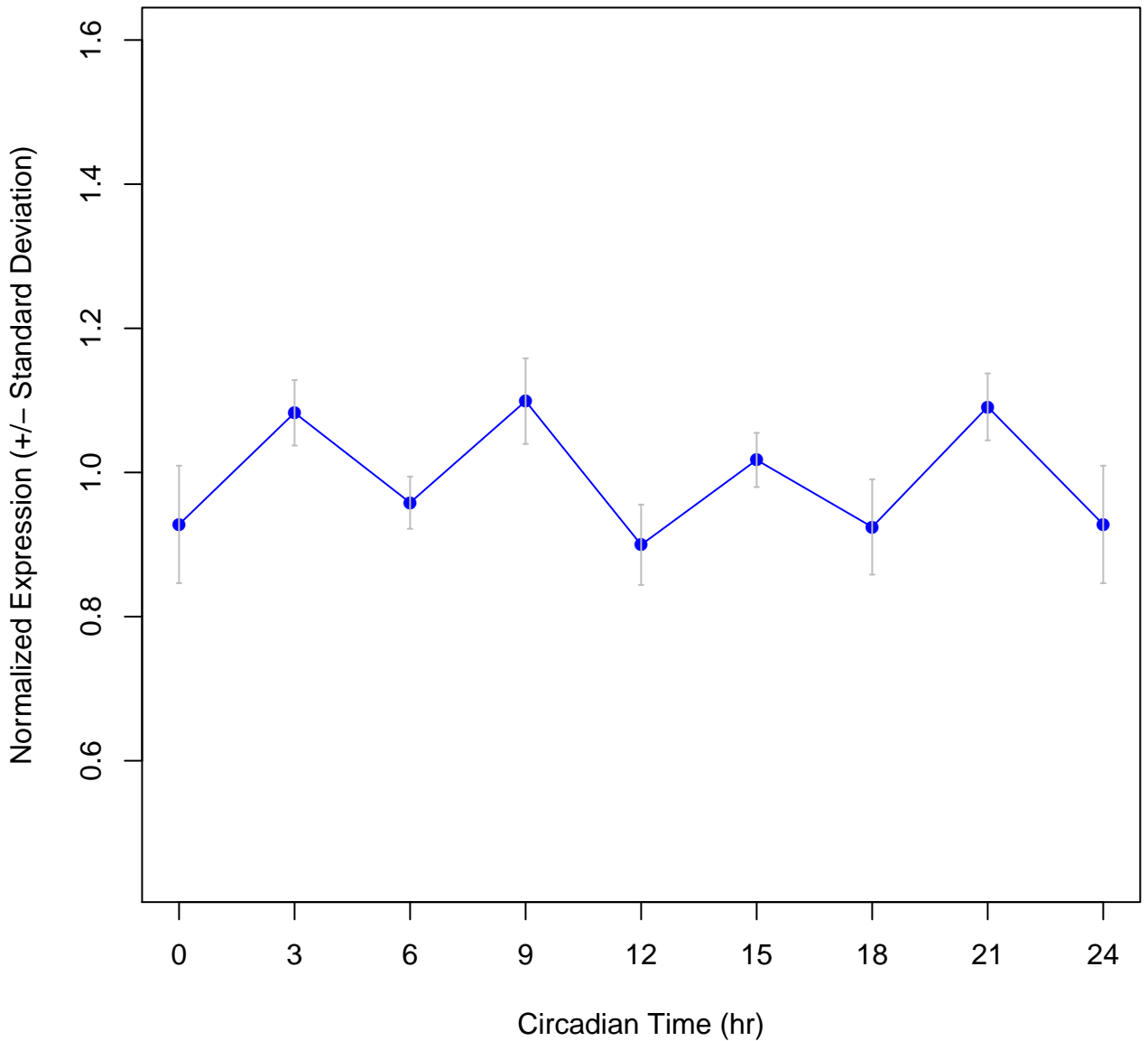
Supplement Figure 4 cpd photolyase



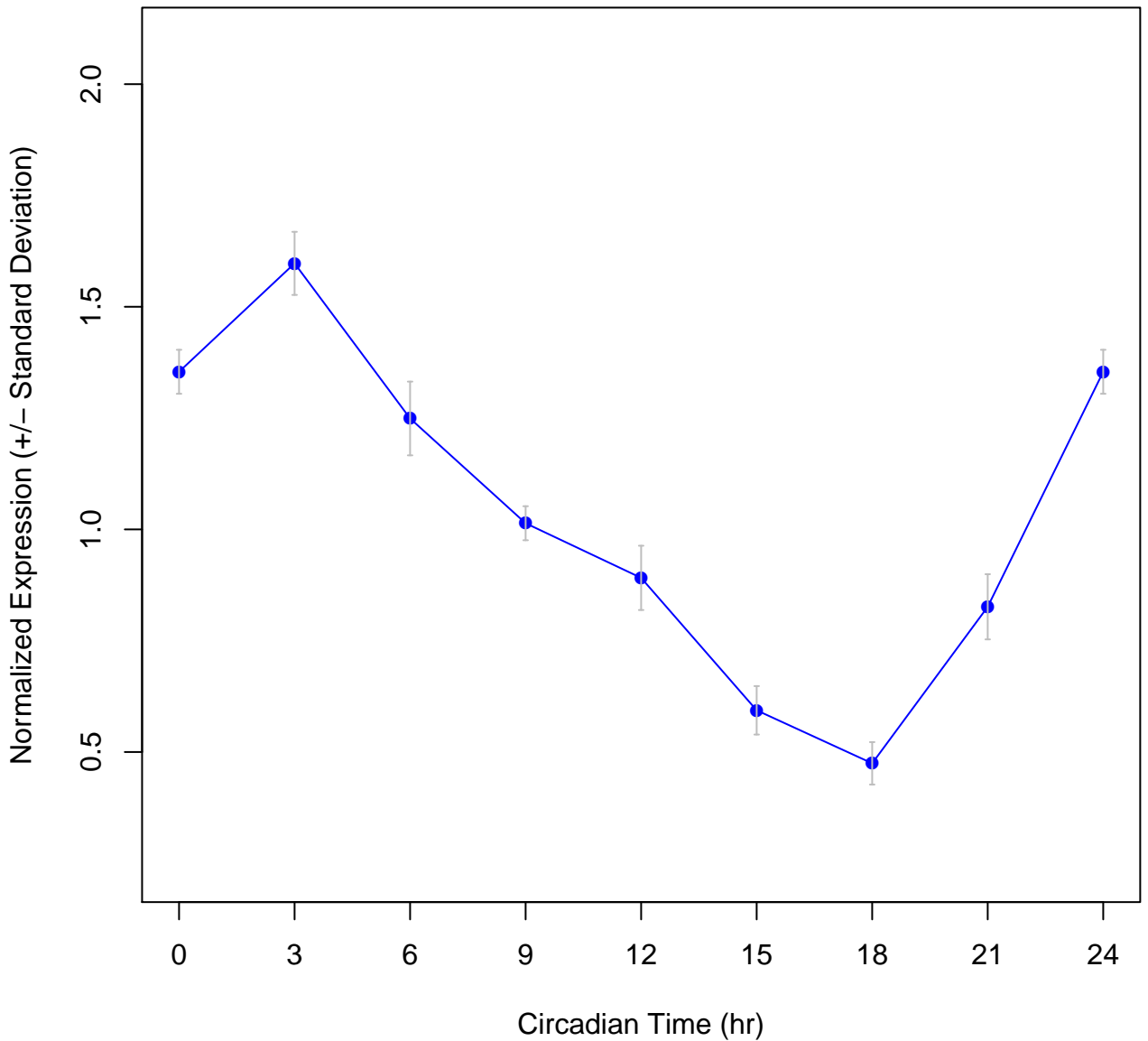
Supplement Figure 4 creb5



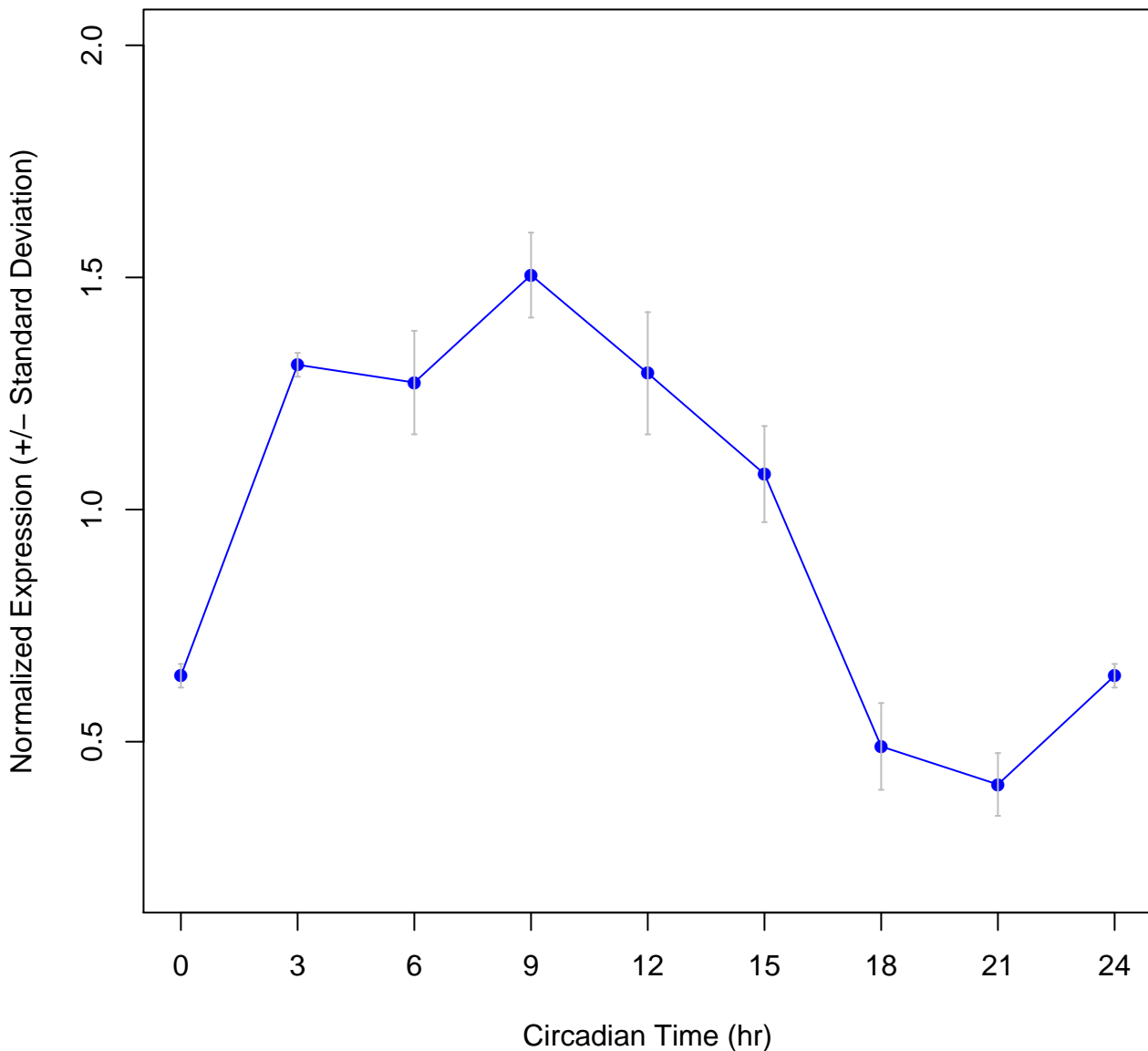
Supplement Figure 4 crtc2



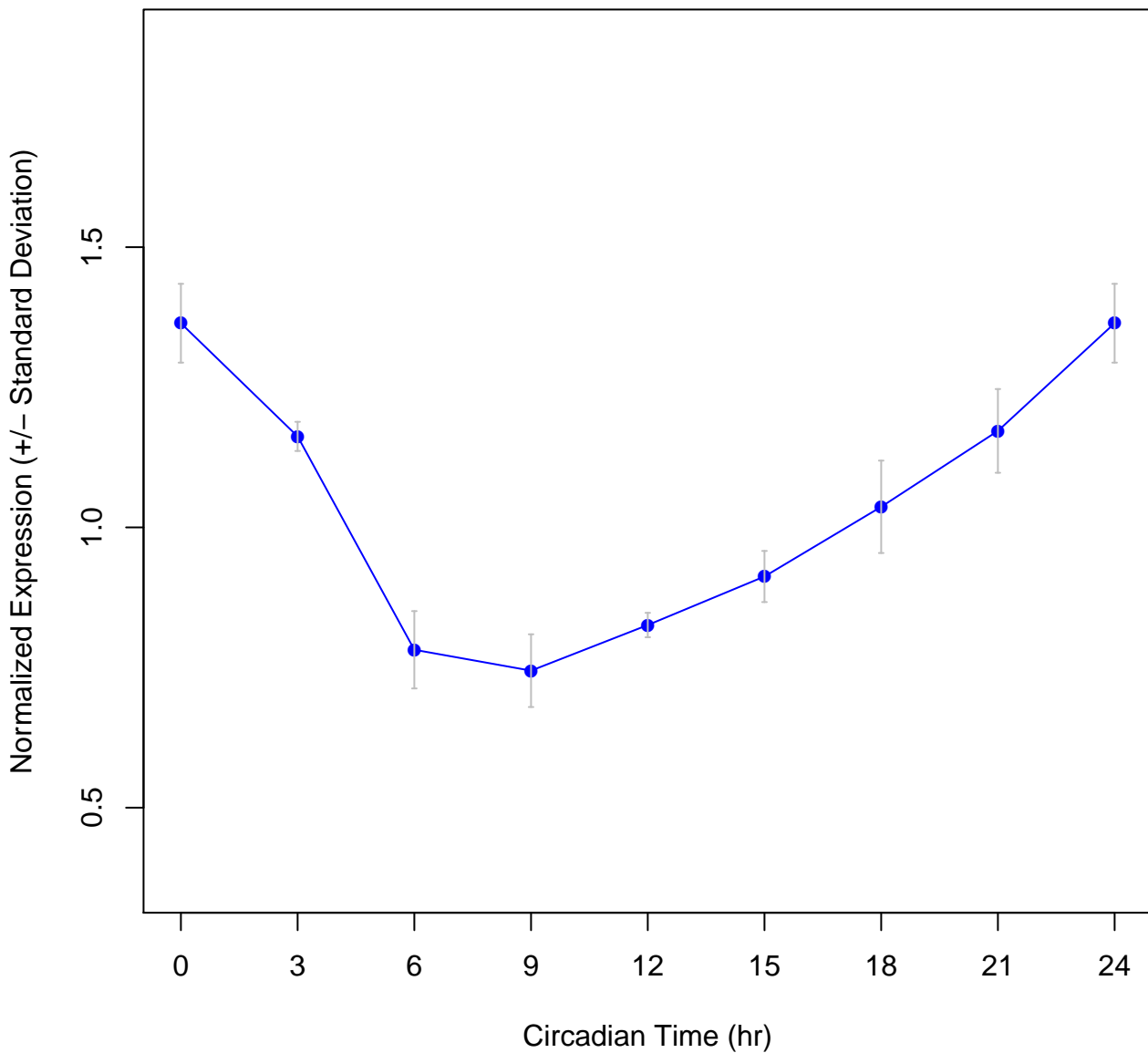
Supplement Figure 4 cry1



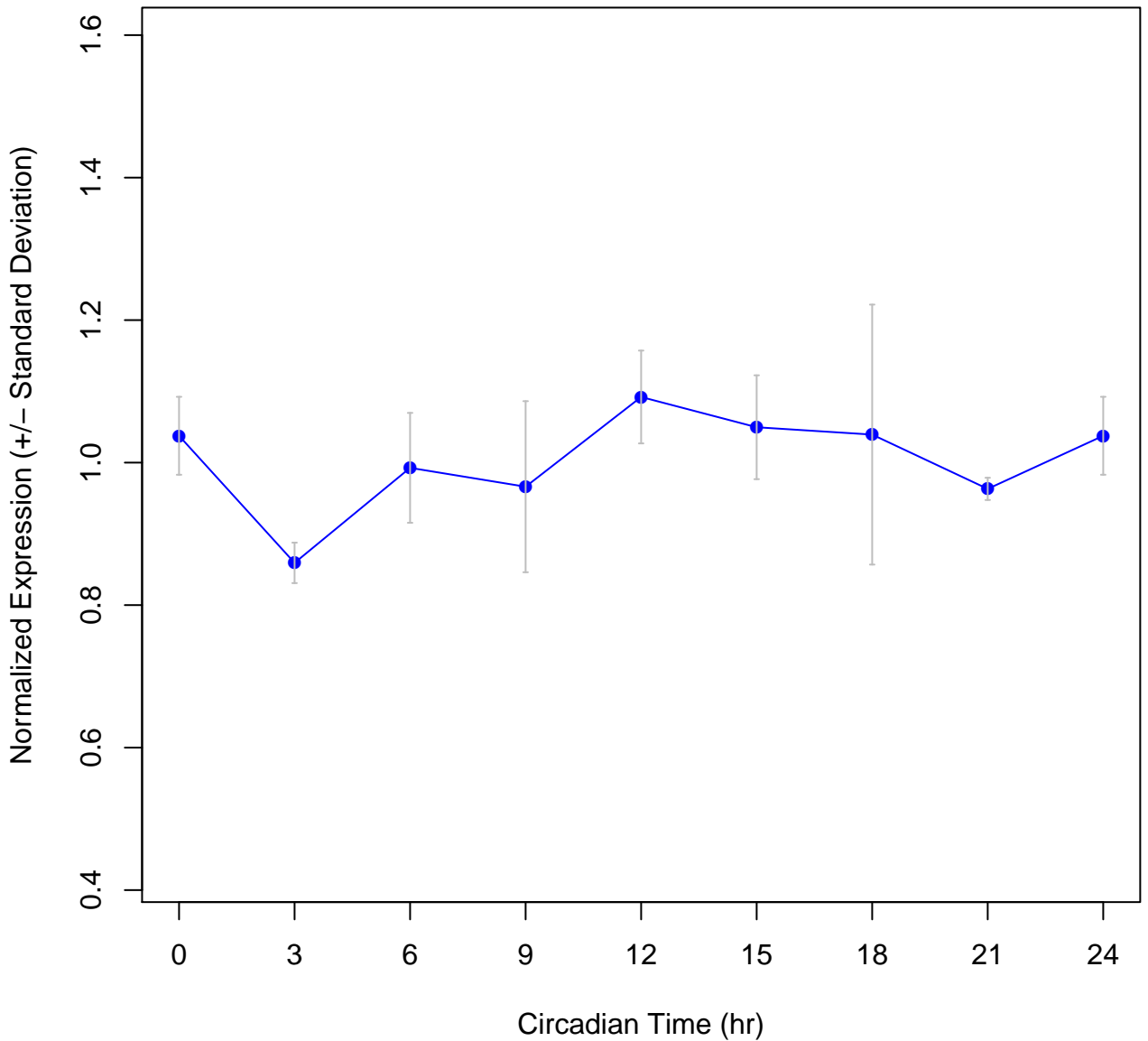
Supplement Figure 4 cry2



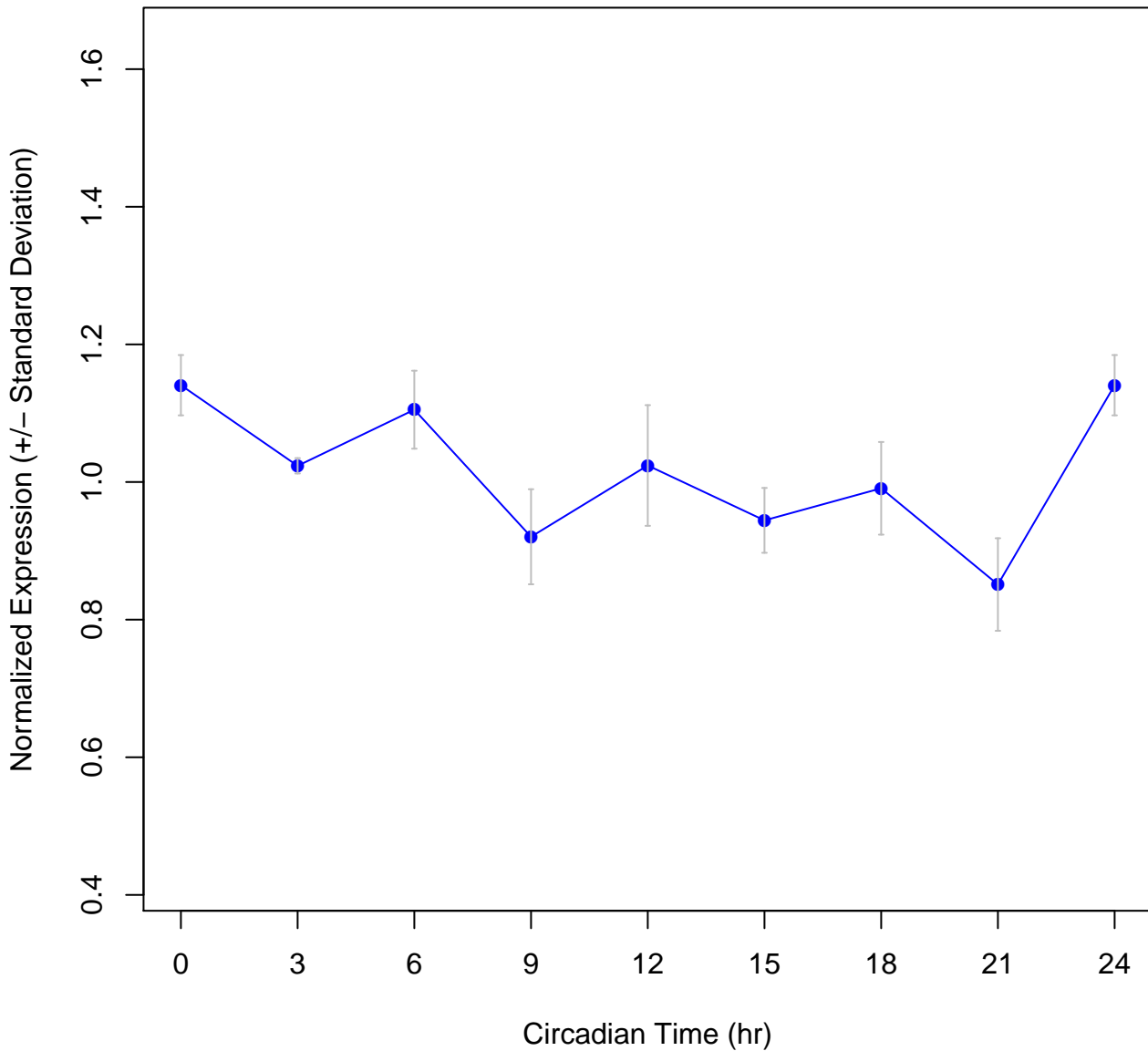
Supplement Figure 4 cry3



Supplement Figure 4 *ctbp2*

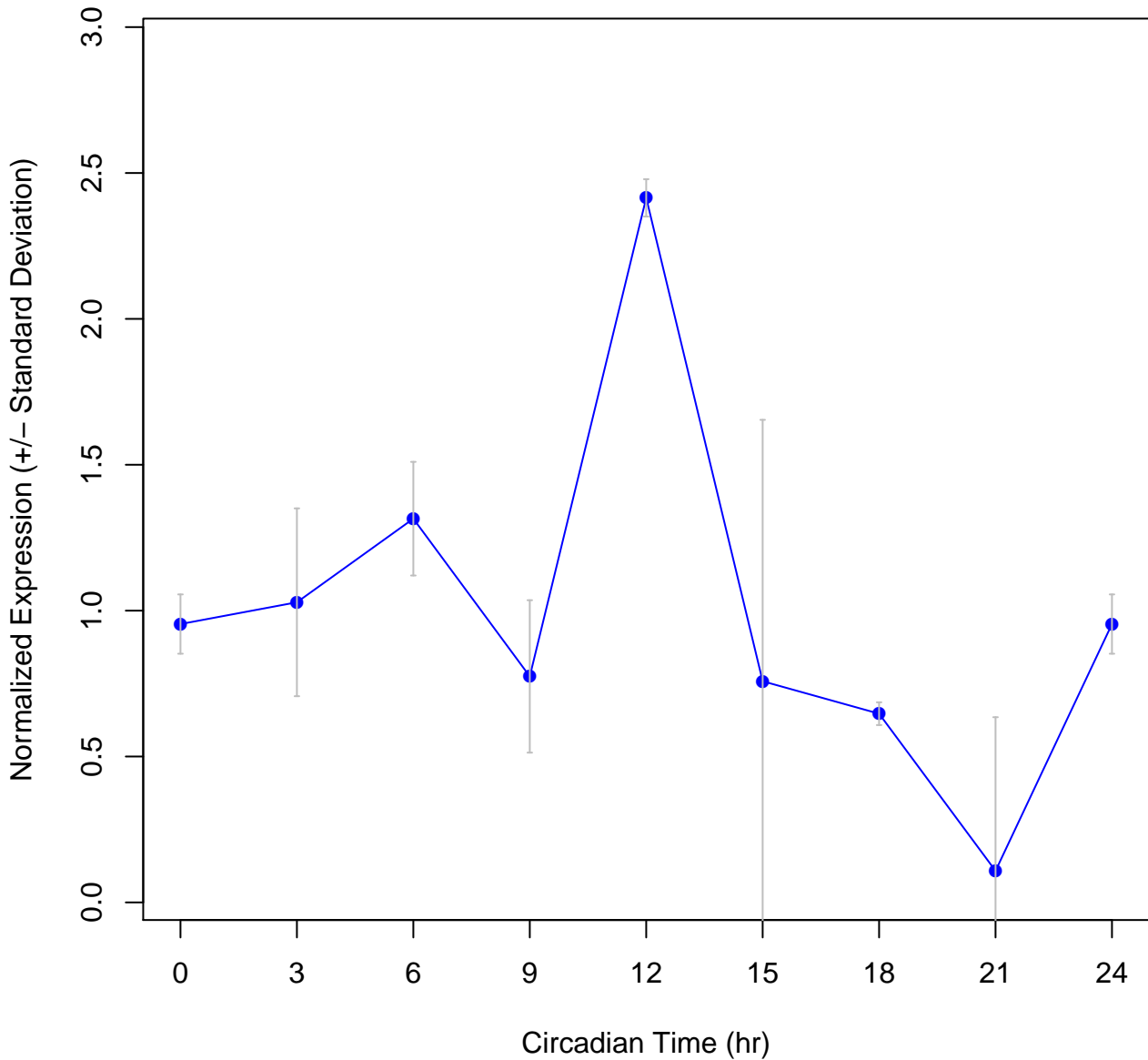


Supplement Figure 4 cul1

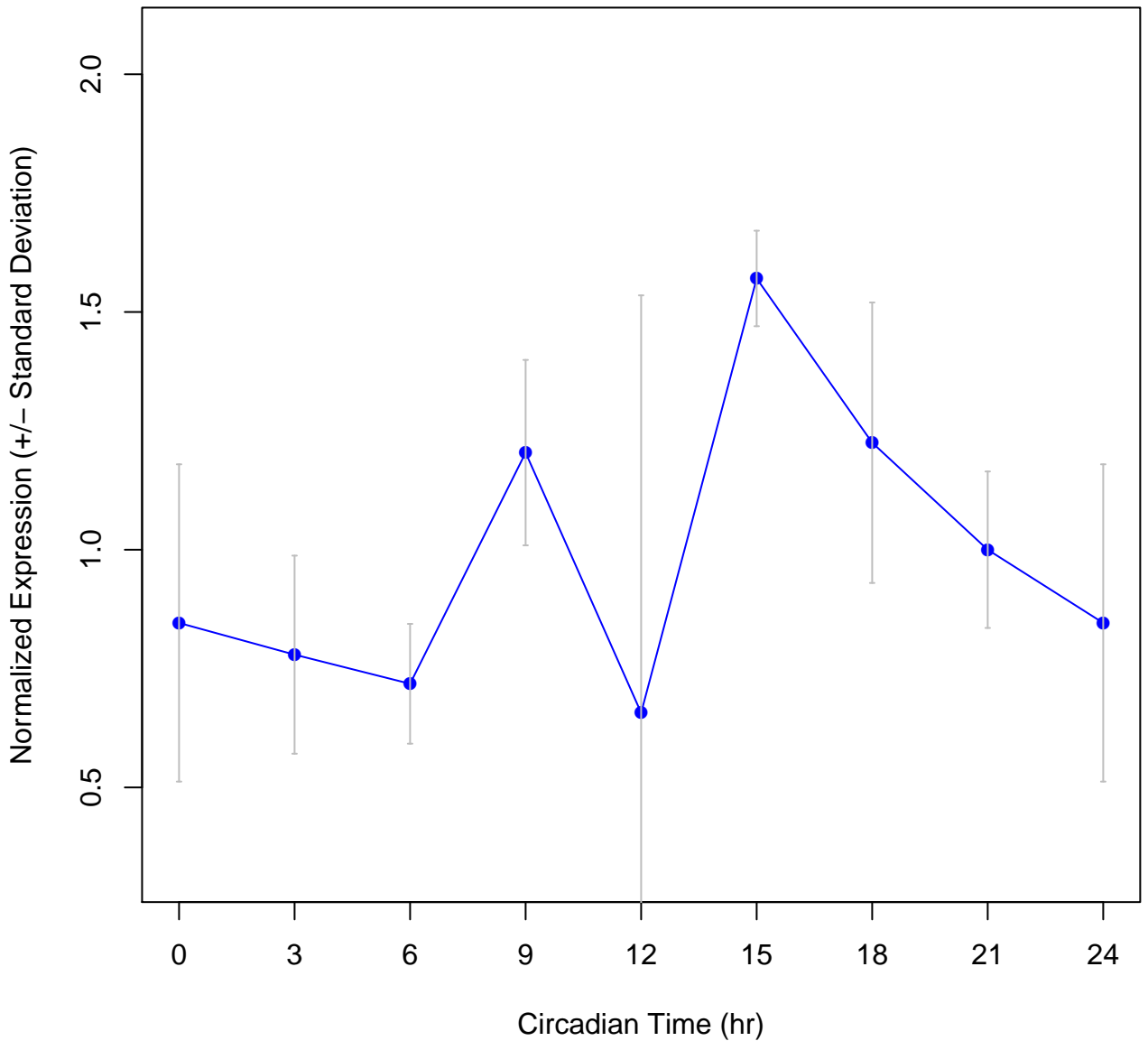




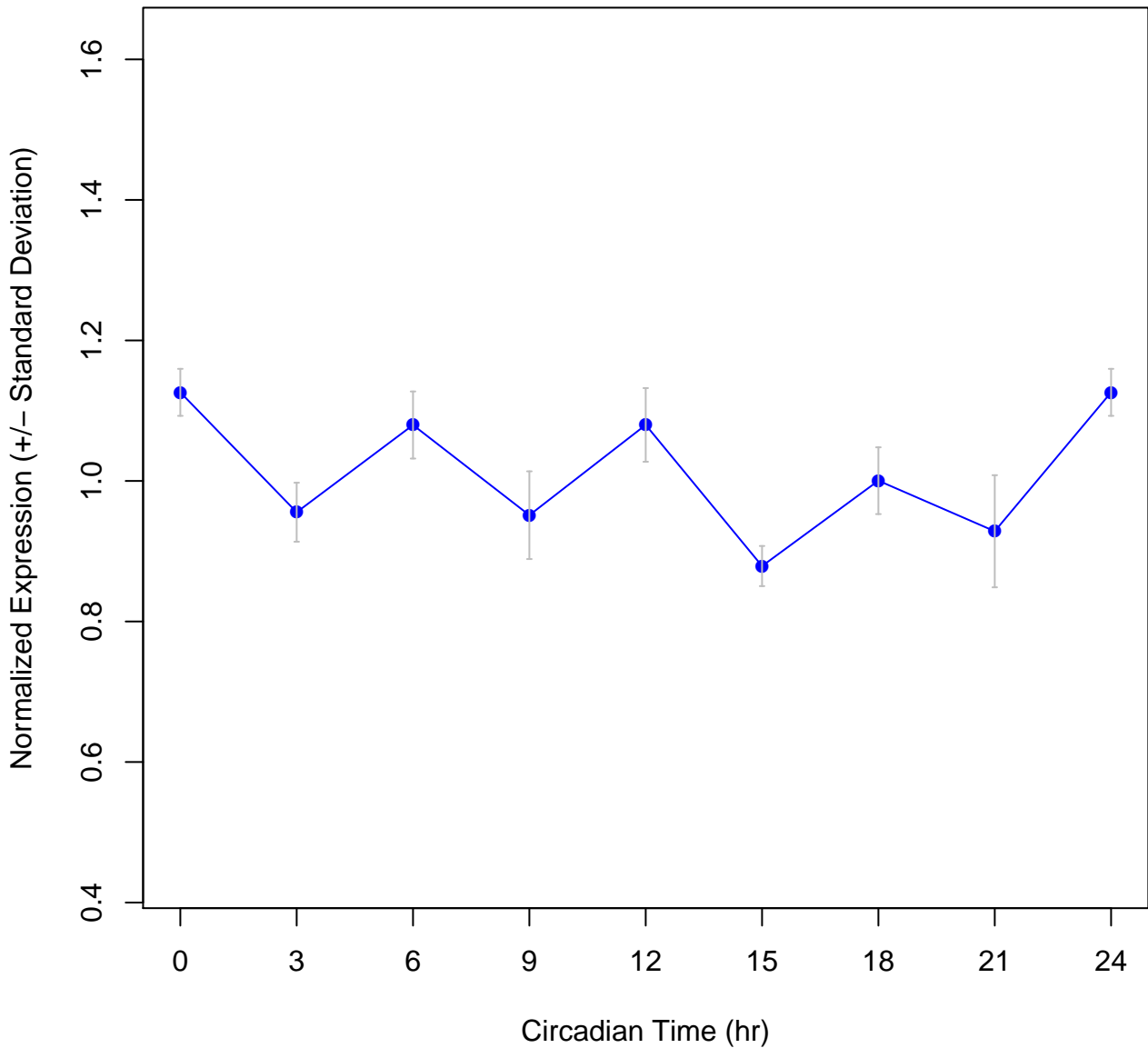
**Supplement Figure 4 cyp1**



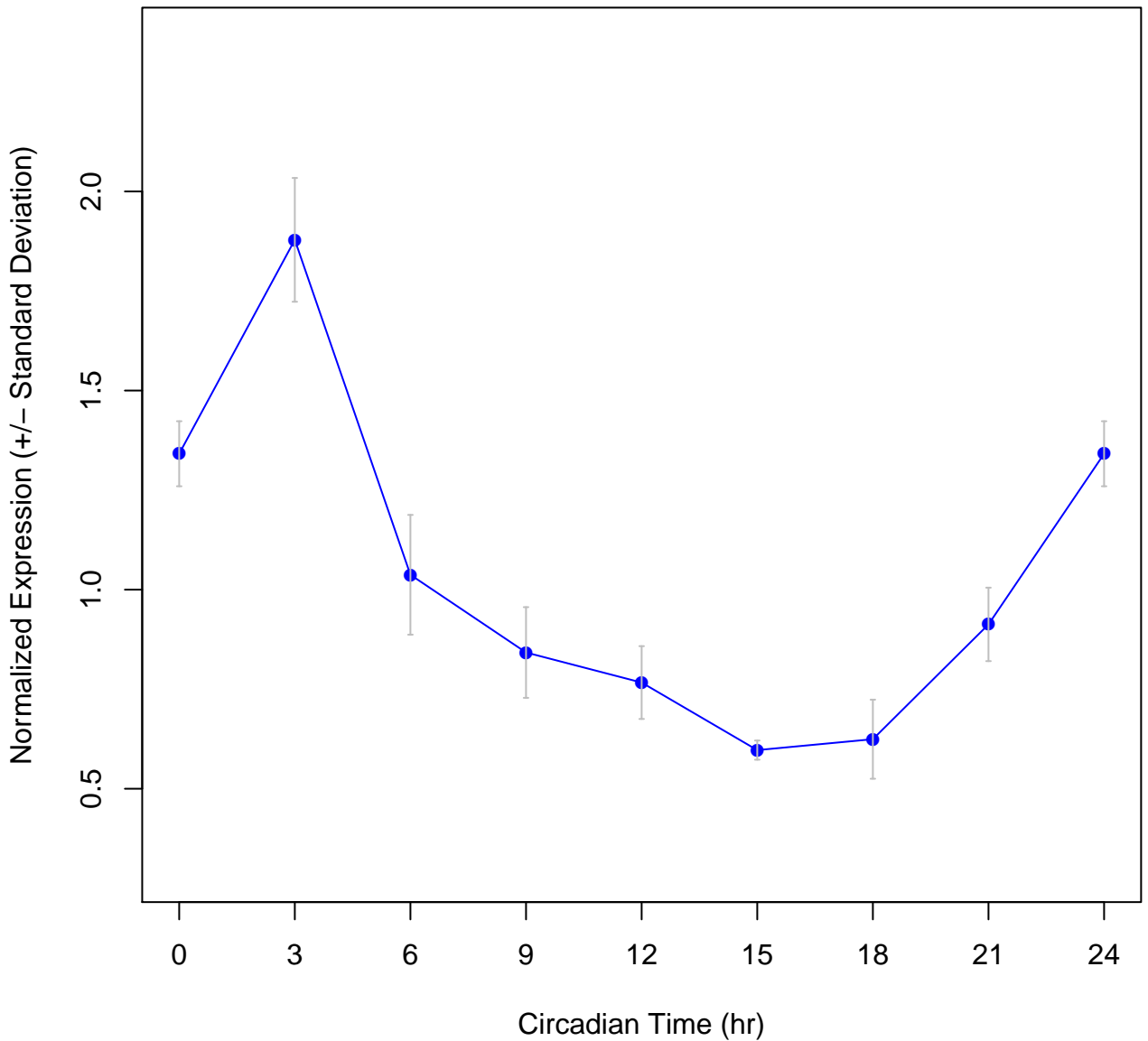
Supplement Figure 4 dct



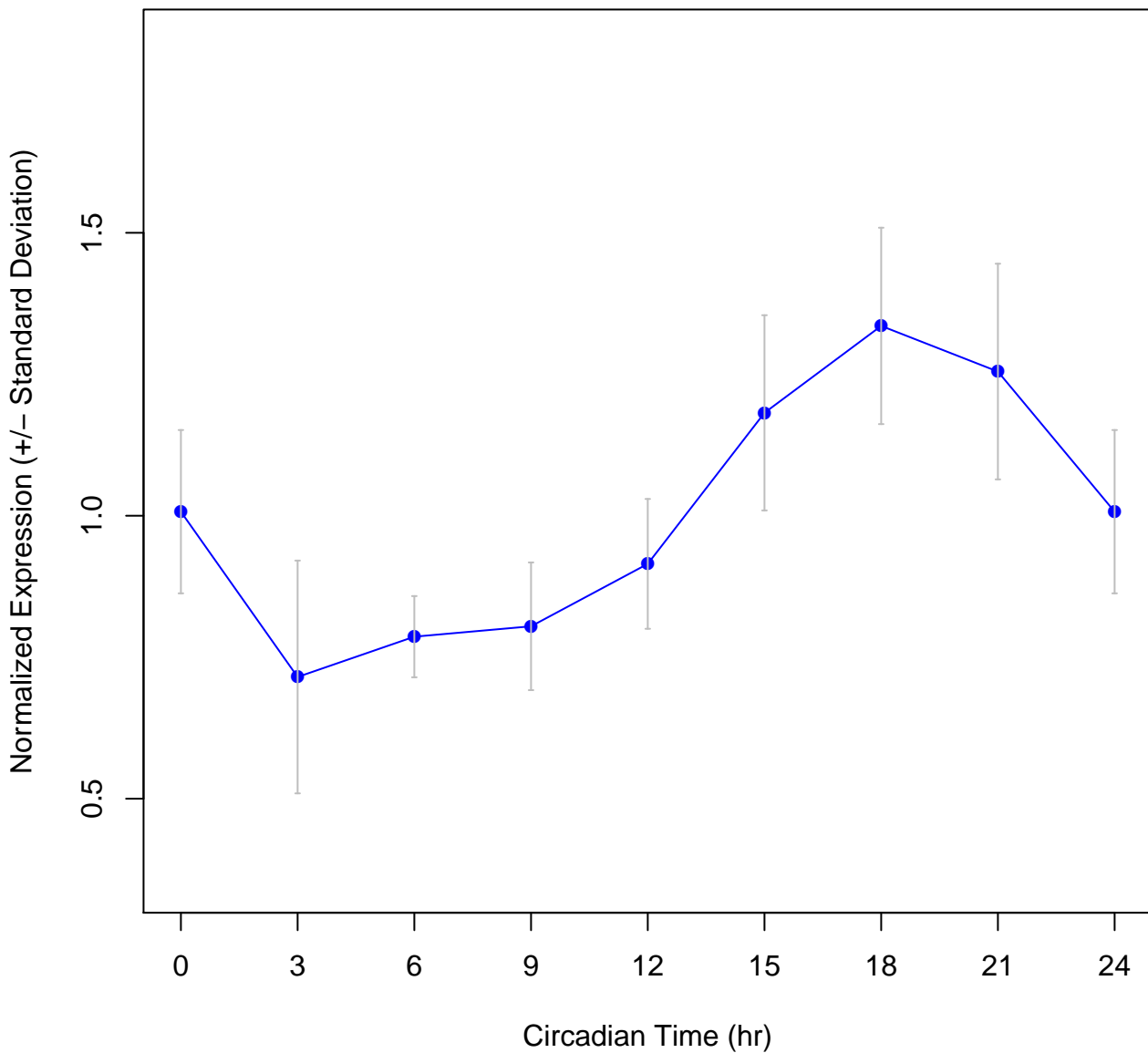
# Supplement Figure 4 ddb1



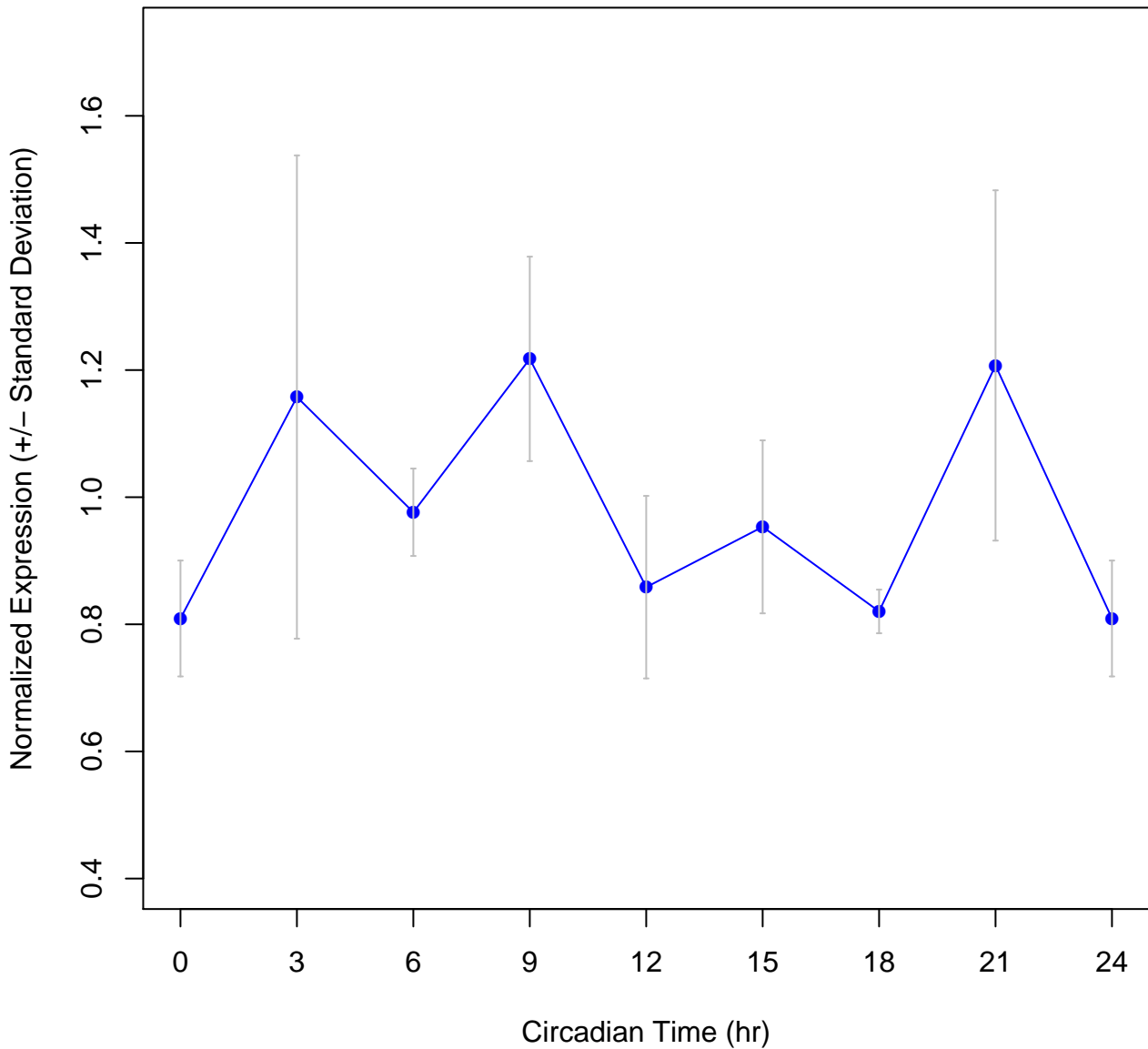
Supplement Figure 4 ddb2



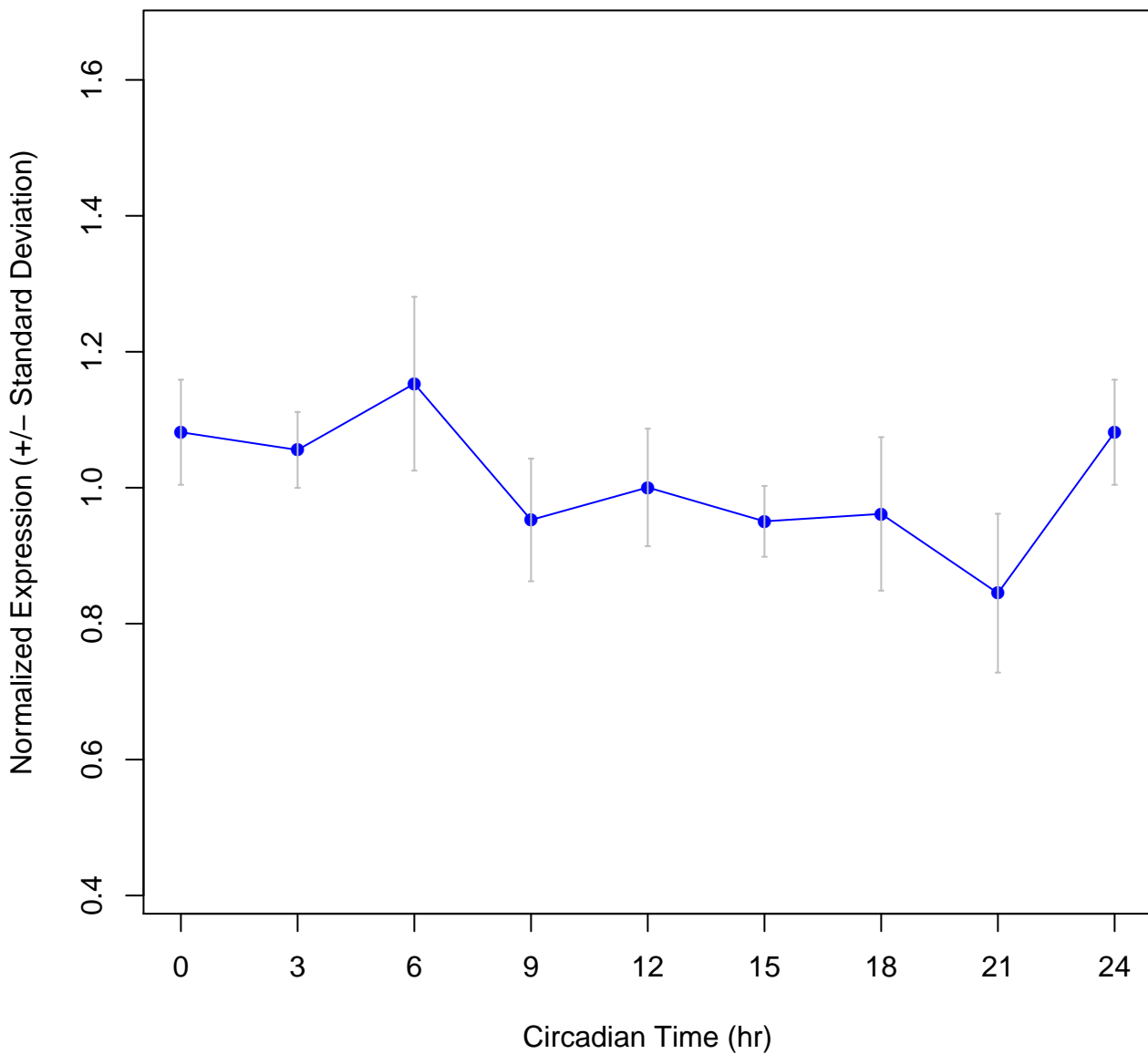
Supplement Figure 4 dio3



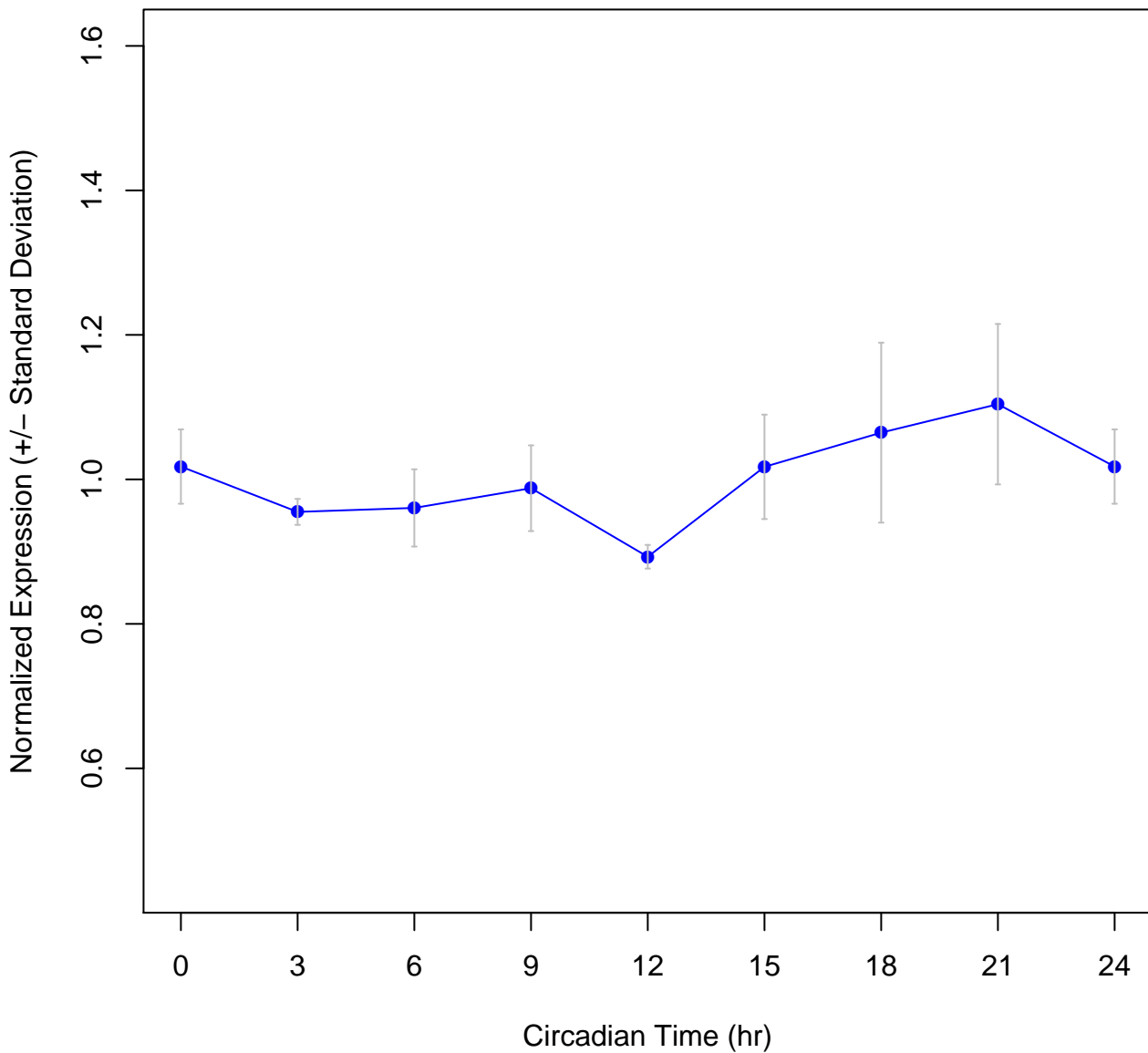
Supplement Figure 4 dnah7



Supplement Figure 4 dnajb4

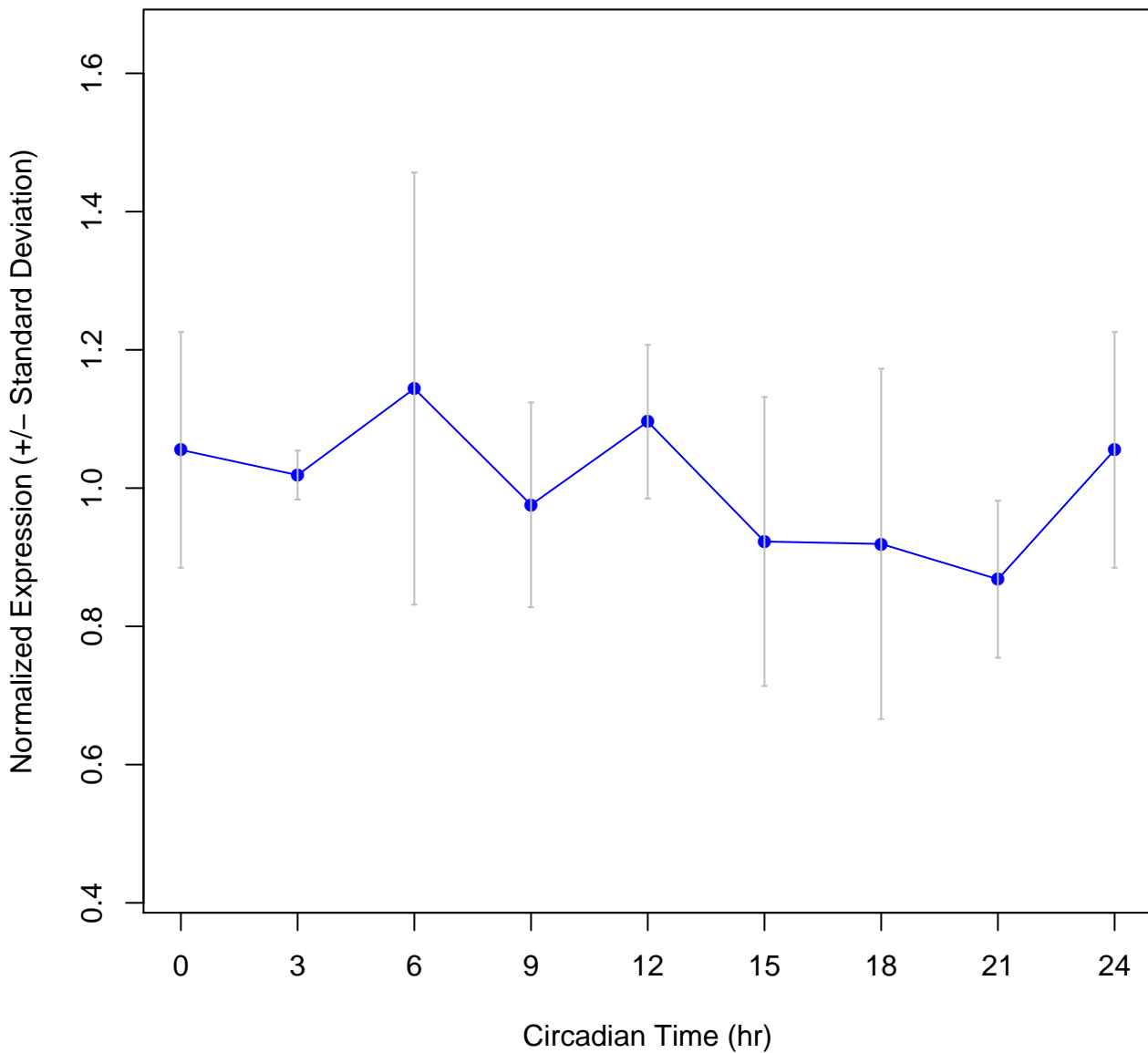


Supplement Figure 4 dscaml1

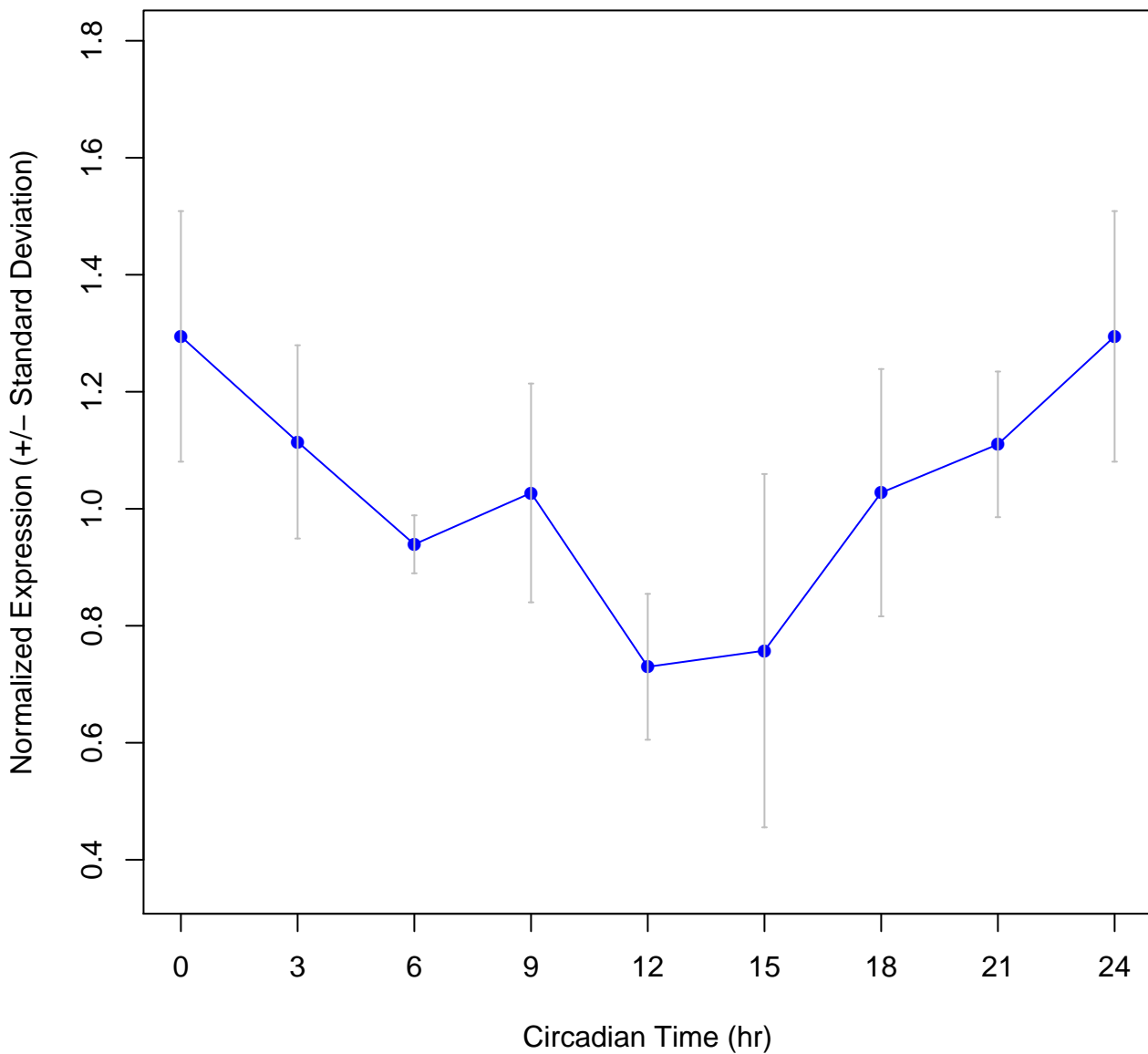




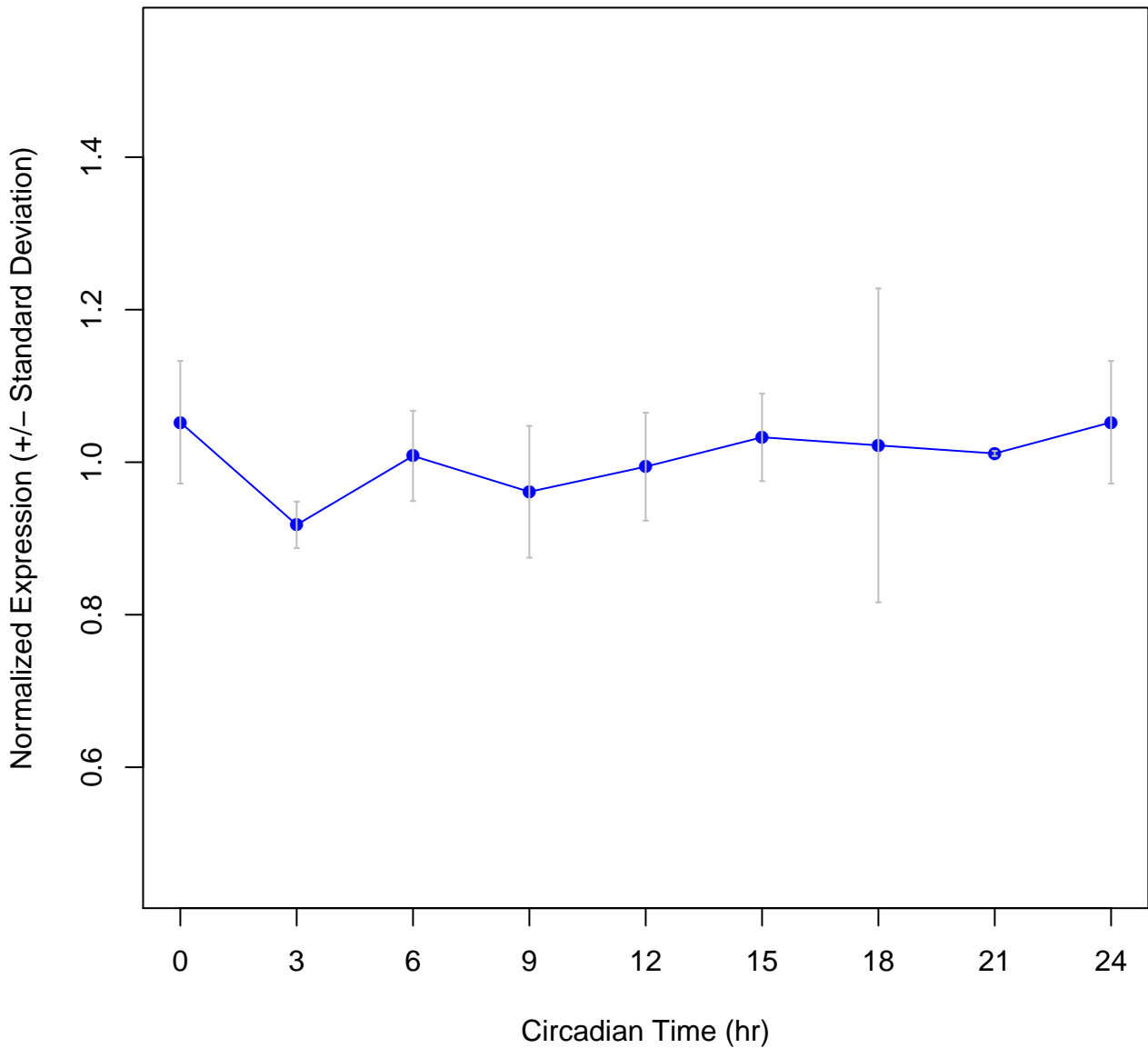
Supplement Figure 4 e2f



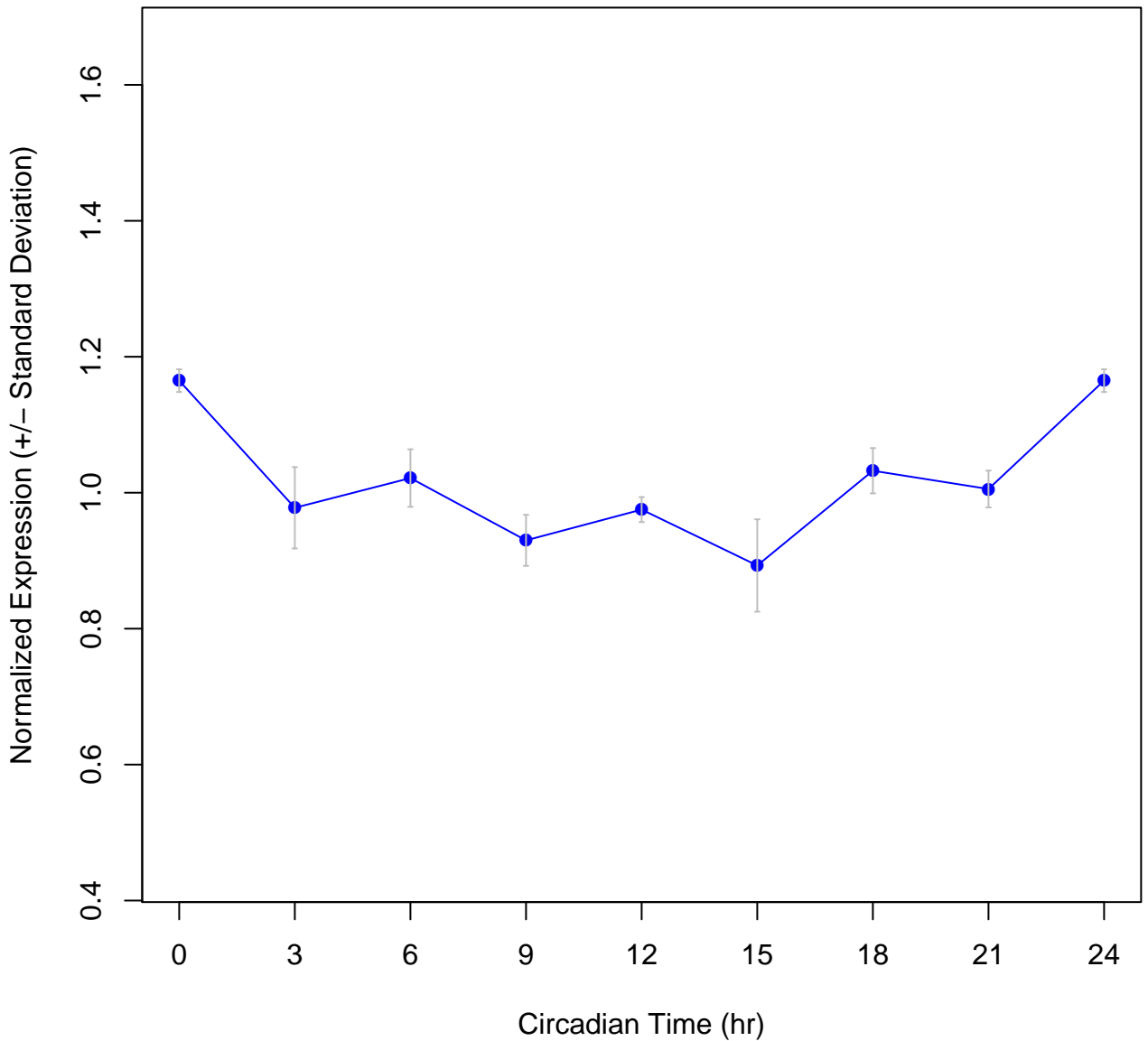
Supplement Figure 4 ect2



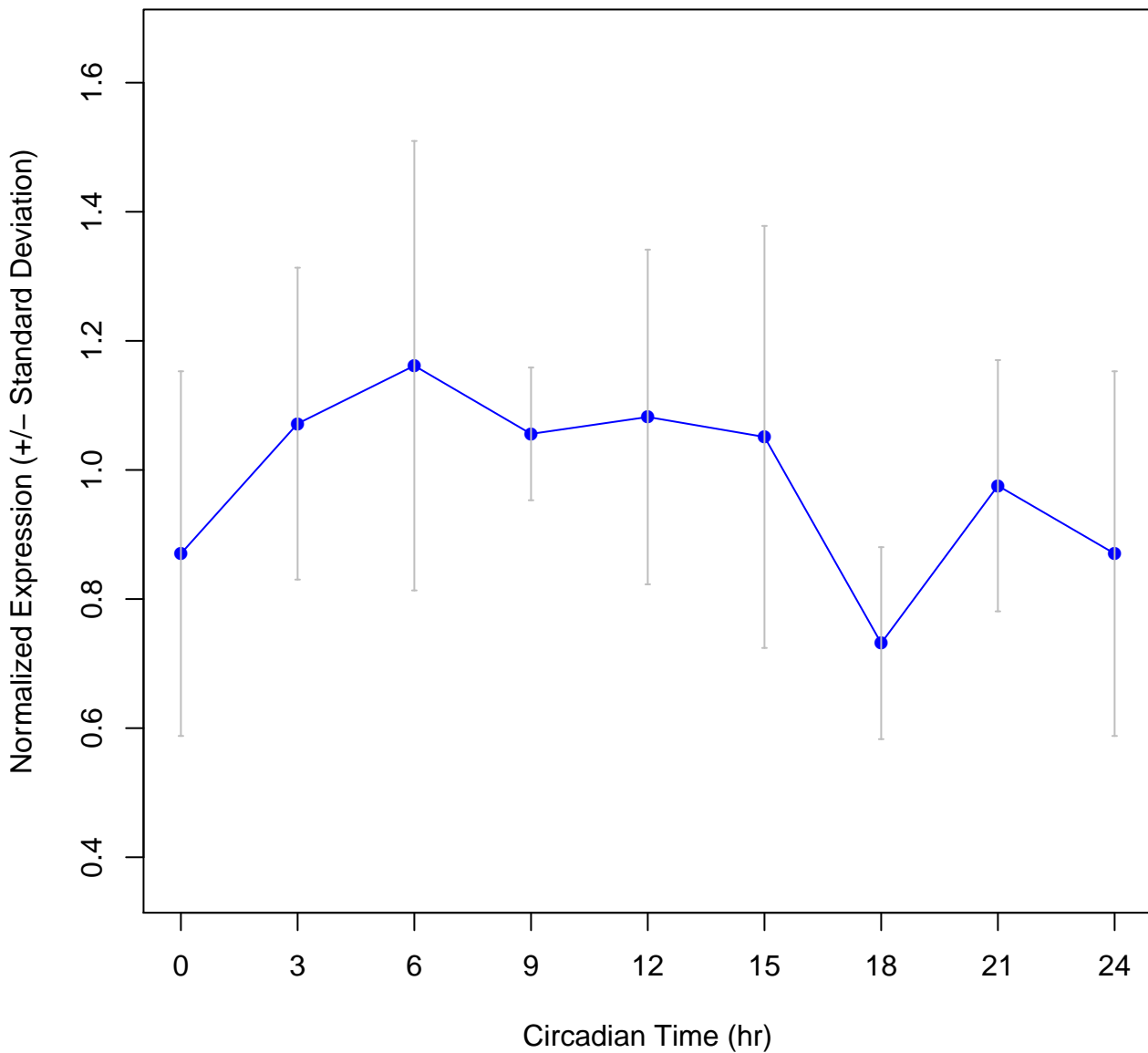
Supplement Figure 4 enox1



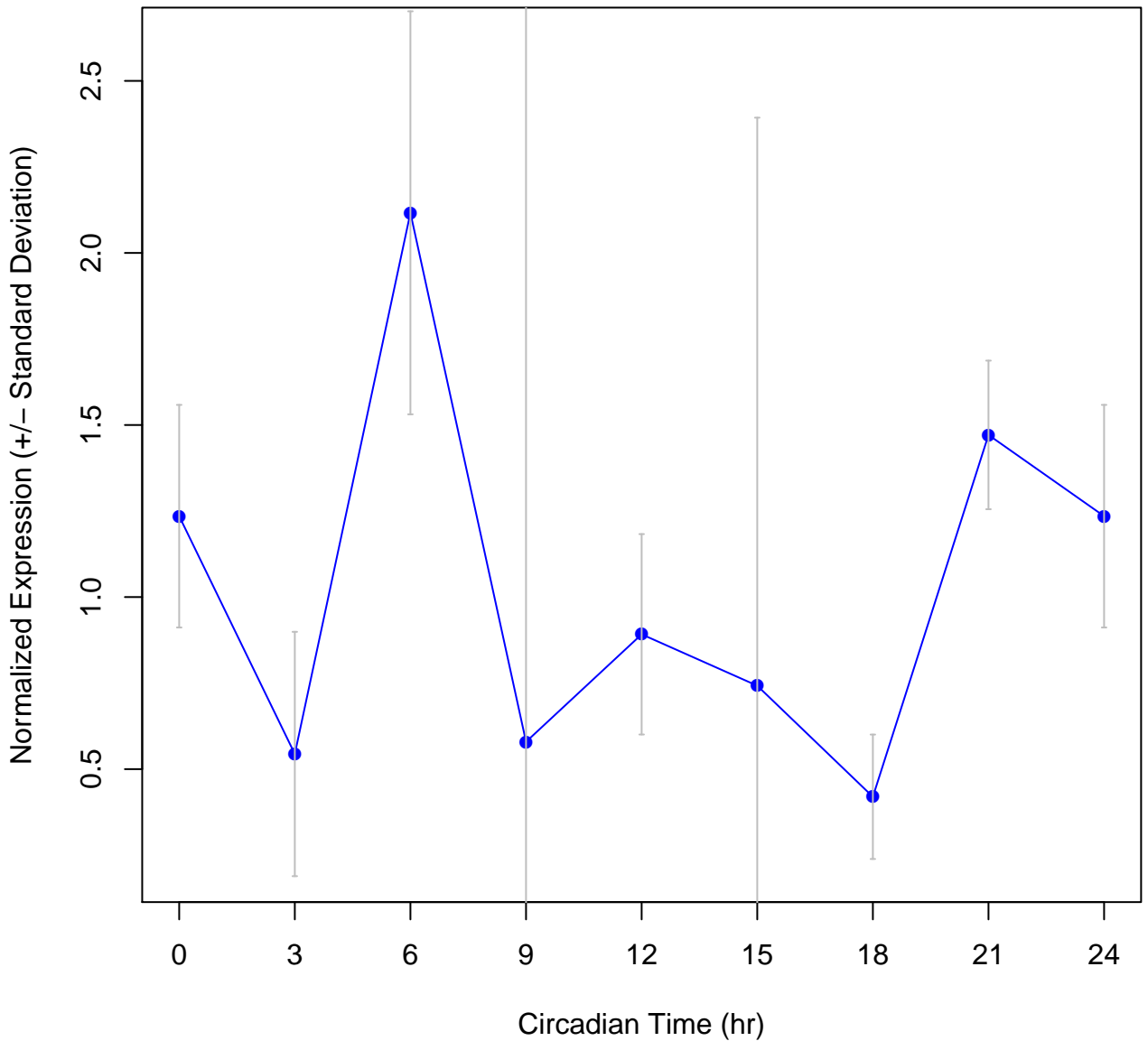
Supplement Figure 4 enox2



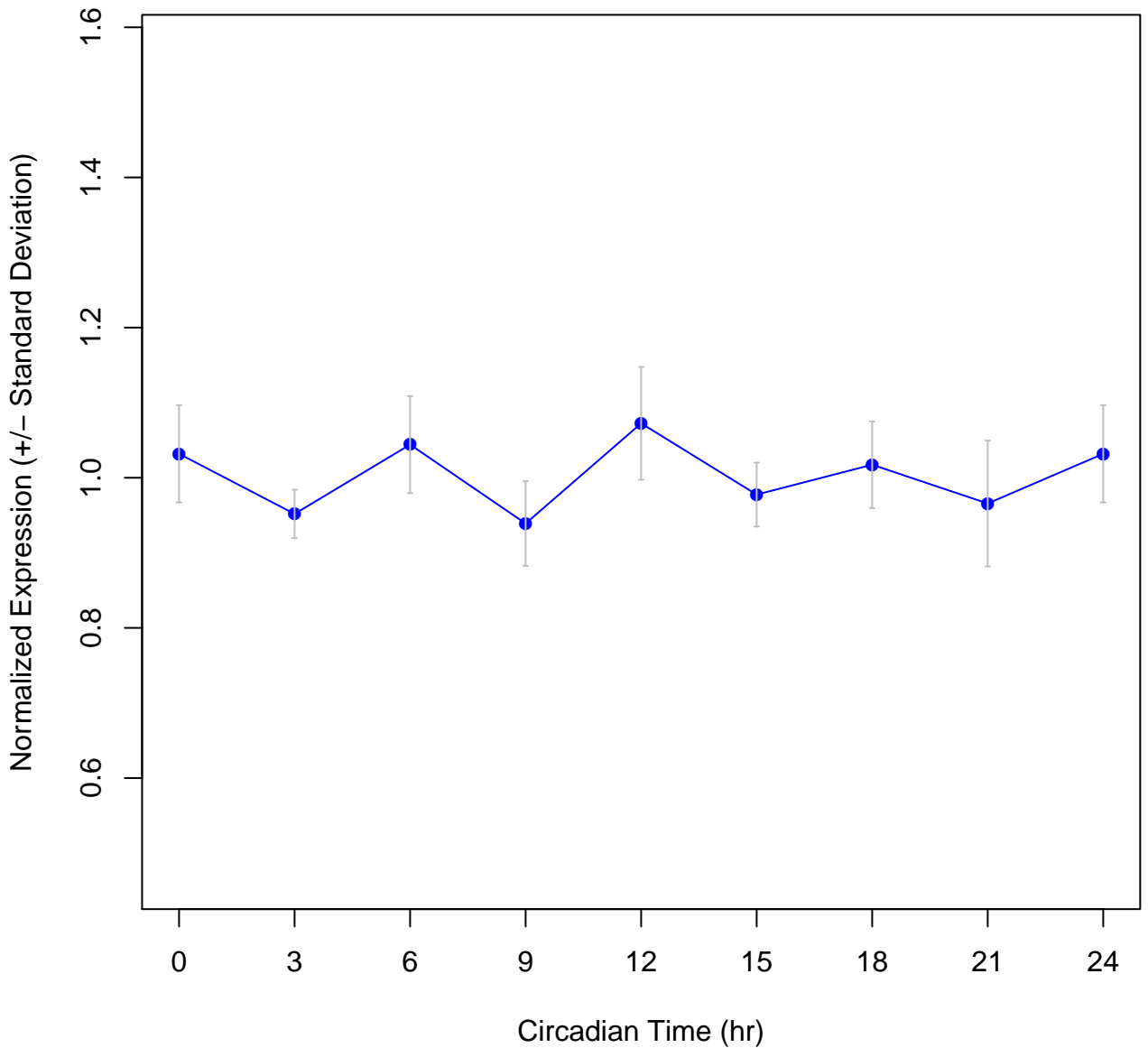
Supplement Figure 4 ensxmag00000013922



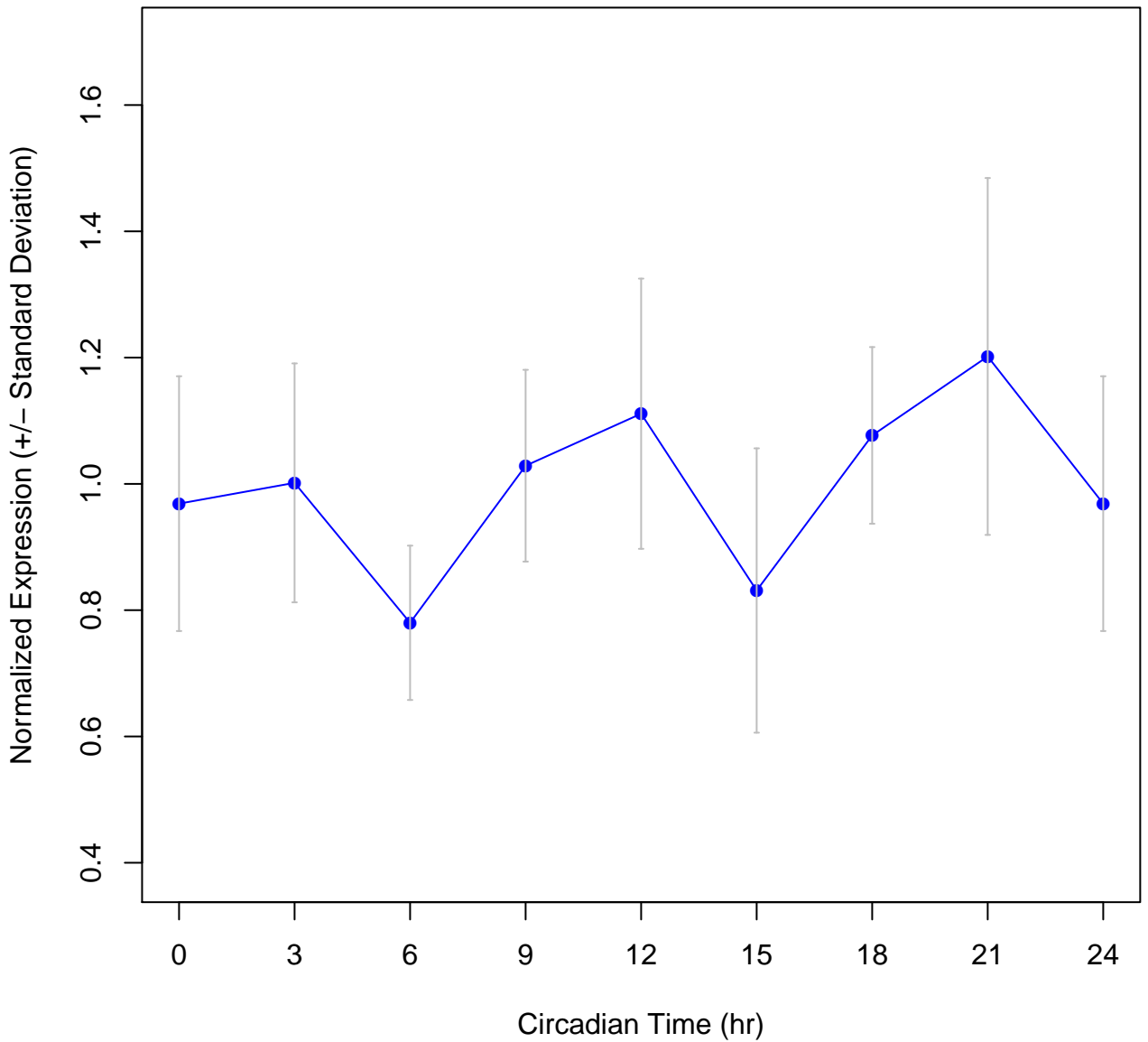
**Supplement Figure 4 ensxmag00000017815**



## Supplement Figure 4 ercc3

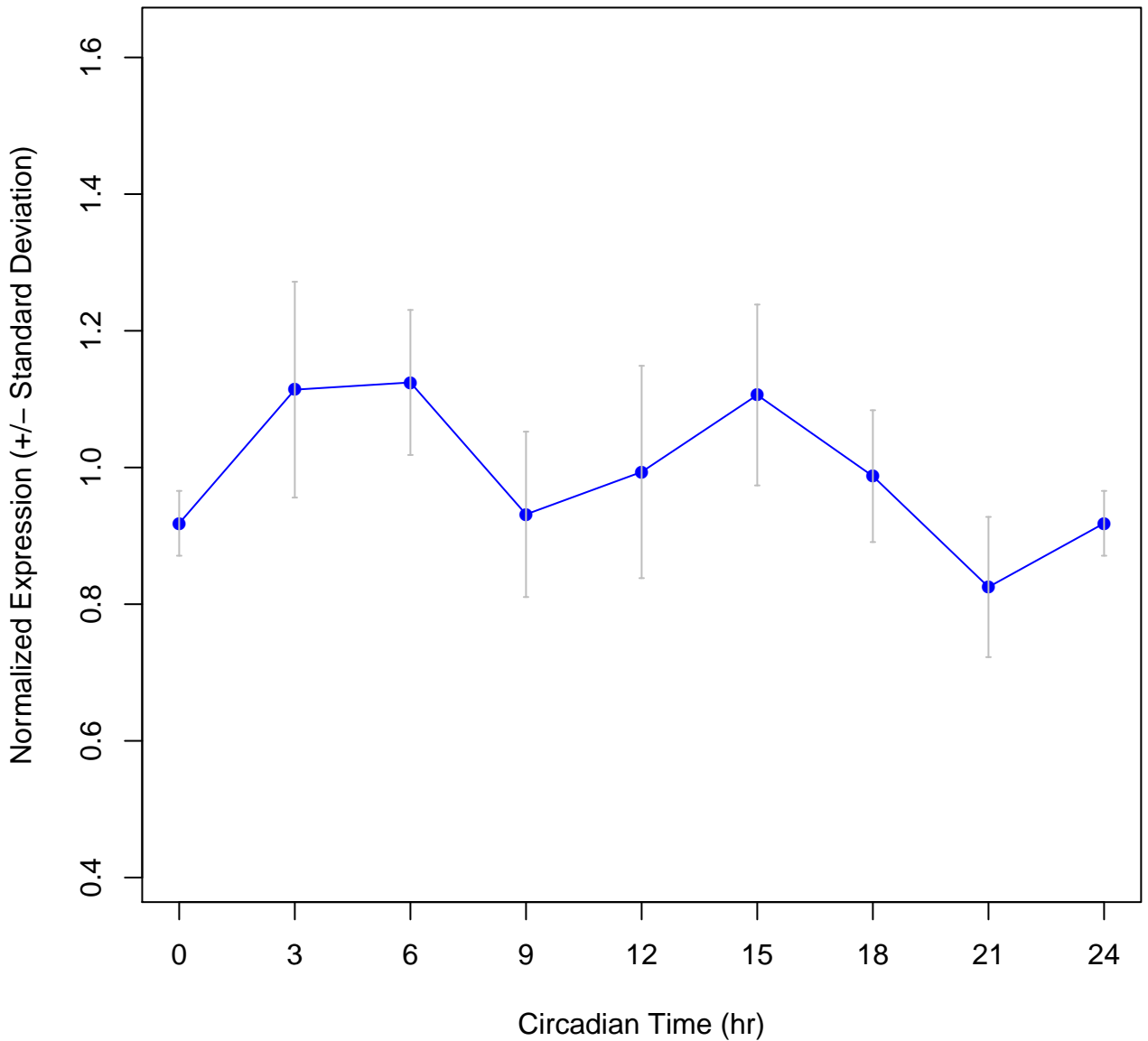


Supplement Figure 4 espl1

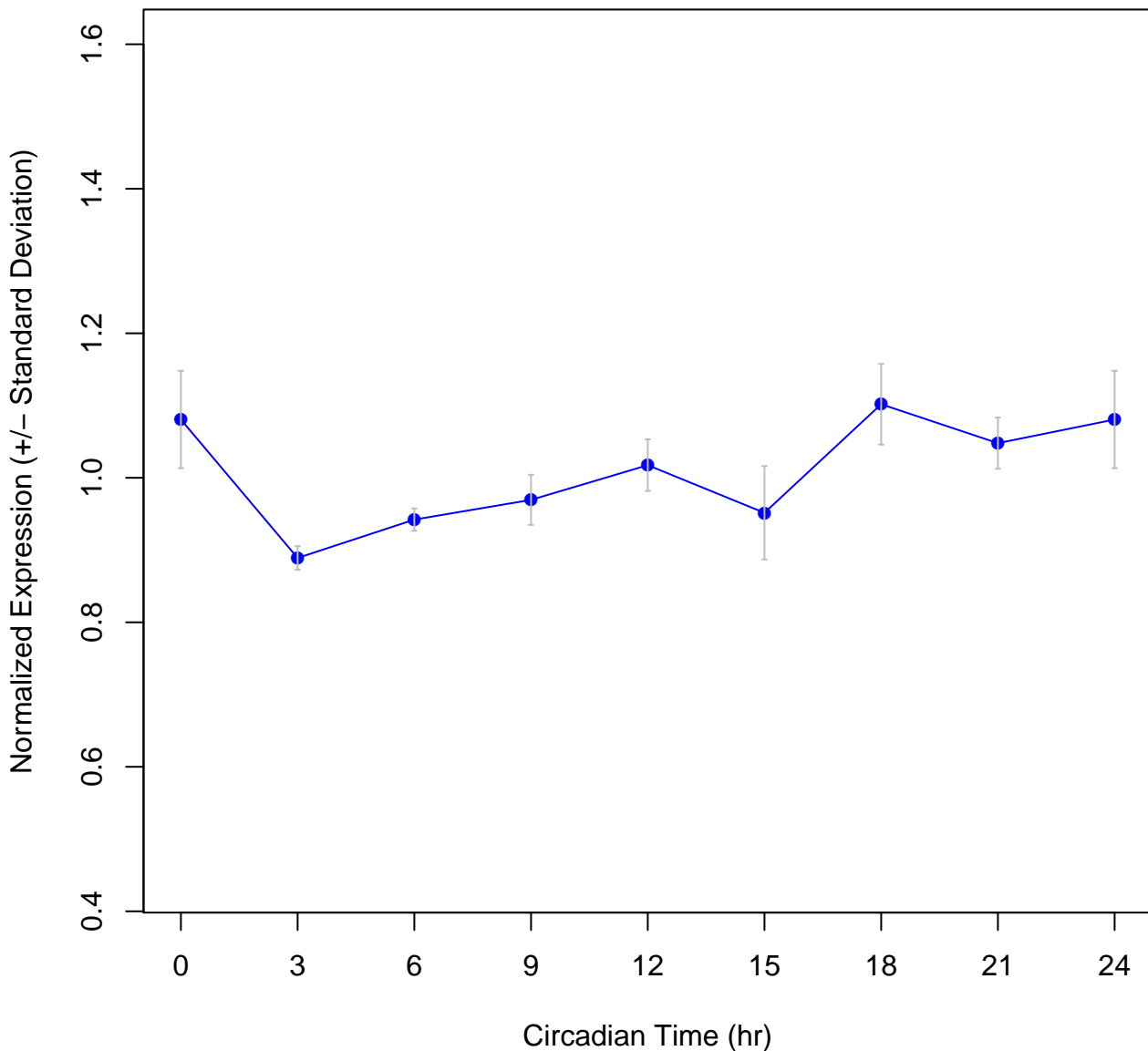




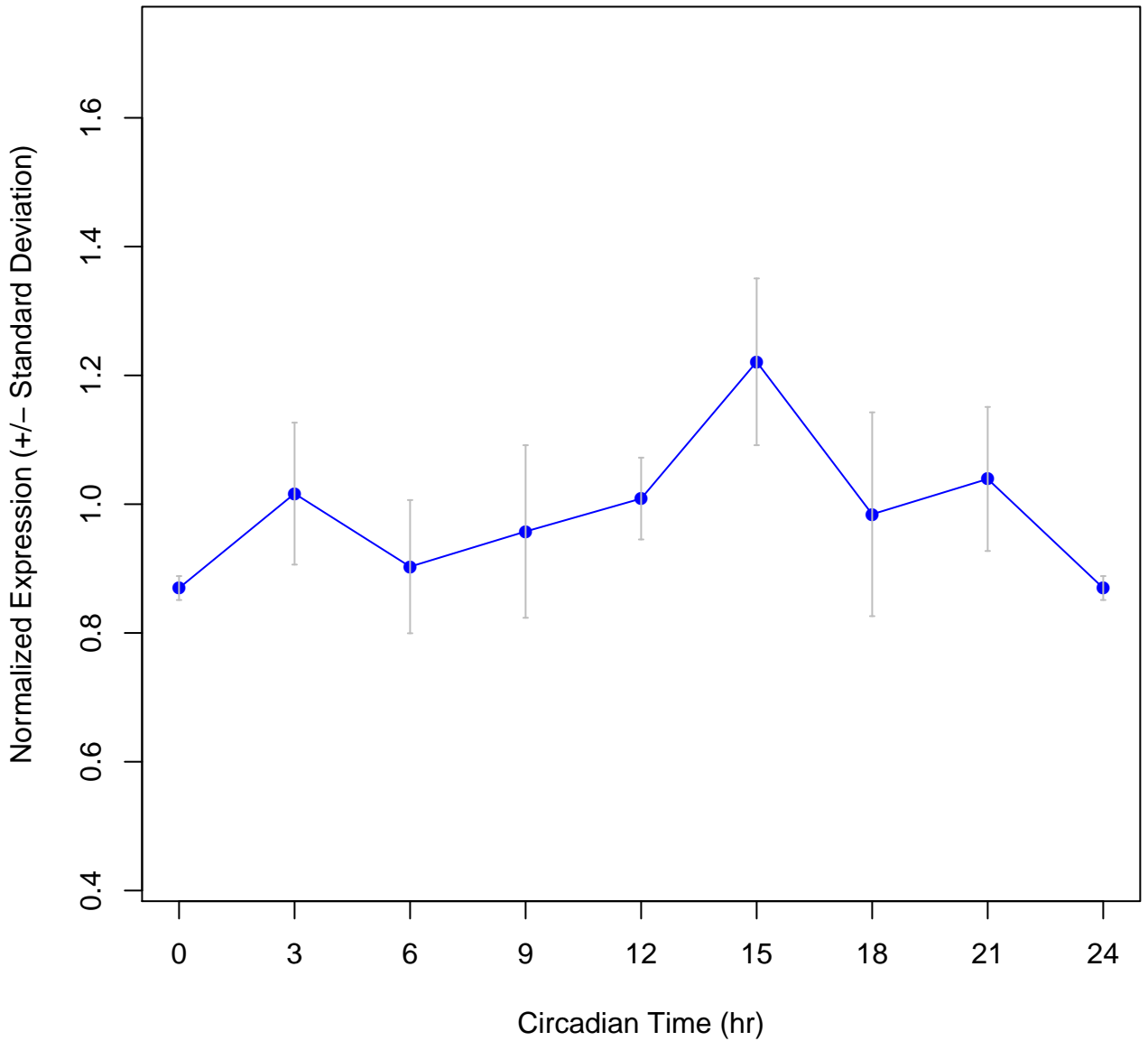
Supplement Figure 4 ezr



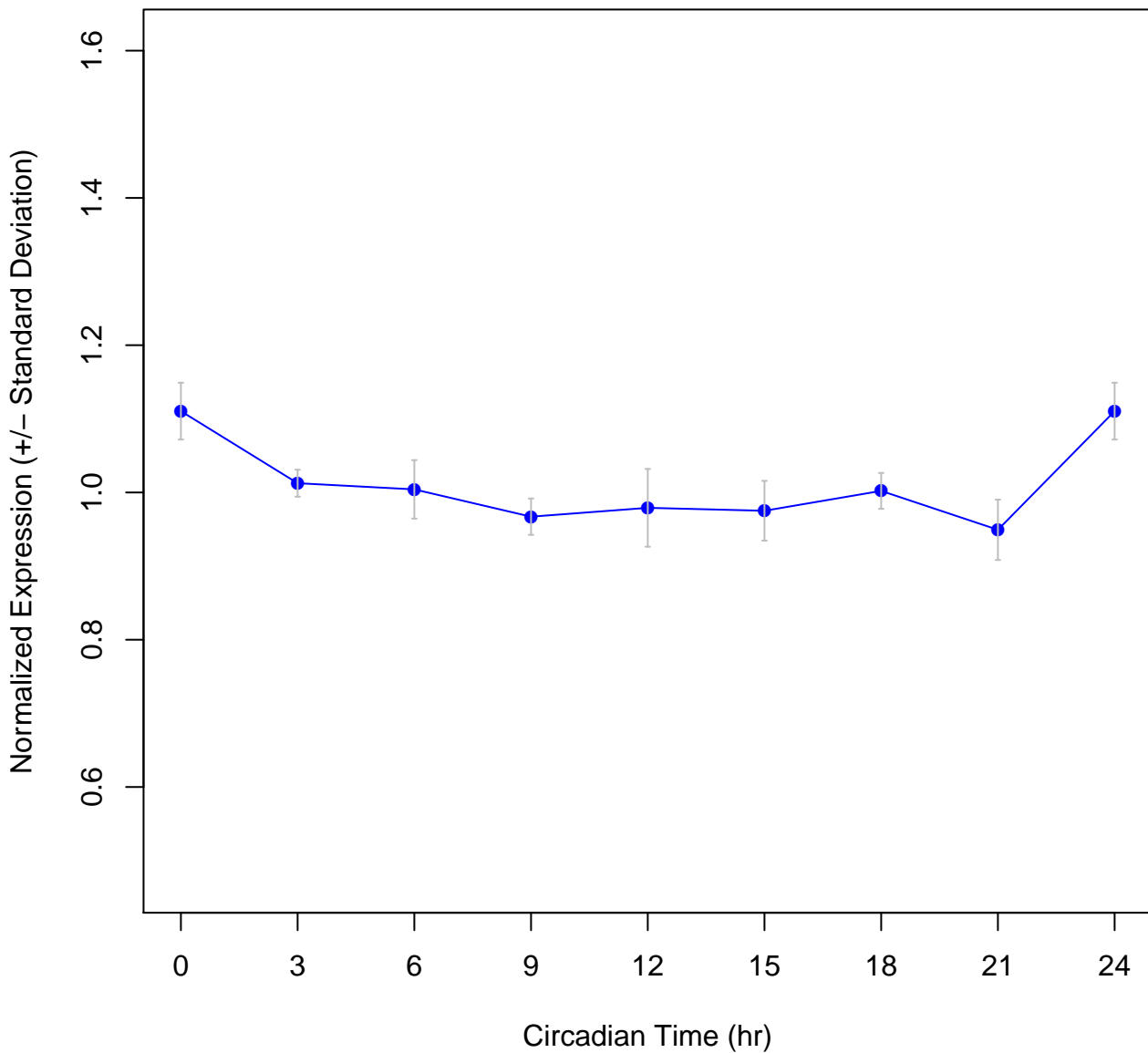
Supplement Figure 4 fam102b



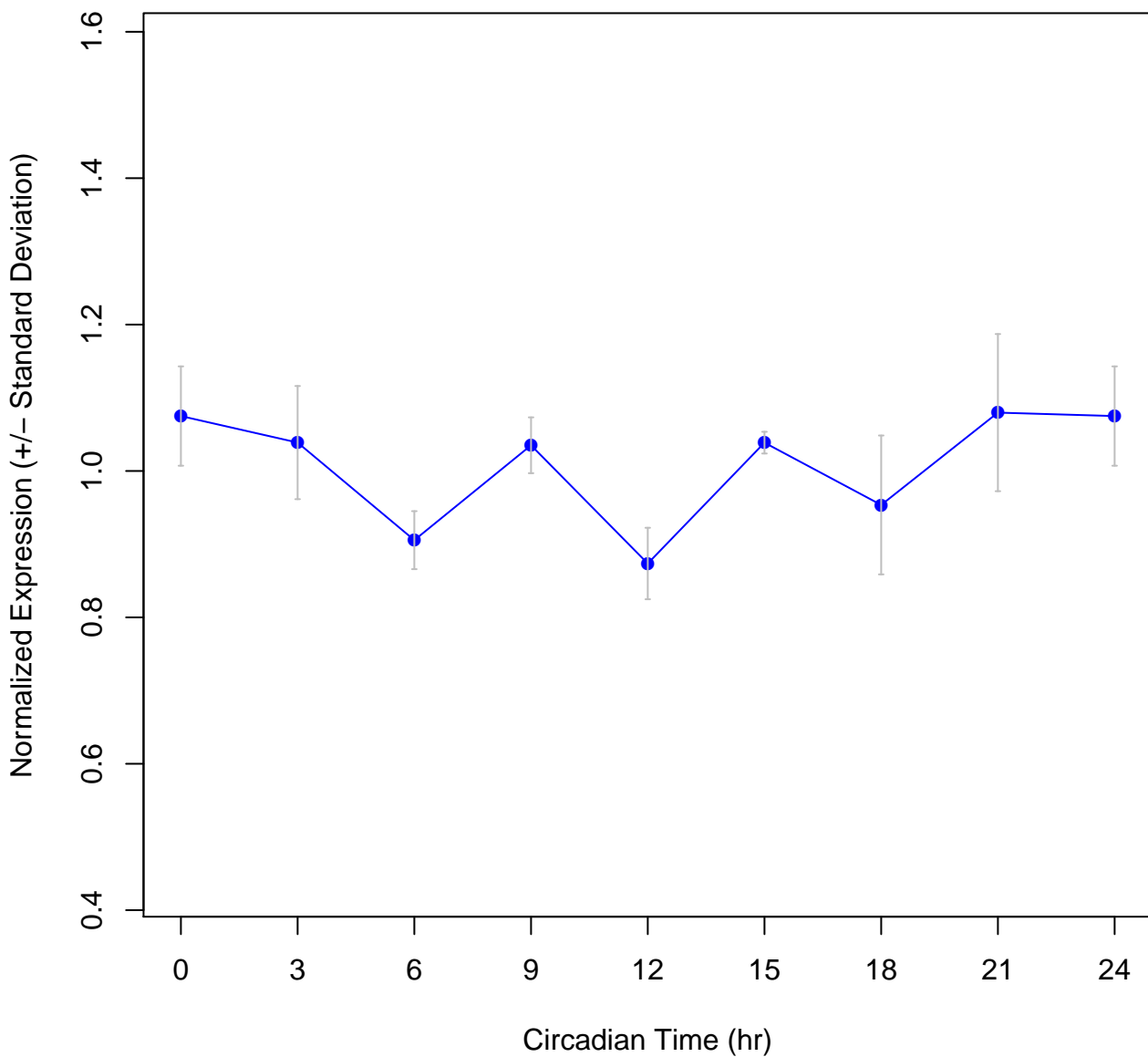
Supplement Figure 4 fasn



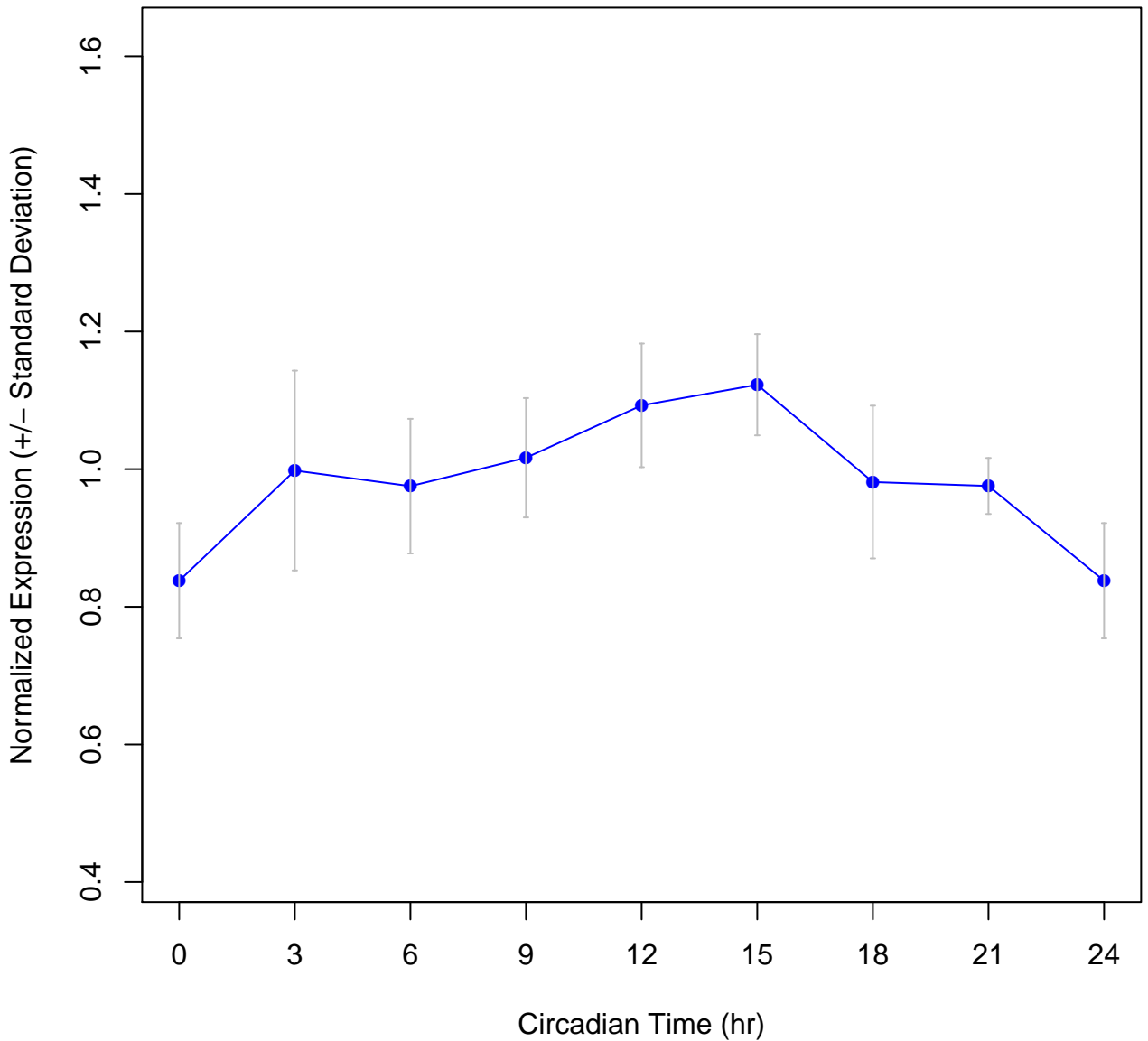
Supplement Figure 4 fbxw11



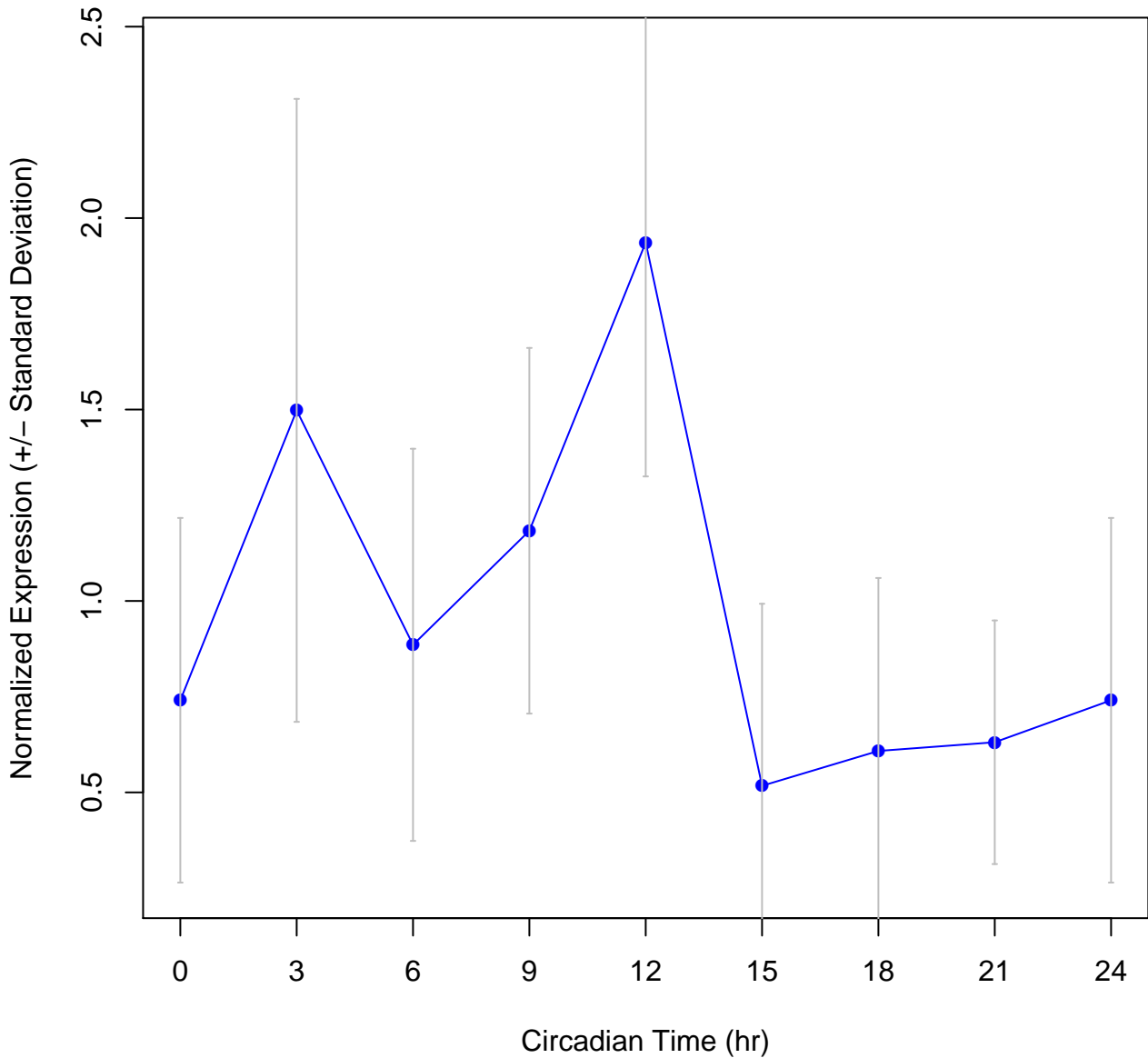
Supplement Figure 4 fggy



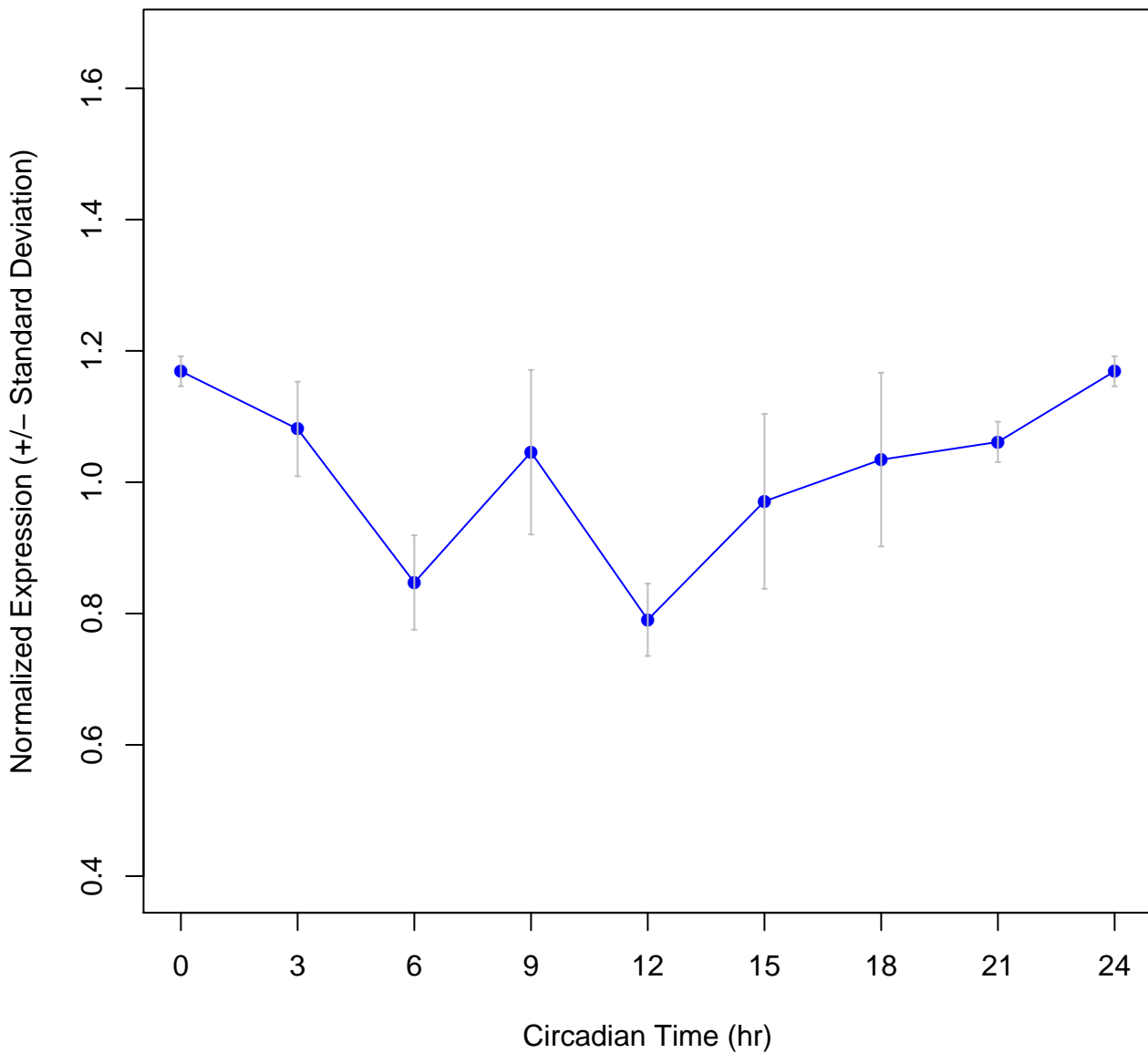
Supplement Figure 4 flt4



### Supplement Figure 4 foxn1

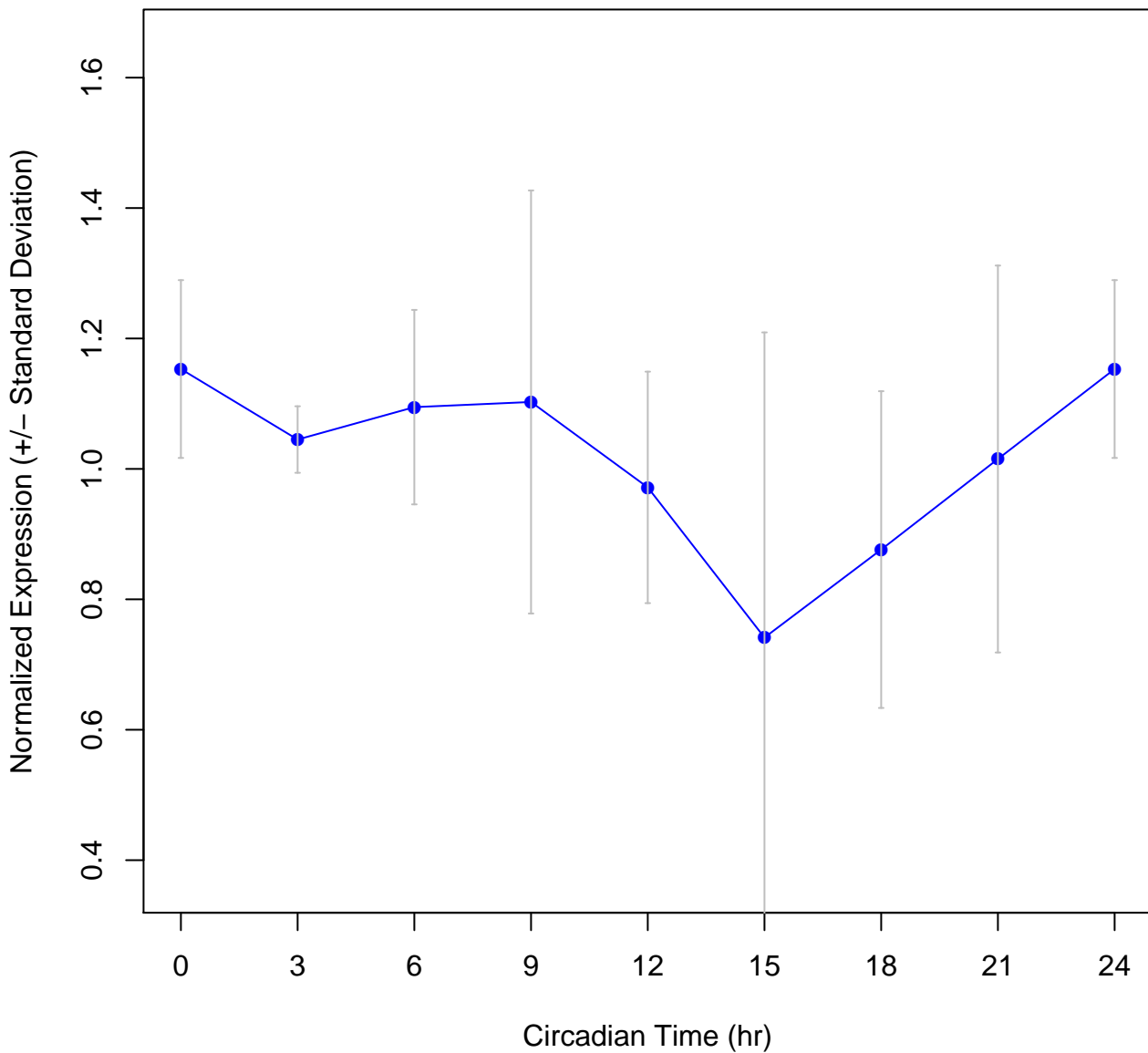


### Supplement Figure 4 foxo4

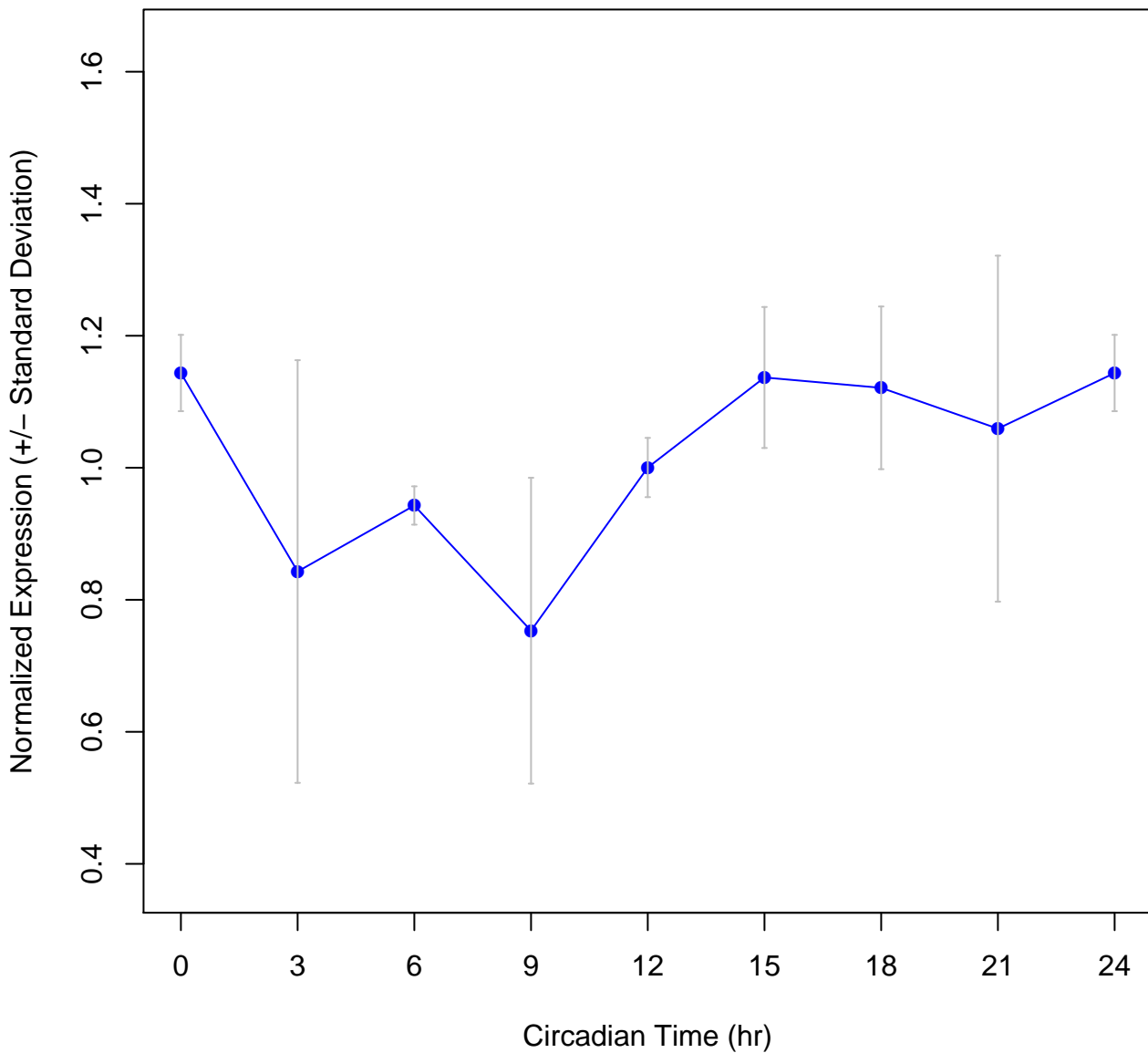




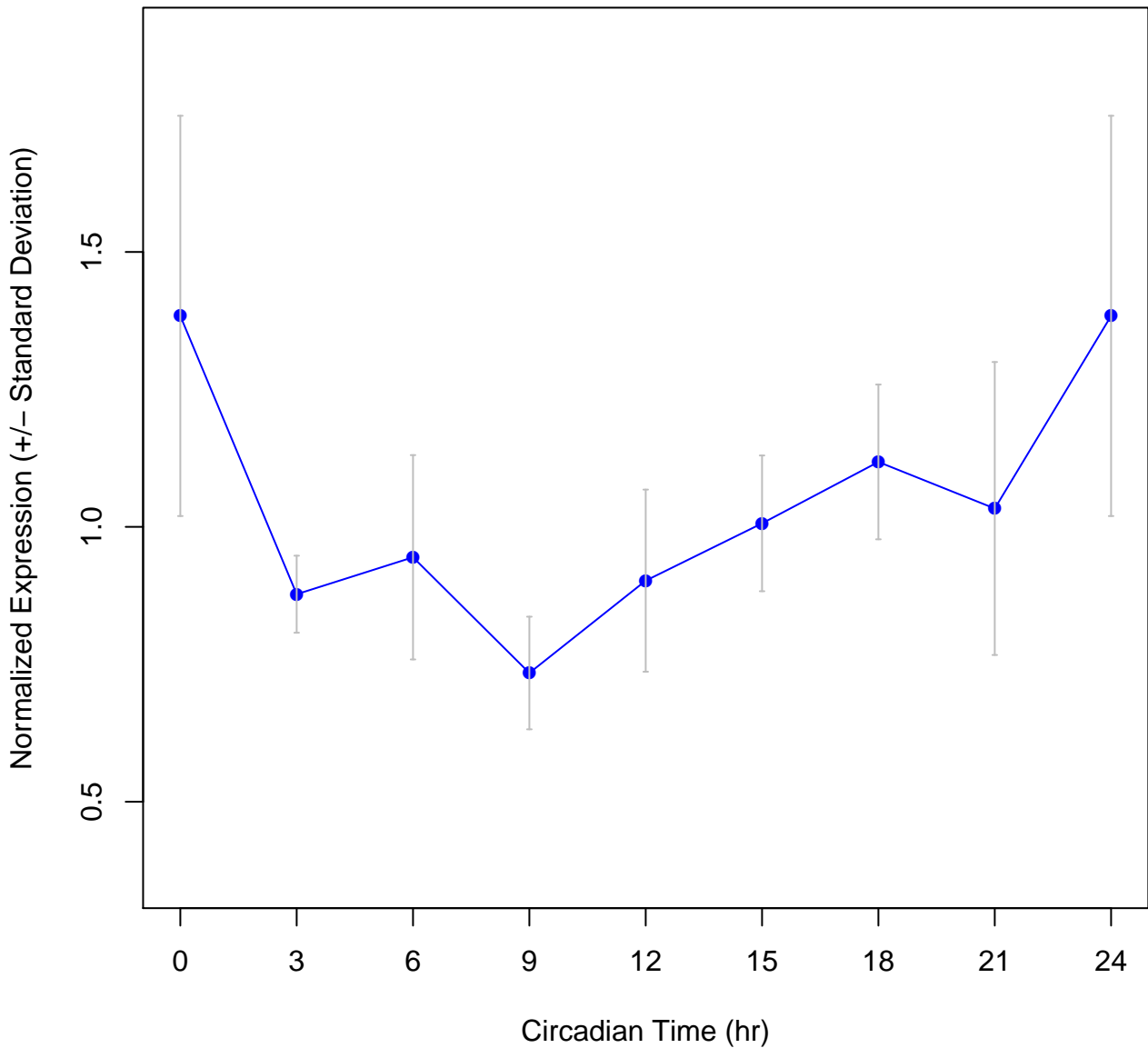
### Supplement Figure 4 g2e3



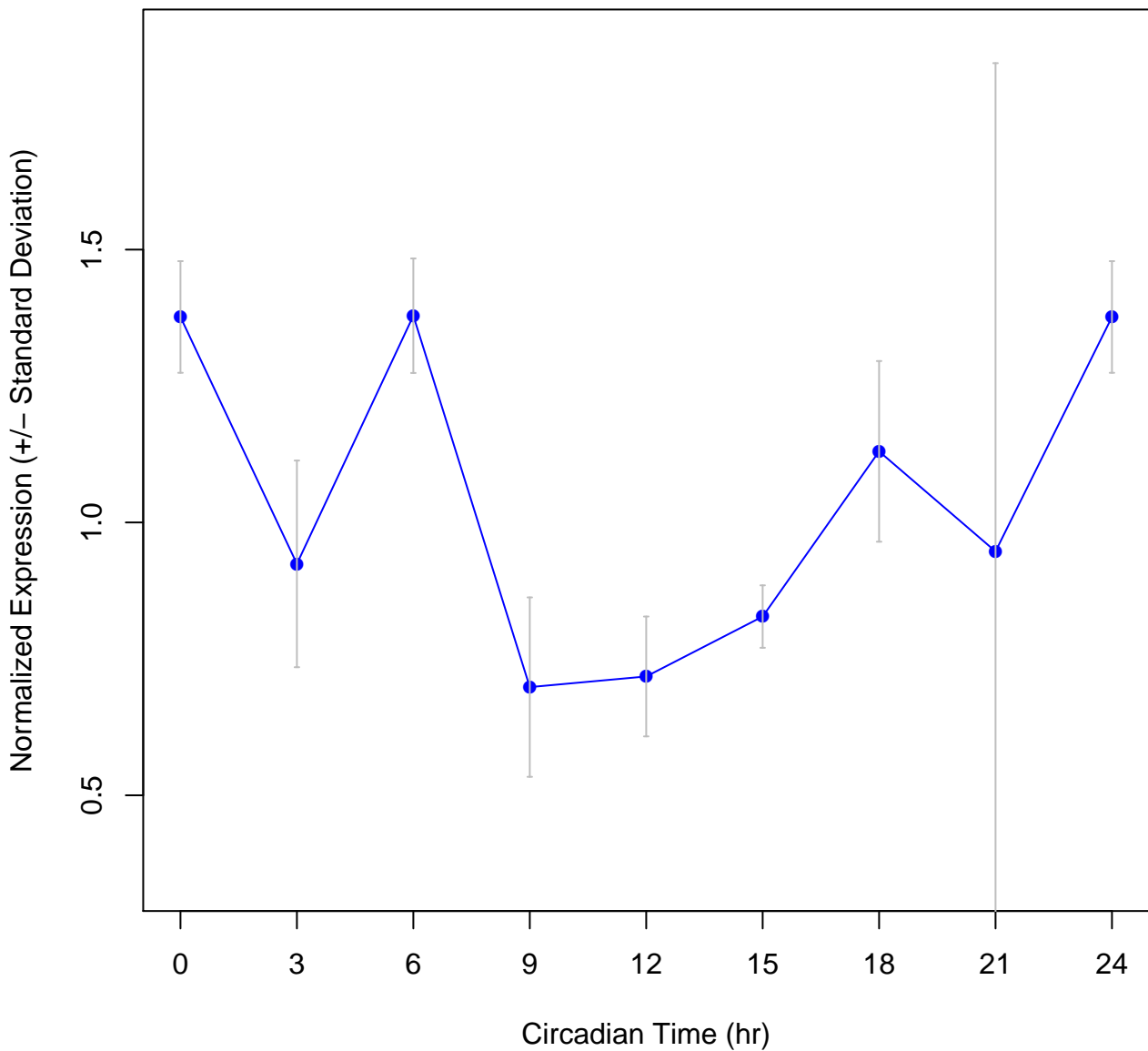
Supplement Figure 4 *gadd45aa*



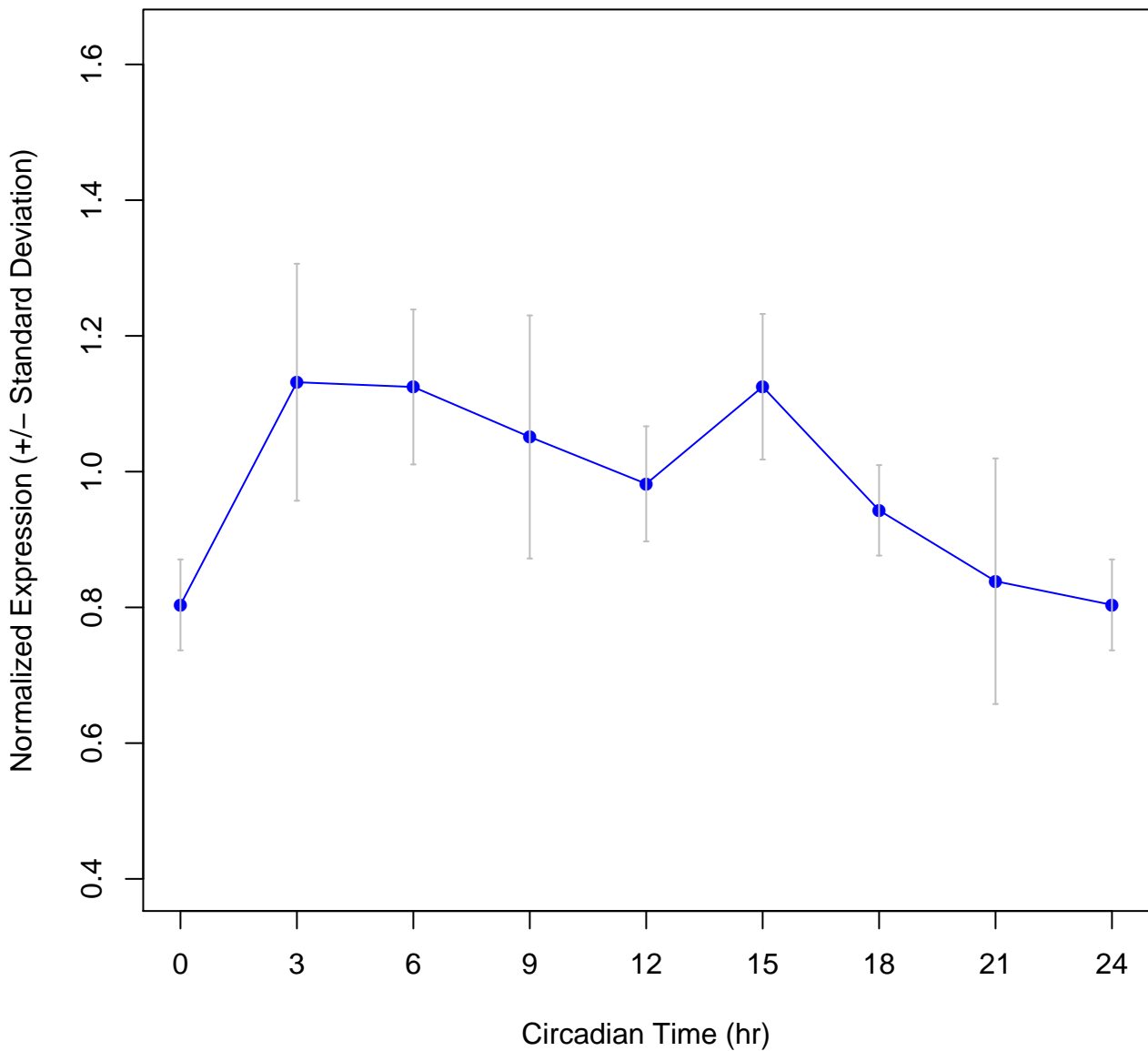
Supplement Figure 4 gadd45ab



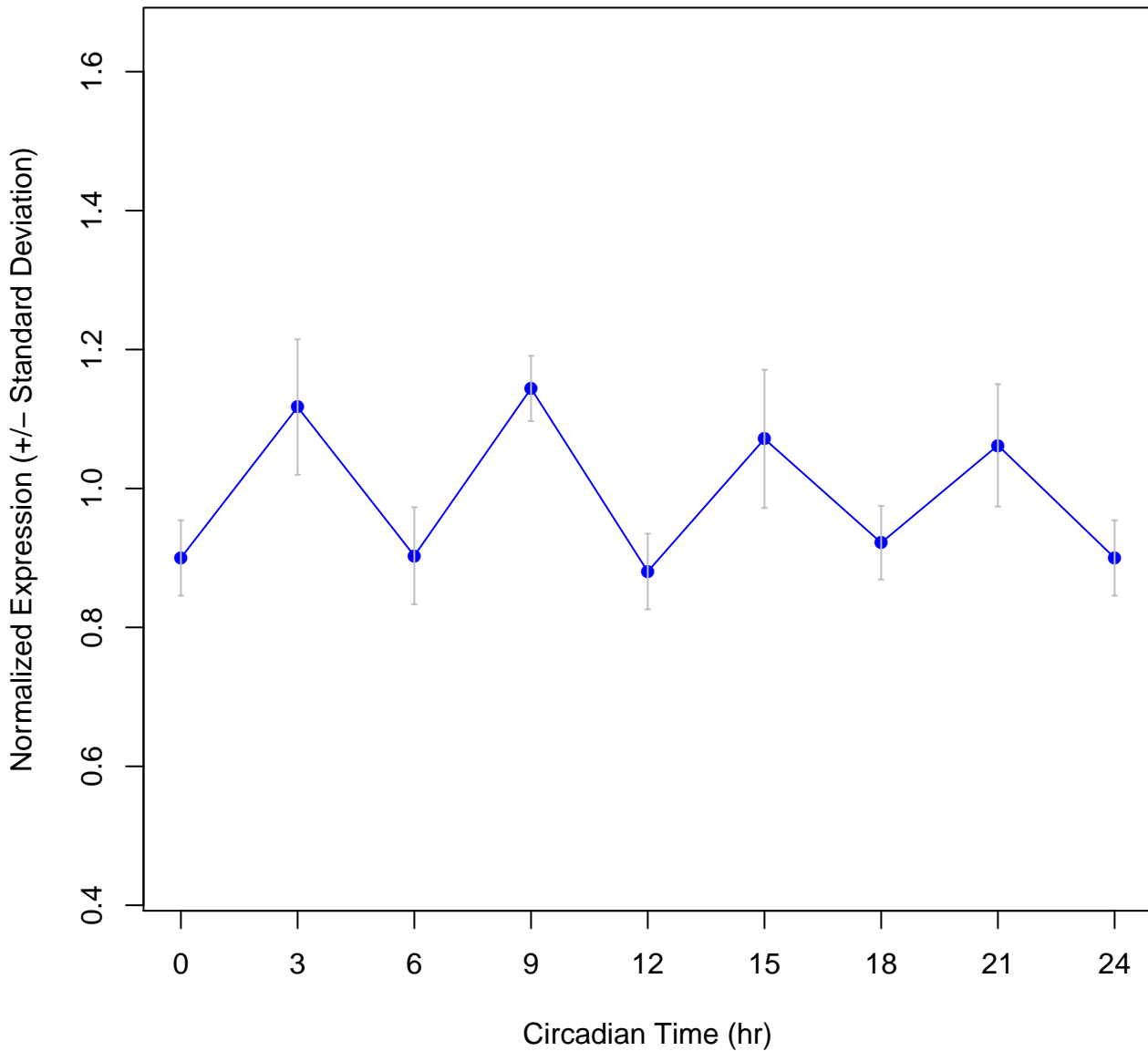
Supplement Figure 4 *gadd45b*



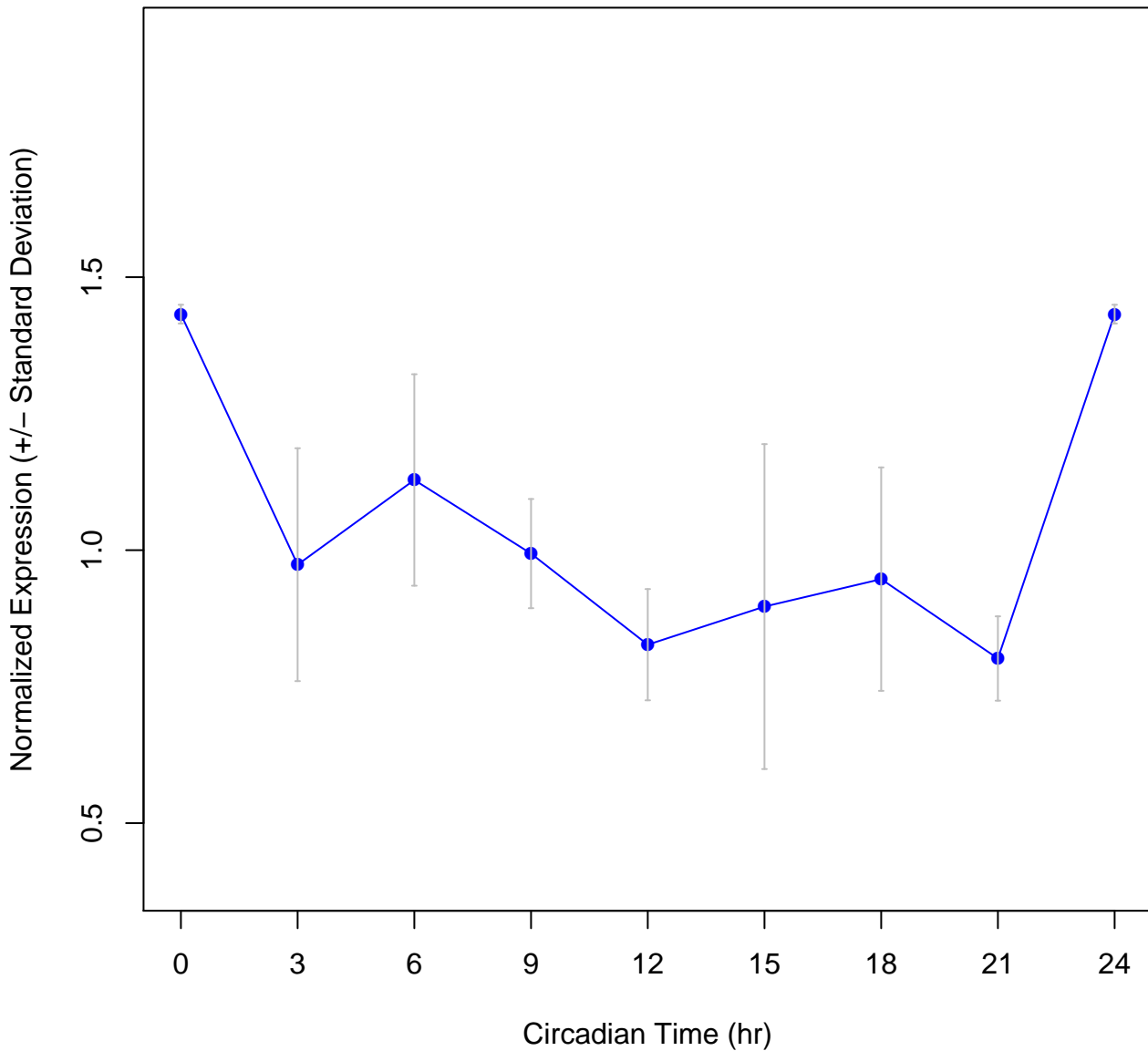
Supplement Figure 4 *gna15*



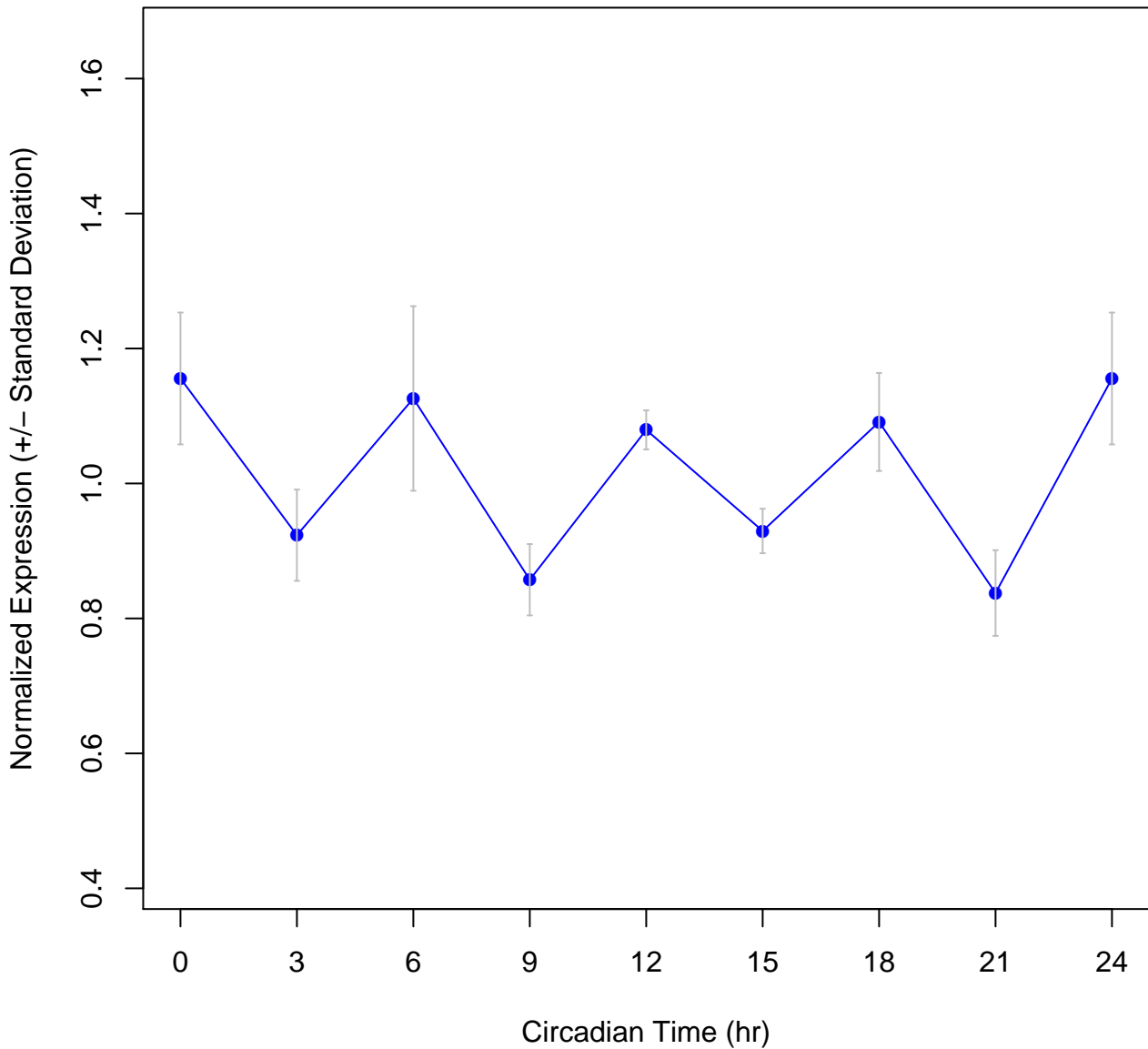
**Supplement Figure 4 grin1**



Supplement Figure 4 grin2a

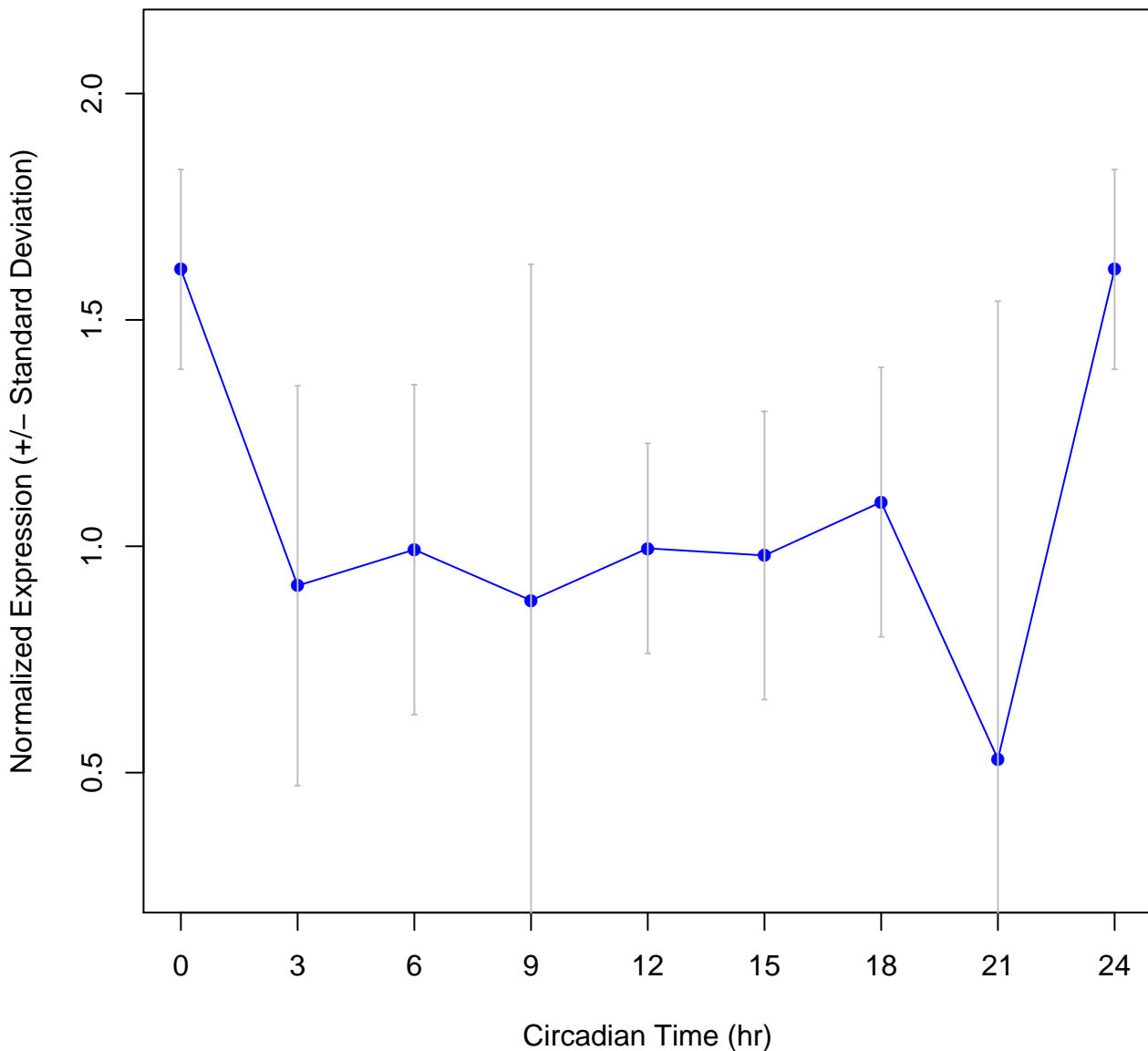


**Supplement Figure 4 hdac3**

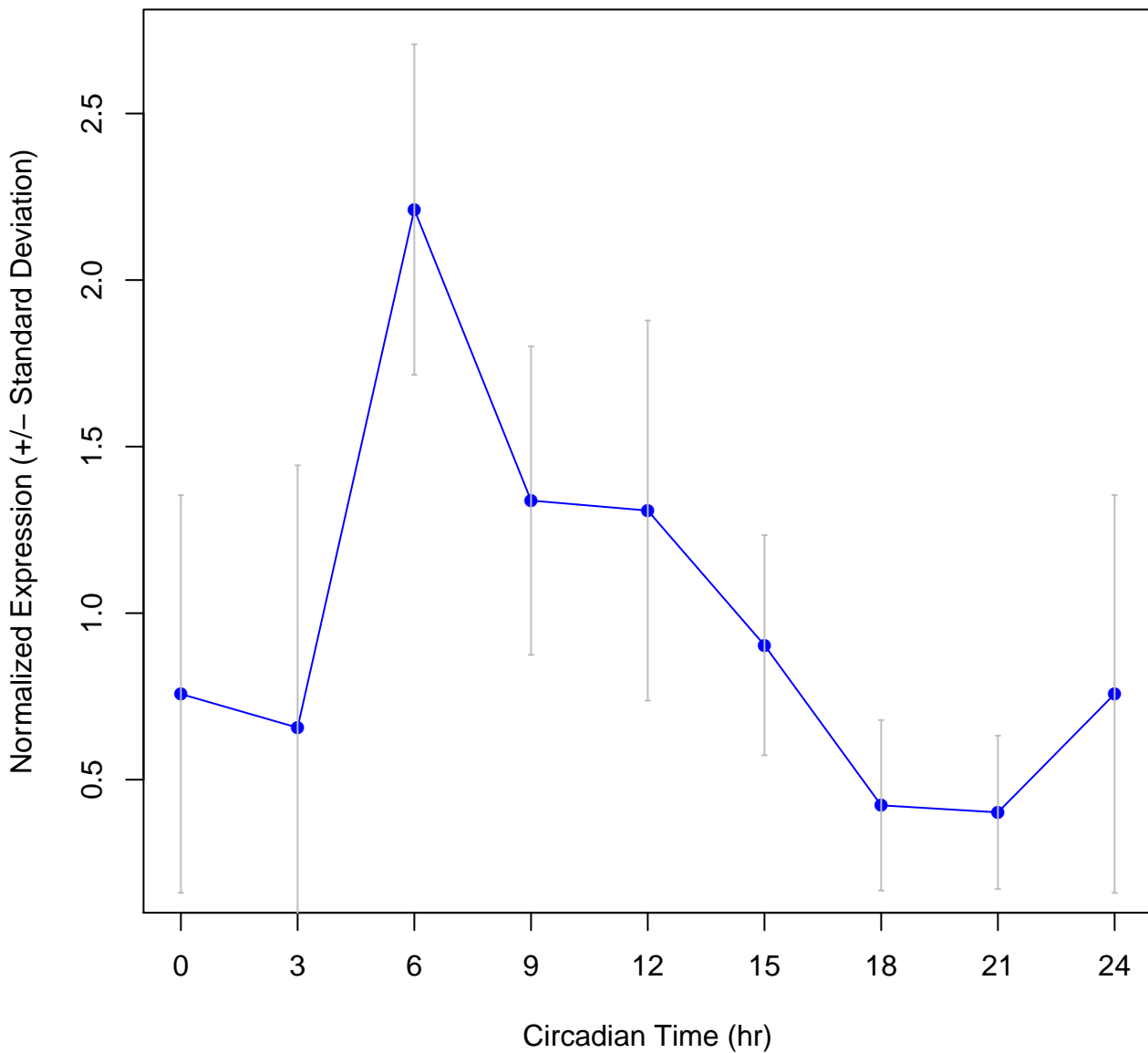




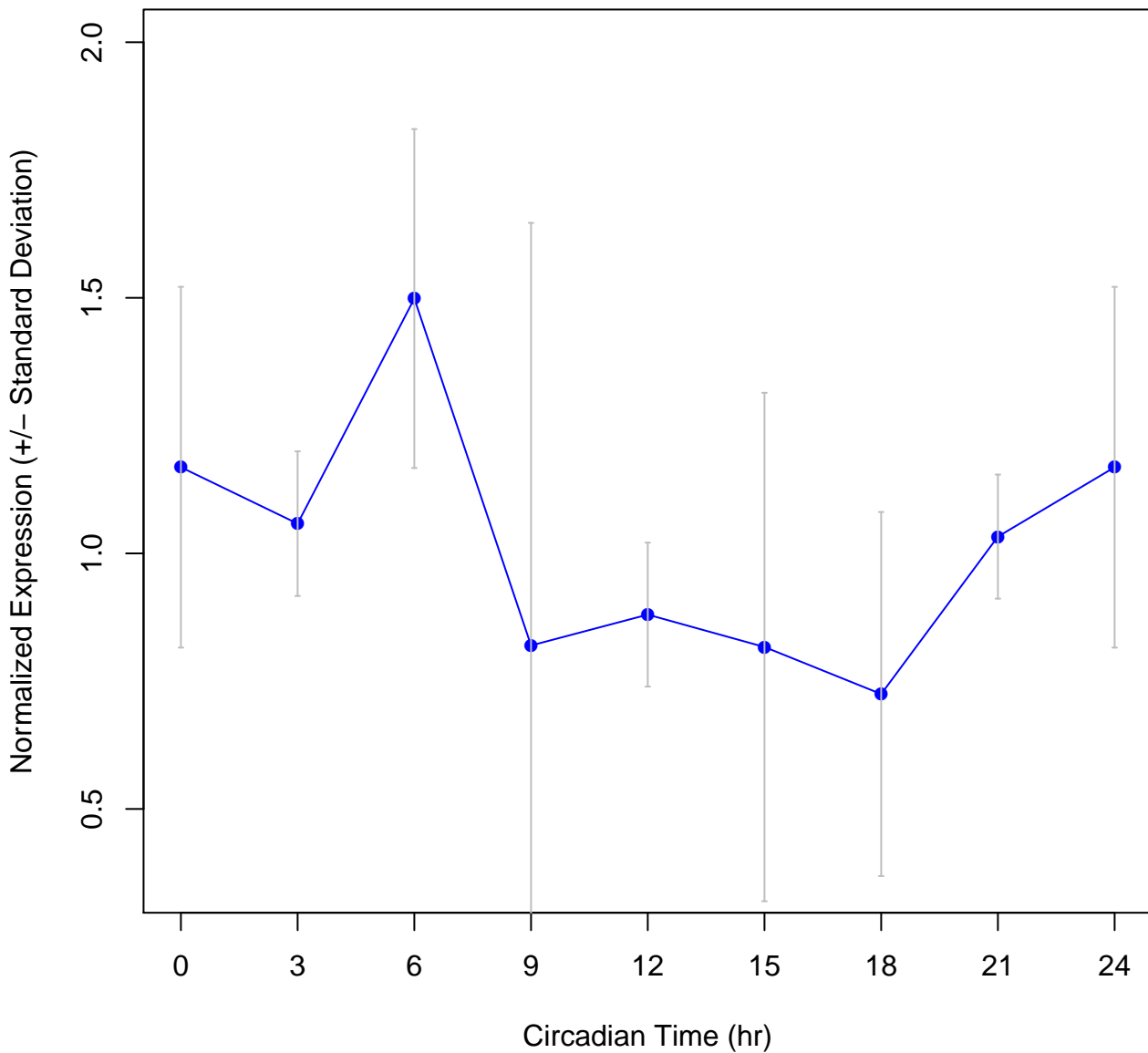
Supplement Figure 4 hmox1



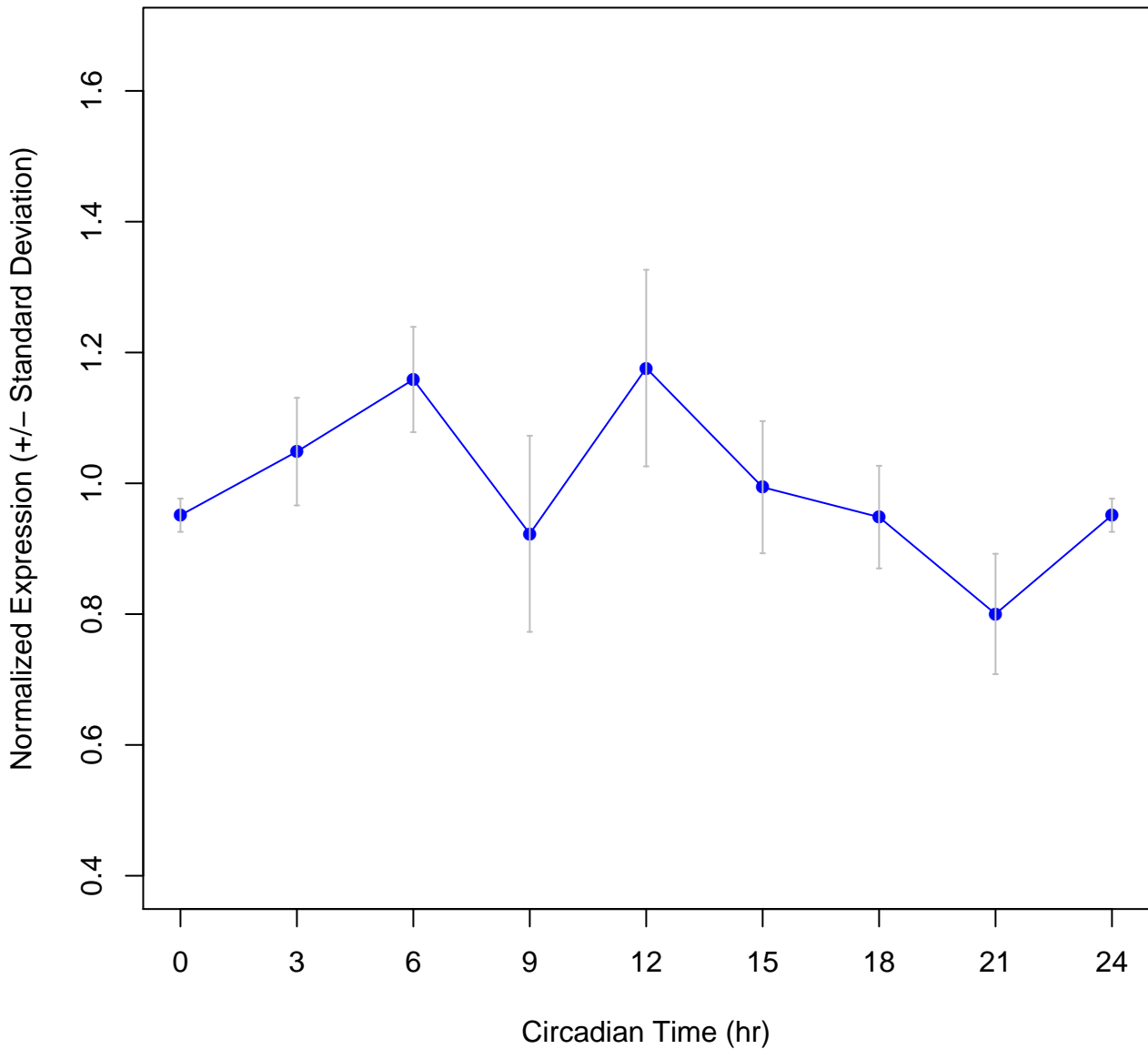
Supplement Figure 4 hp



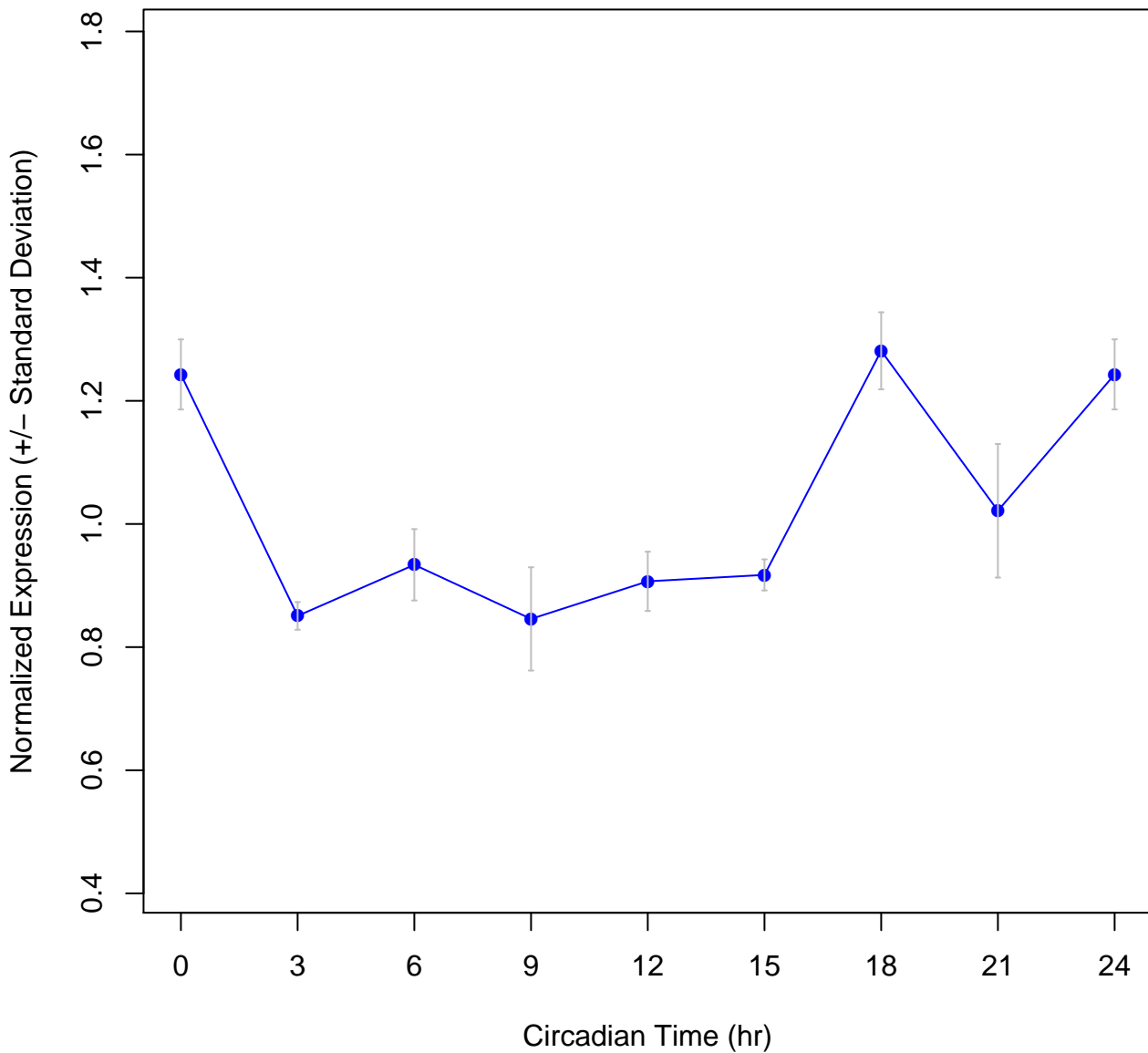
**Supplement Figure 4 hsp90aa1**



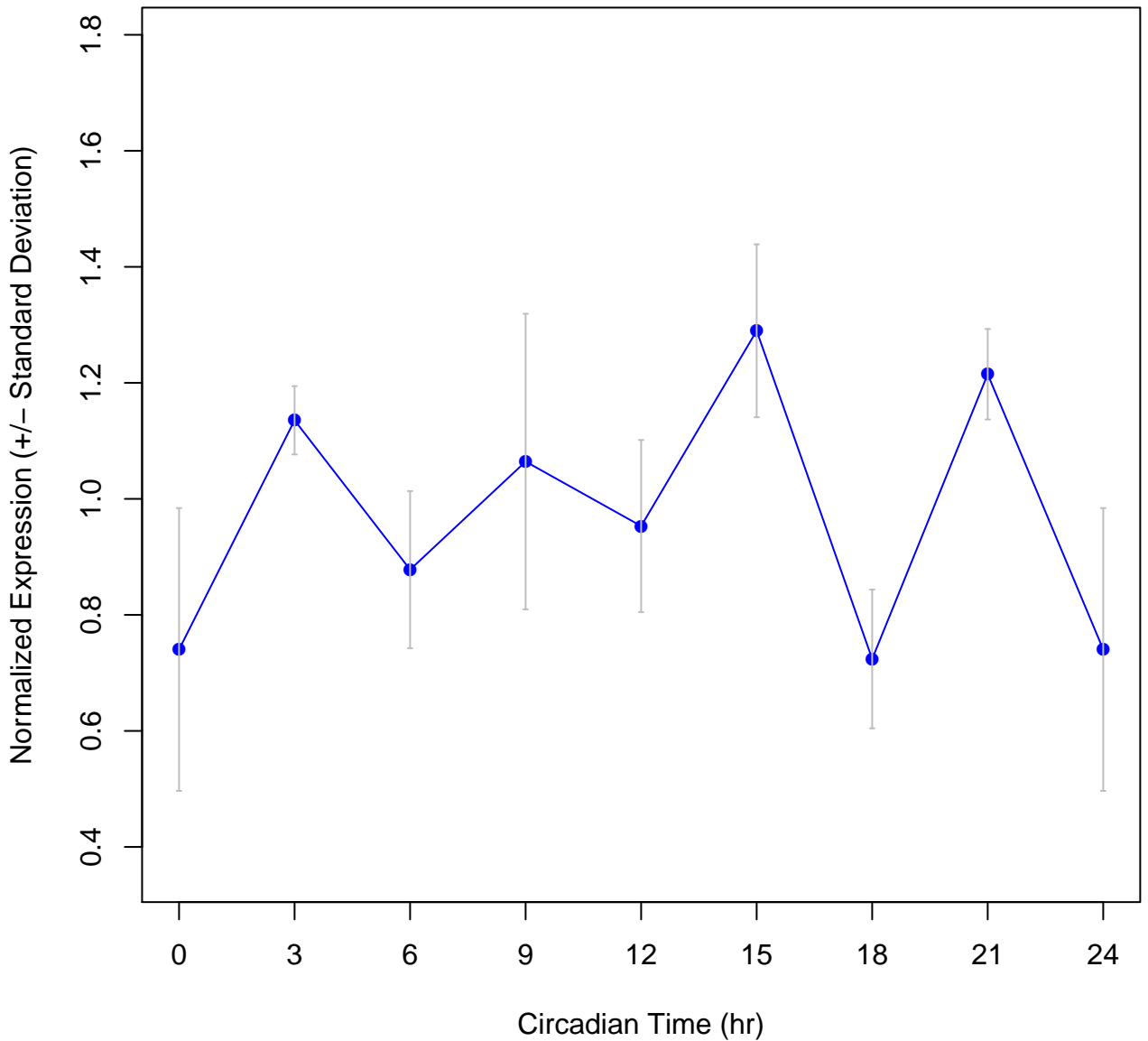
## Supplement Figure 4 hspa4



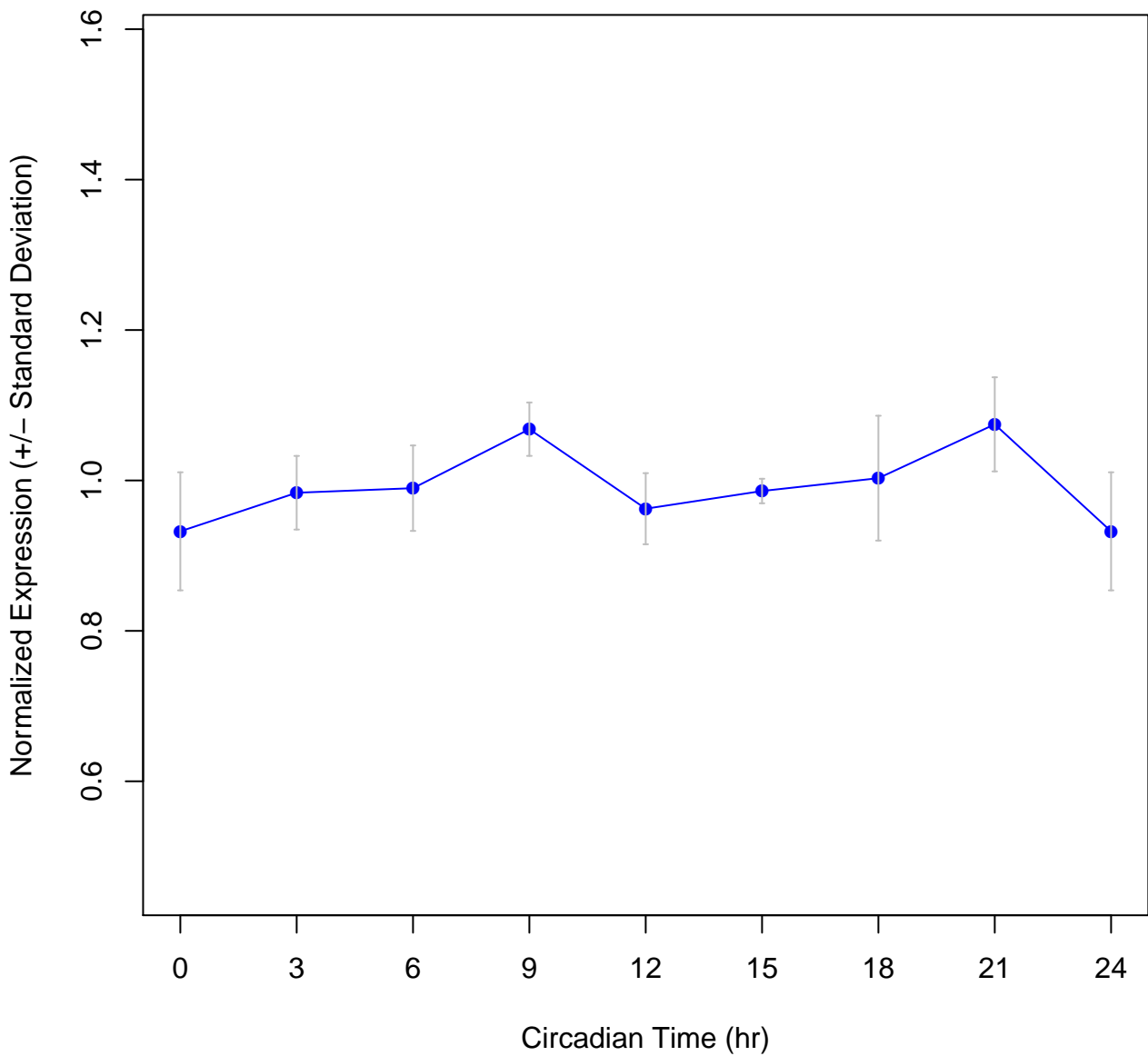
Supplement Figure 4 hunk



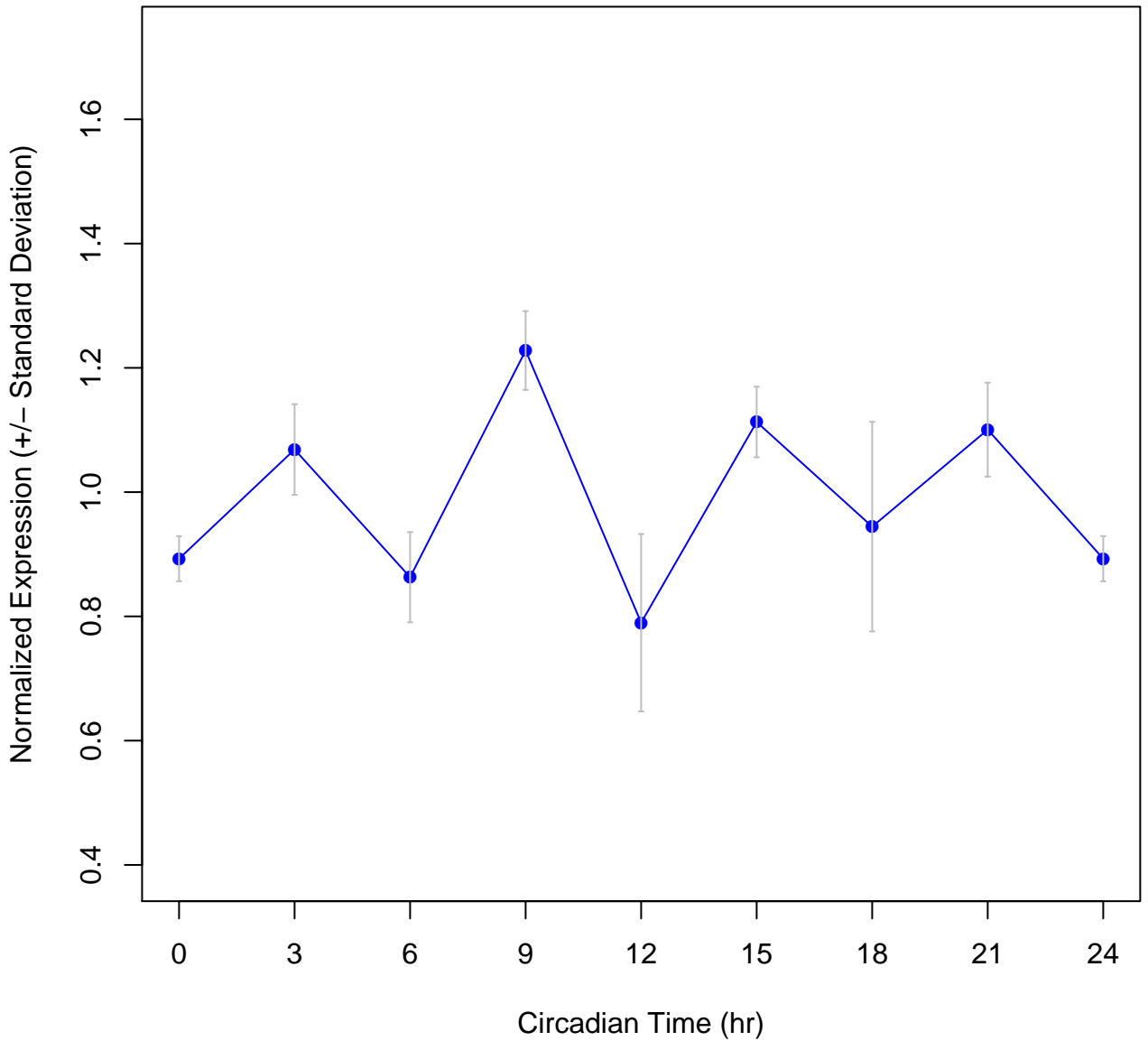
Supplement Figure 4 igf1



Supplement Figure 4 ints9

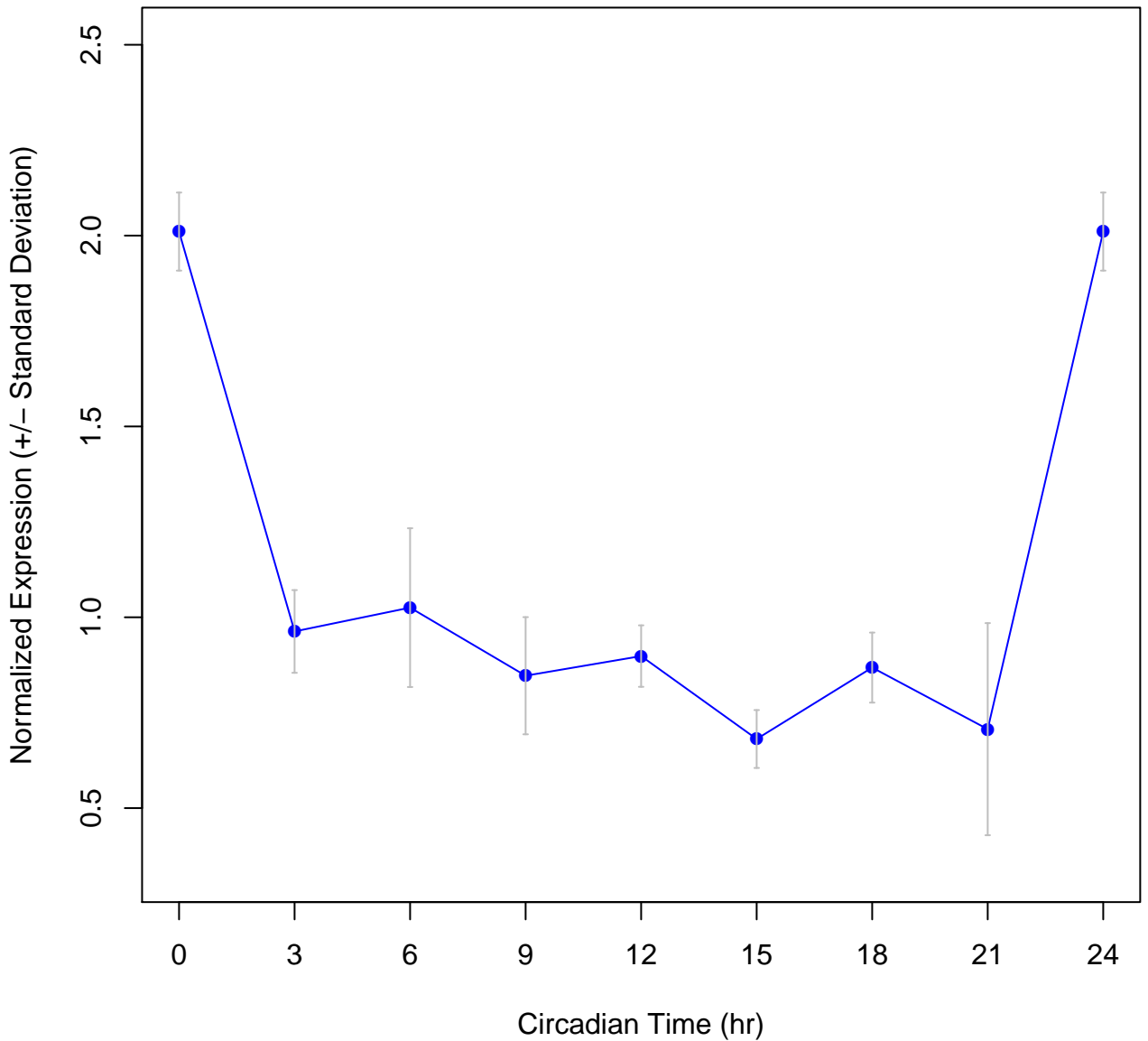


**Supplement Figure 4 *irs1***

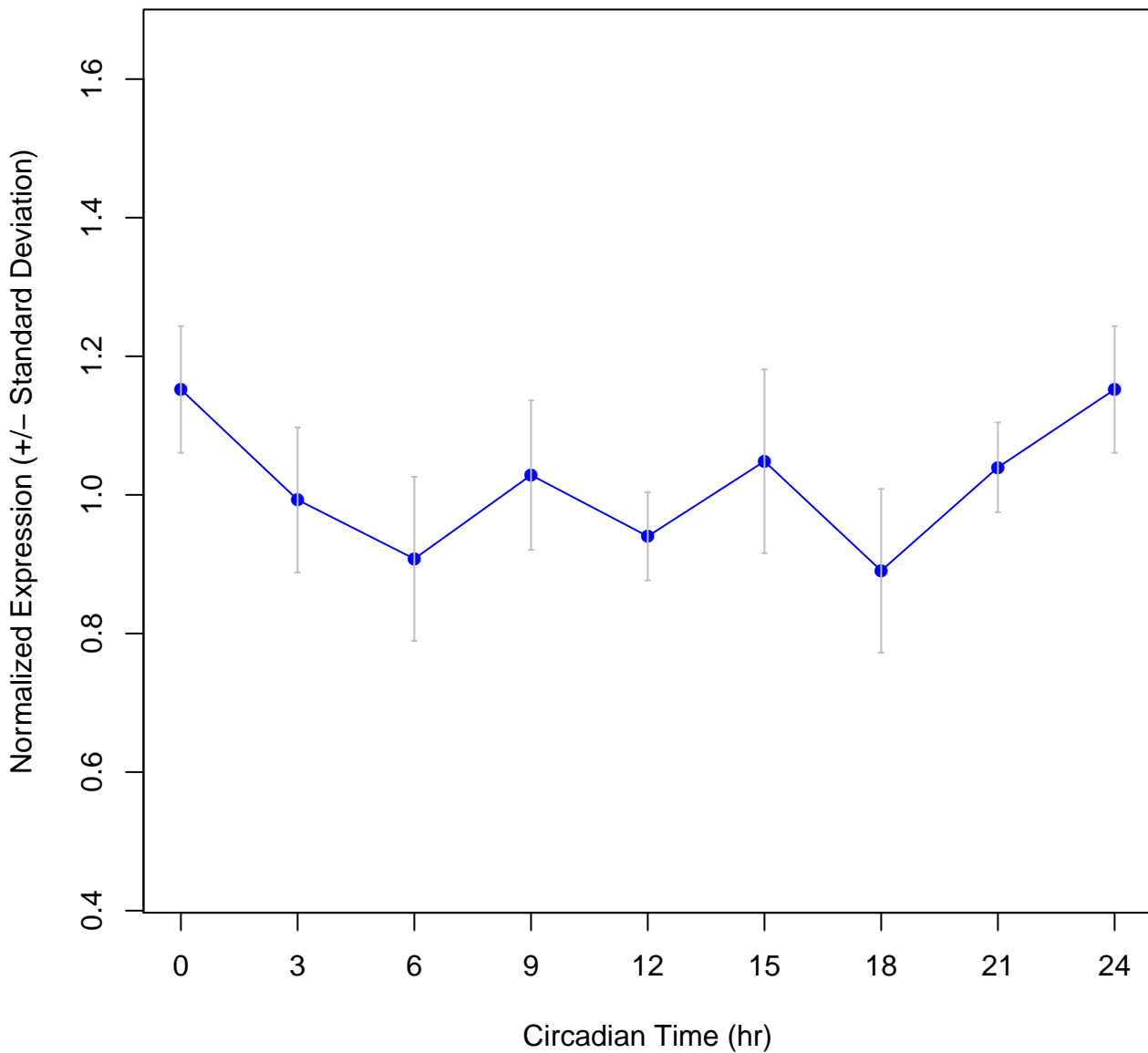




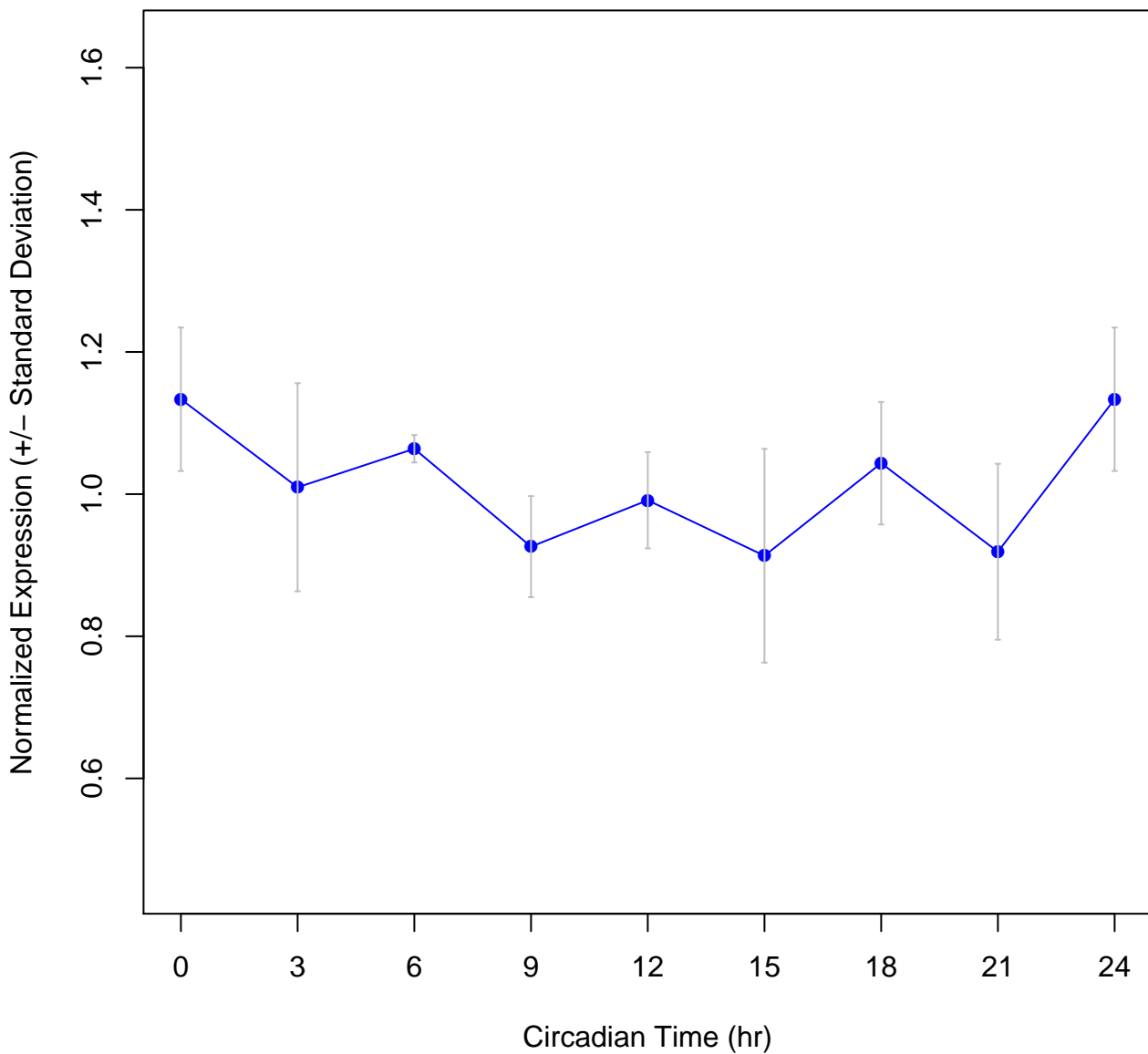
**Supplement Figure 4 *irs2***



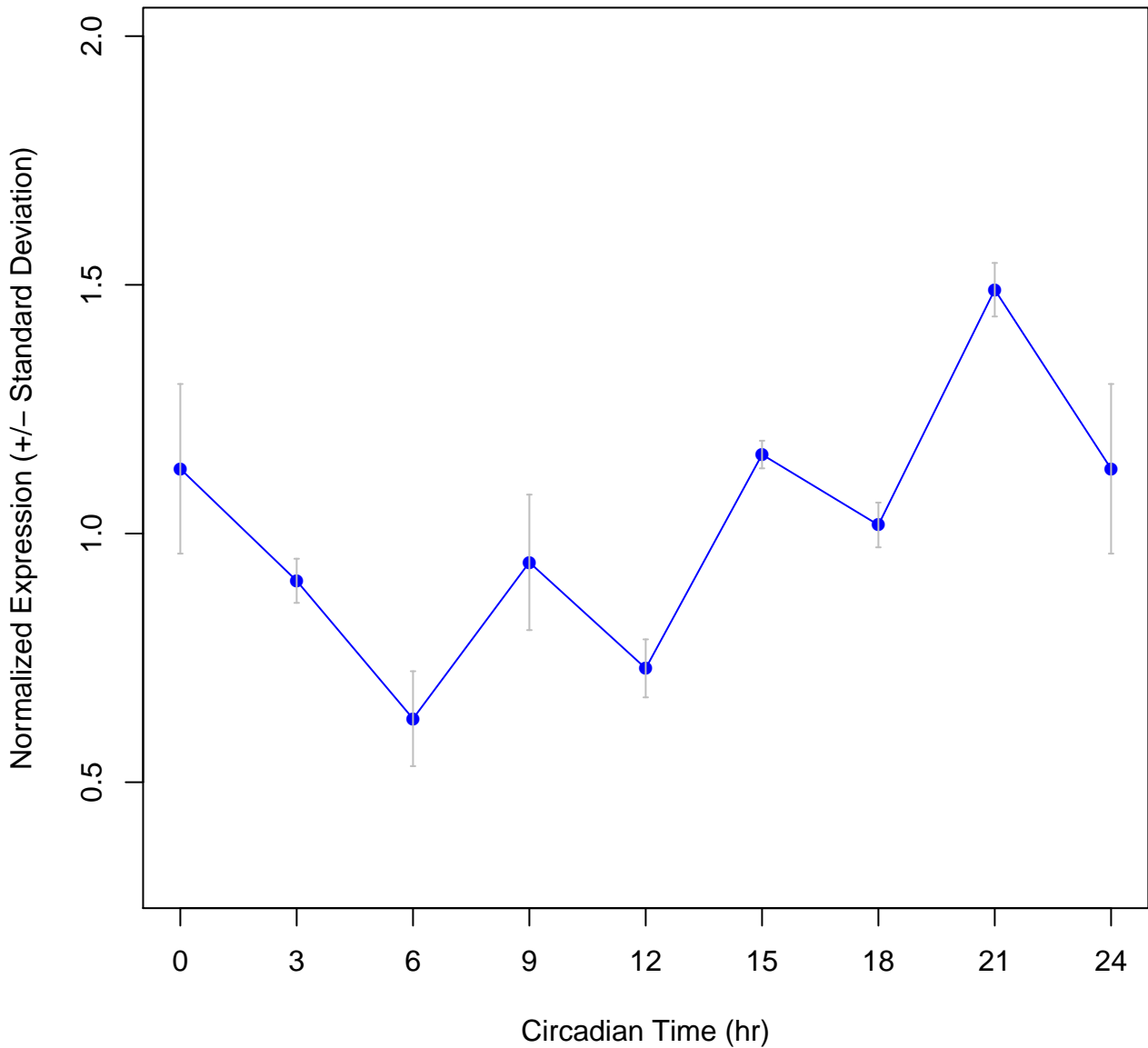
Supplement Figure 4 itpr1



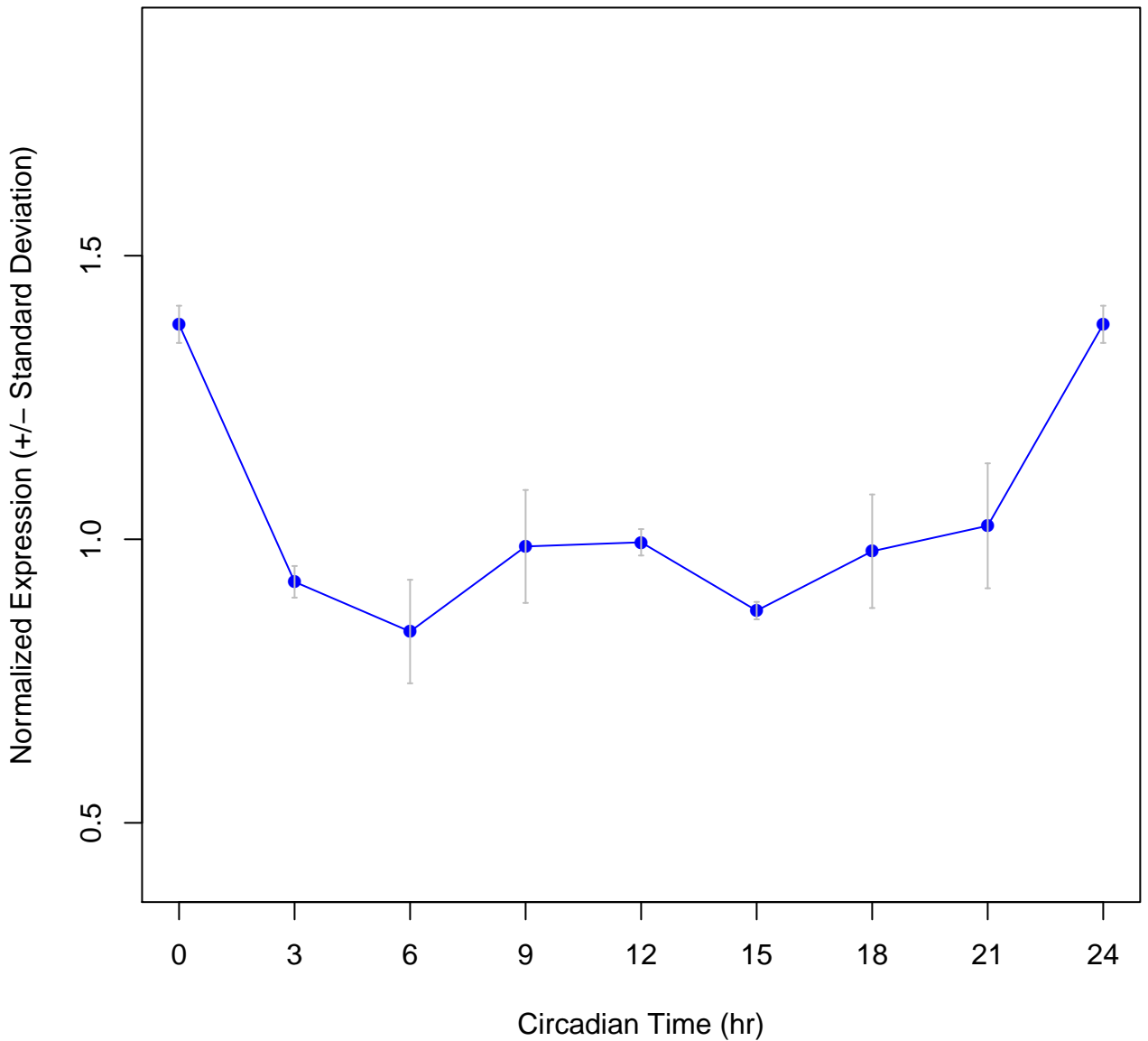
Supplement Figure 4 itpr3



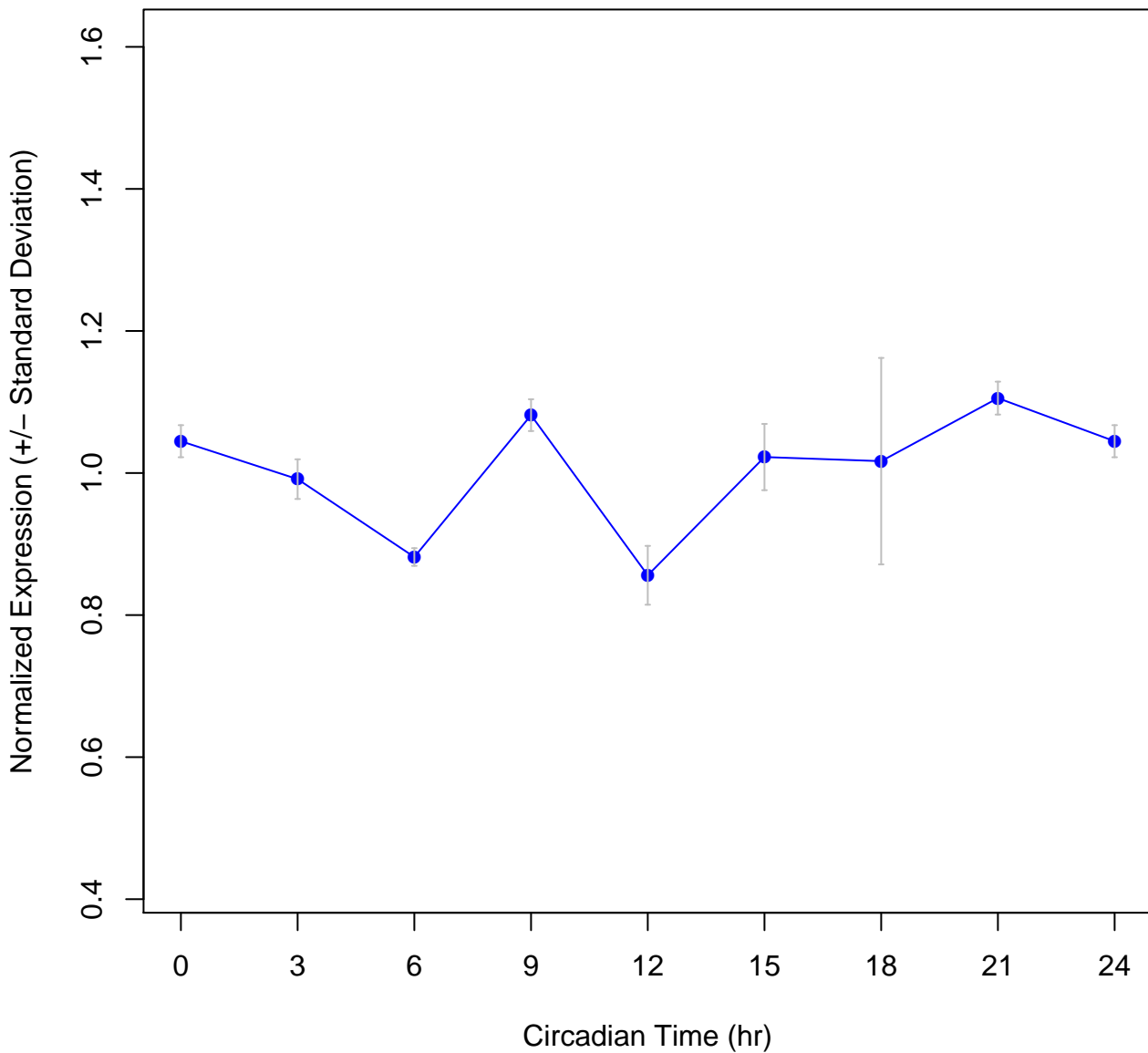
Supplement Figure 4 jun\_1



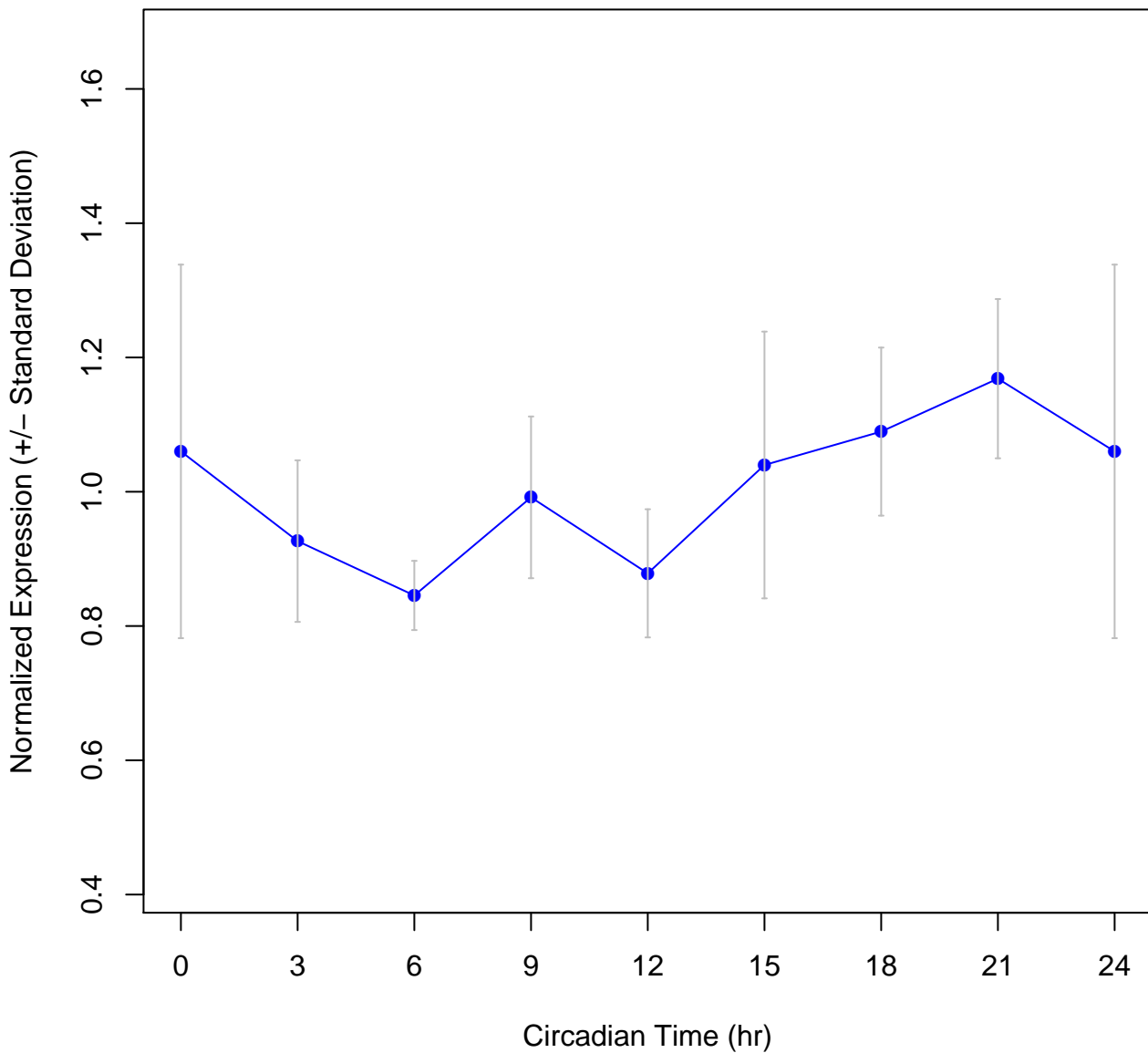
Supplement Figure 4 jun\_2



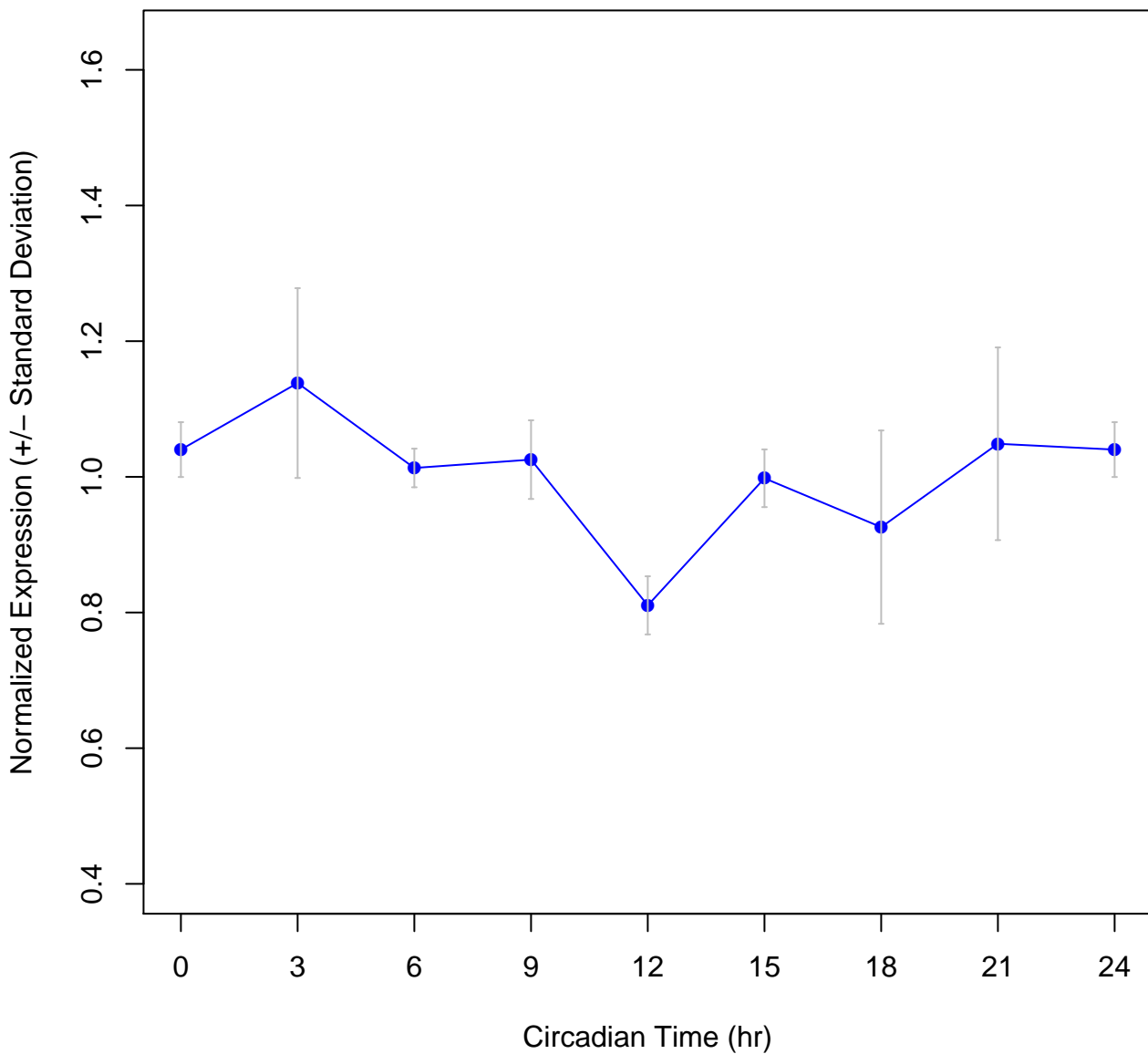
Supplement Figure 4 kat2b



### Supplement Figure 4 kifc1

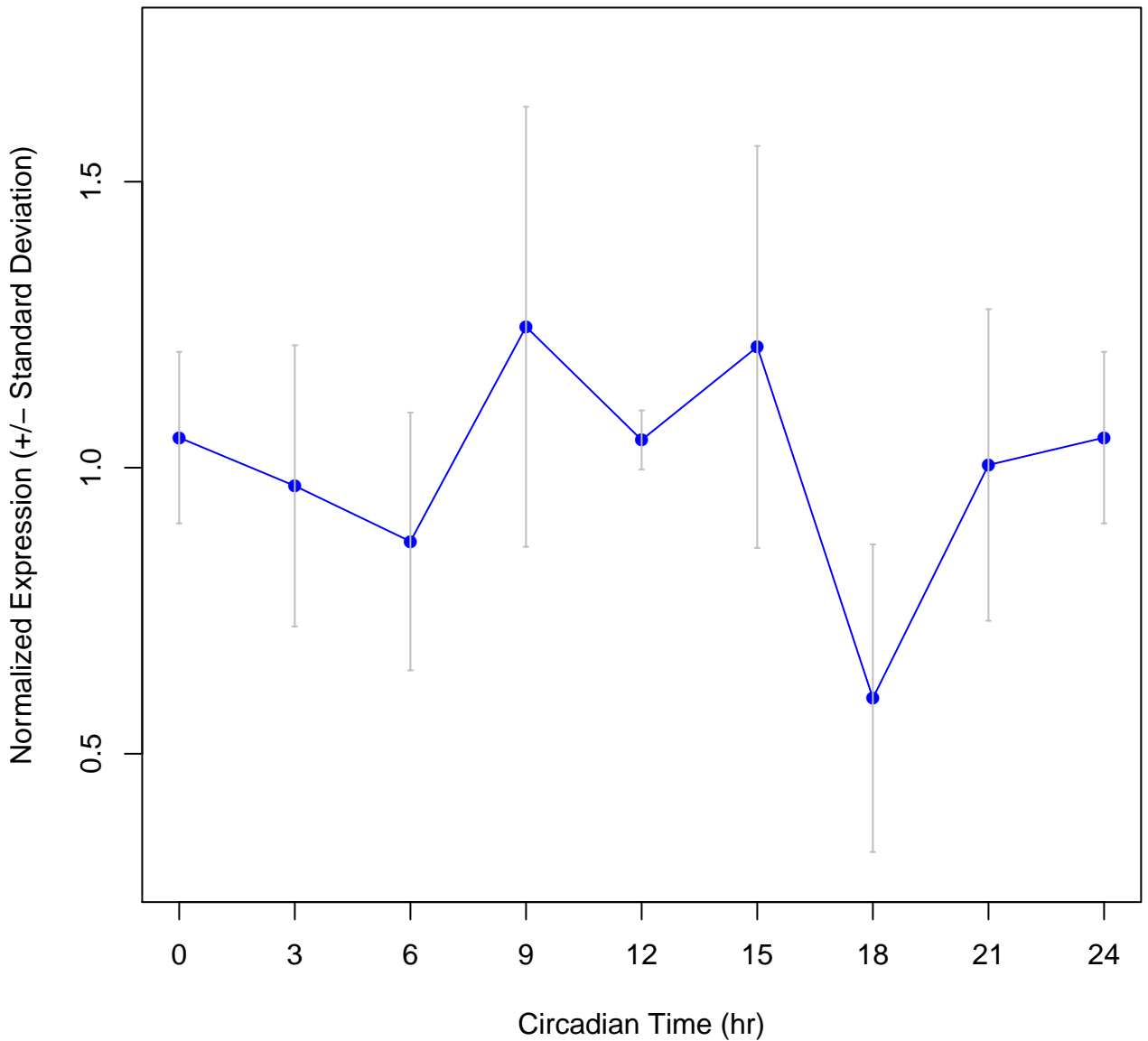


## Supplement Figure 4 kit

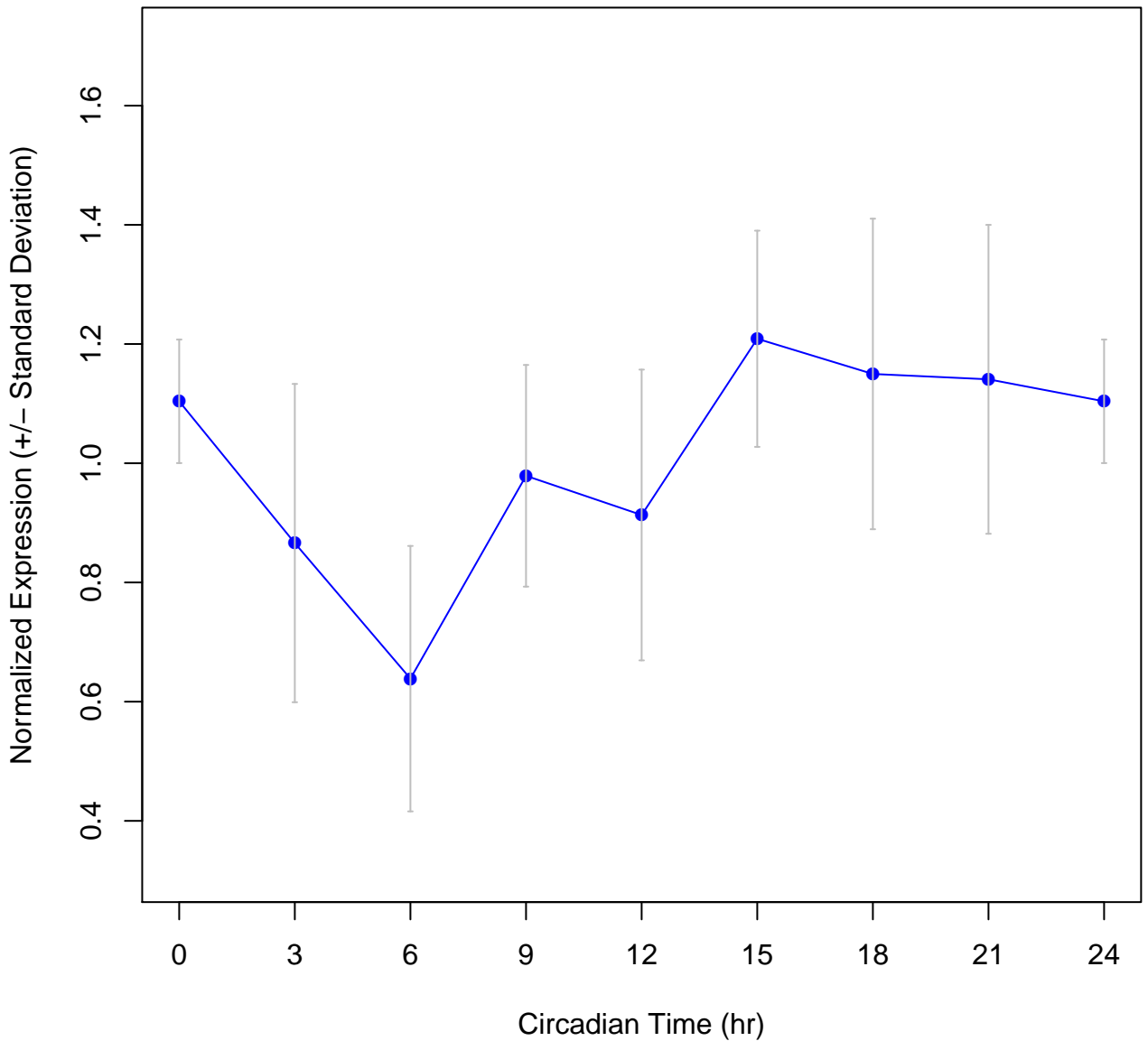




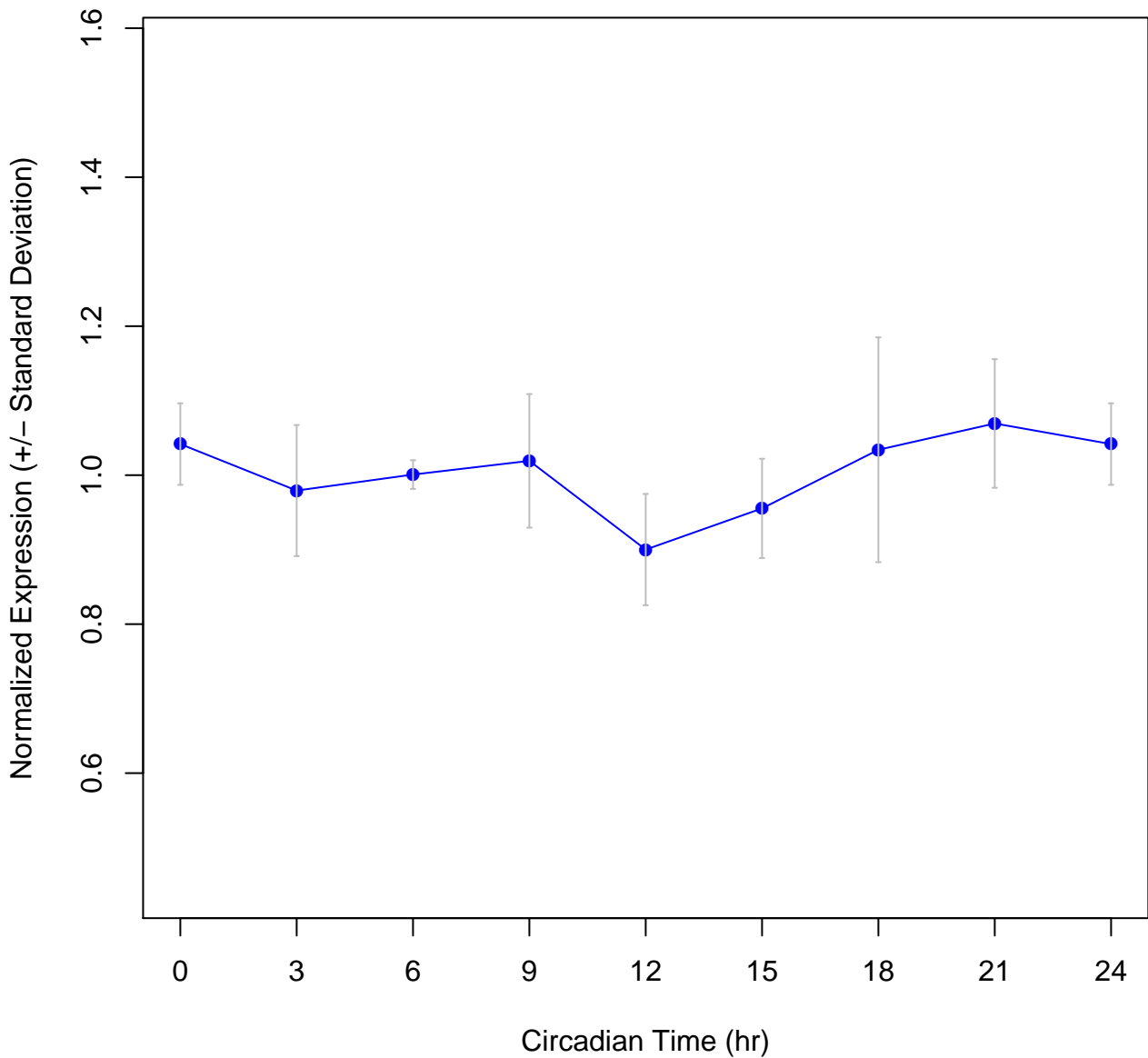
**Supplement Figure 4 klf10**



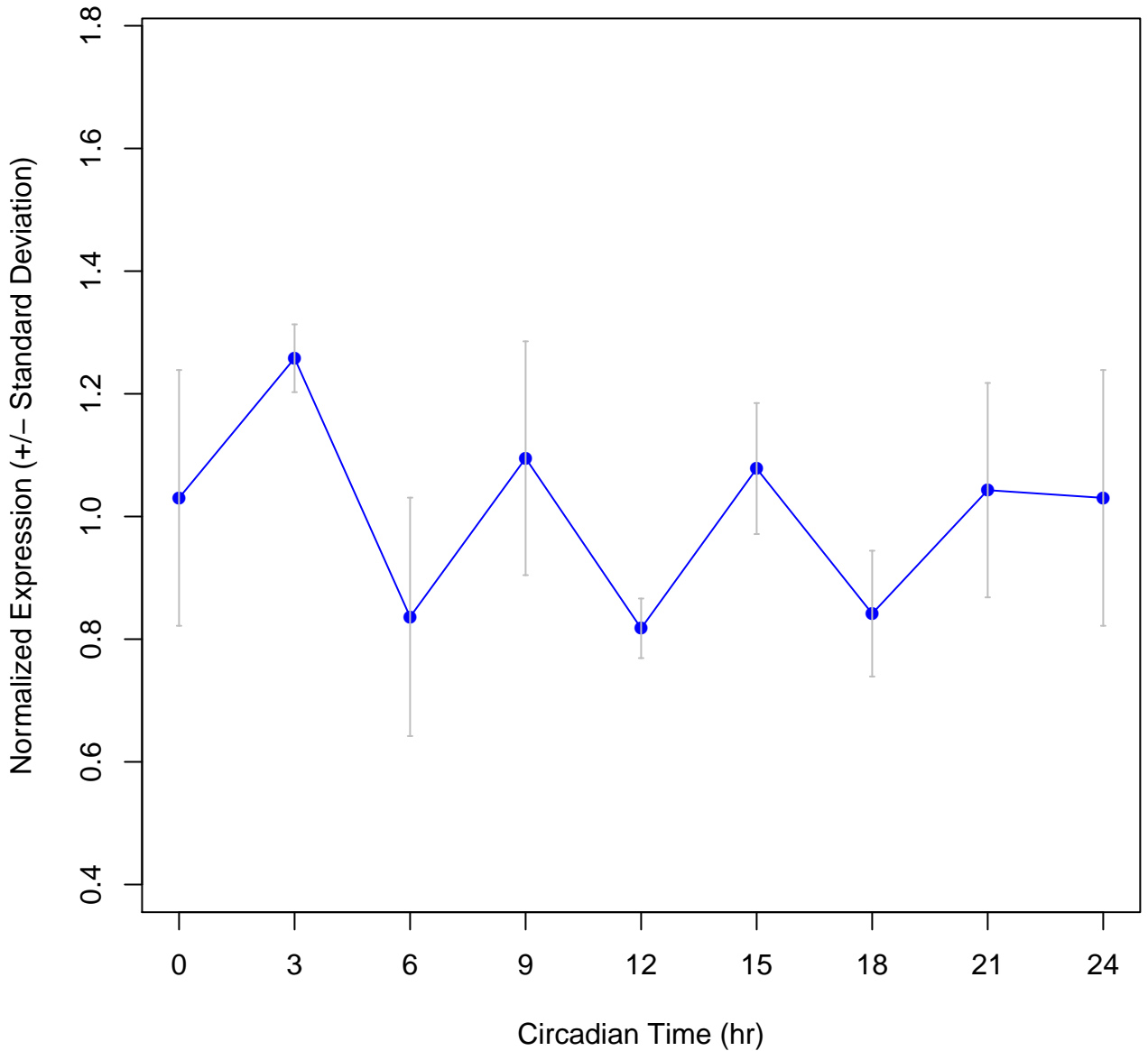
**Supplement Figure 4 klh138**



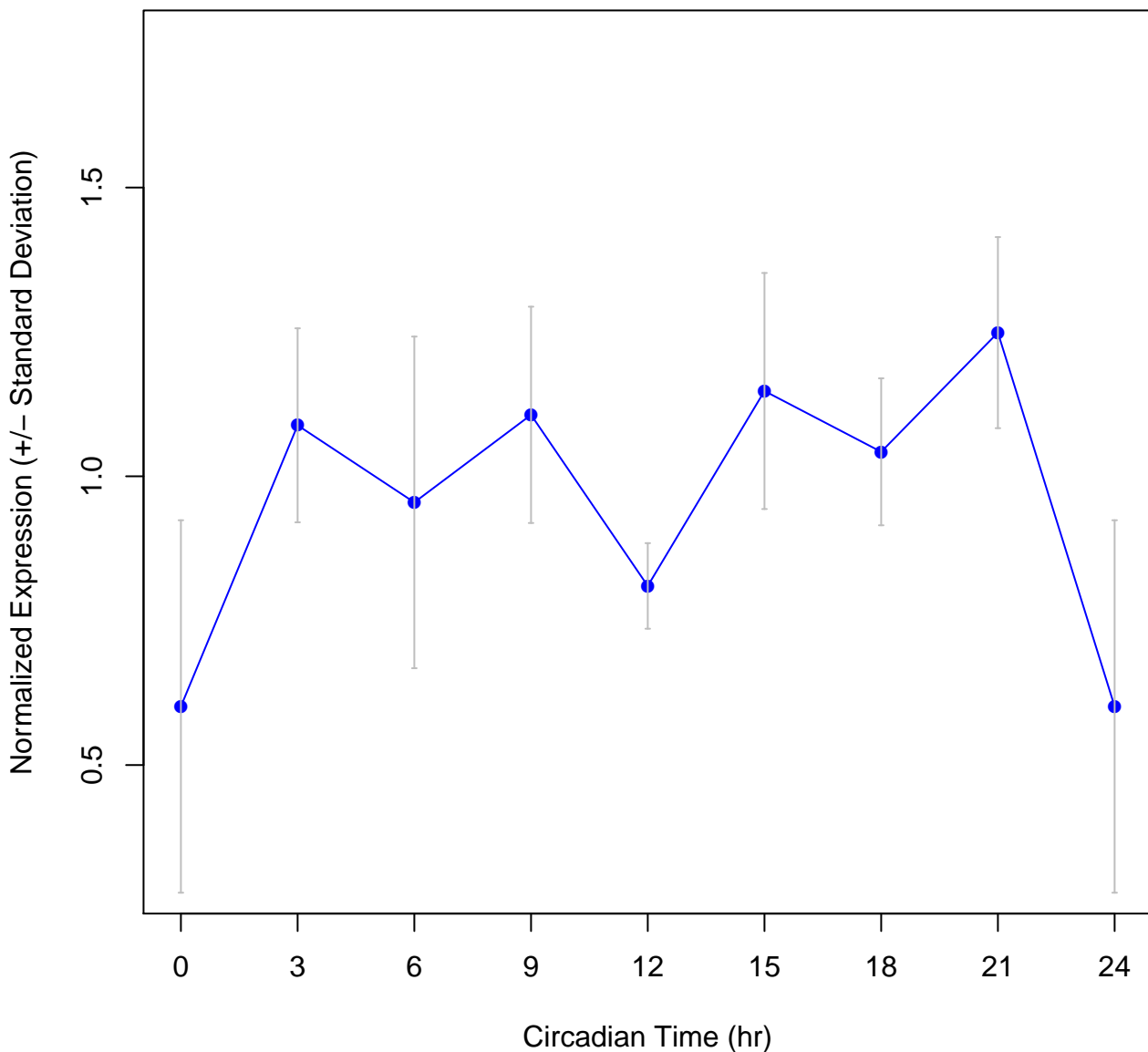
Supplement Figure 4 kmt2a



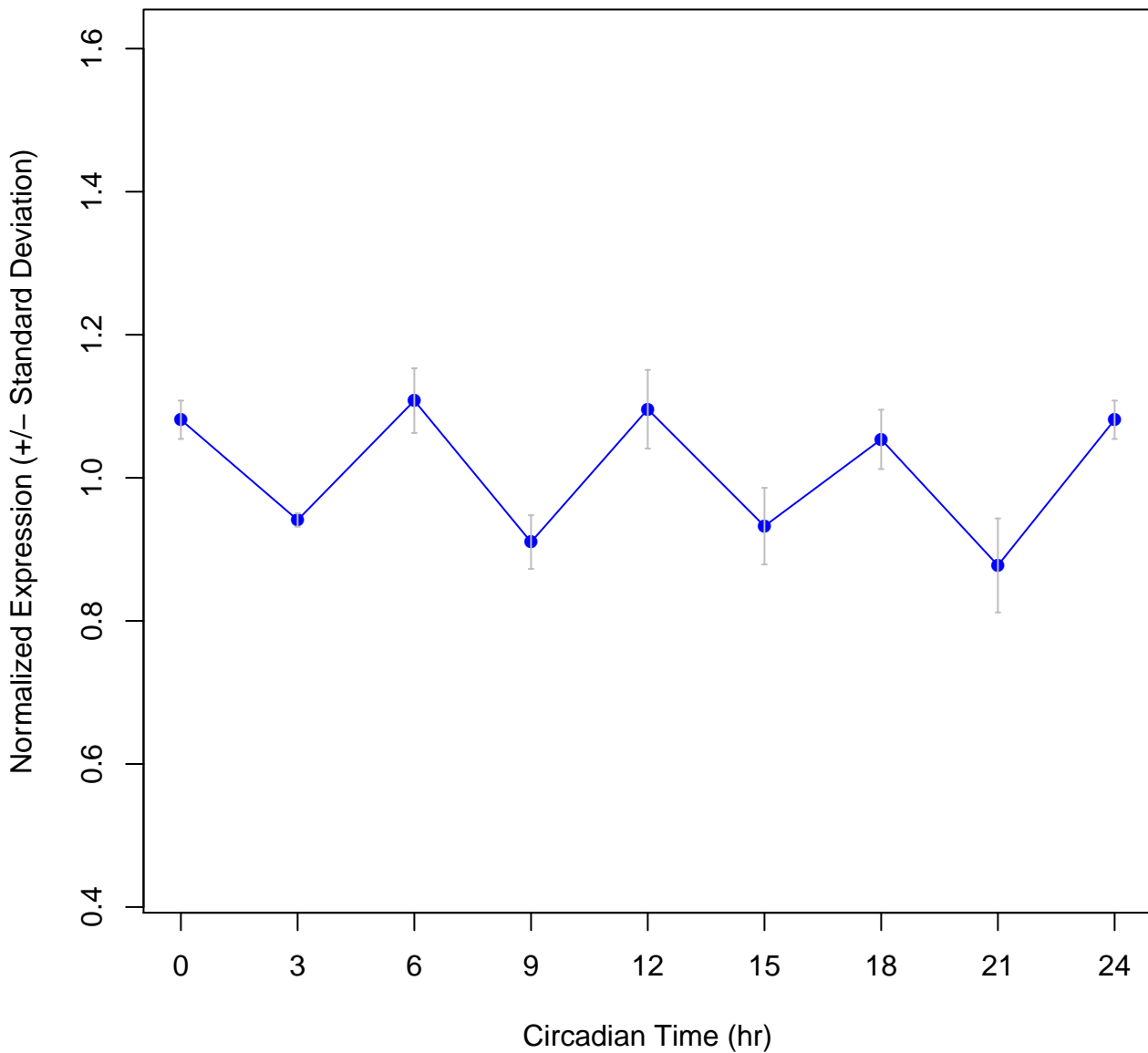
Supplement Figure 4 kpna2



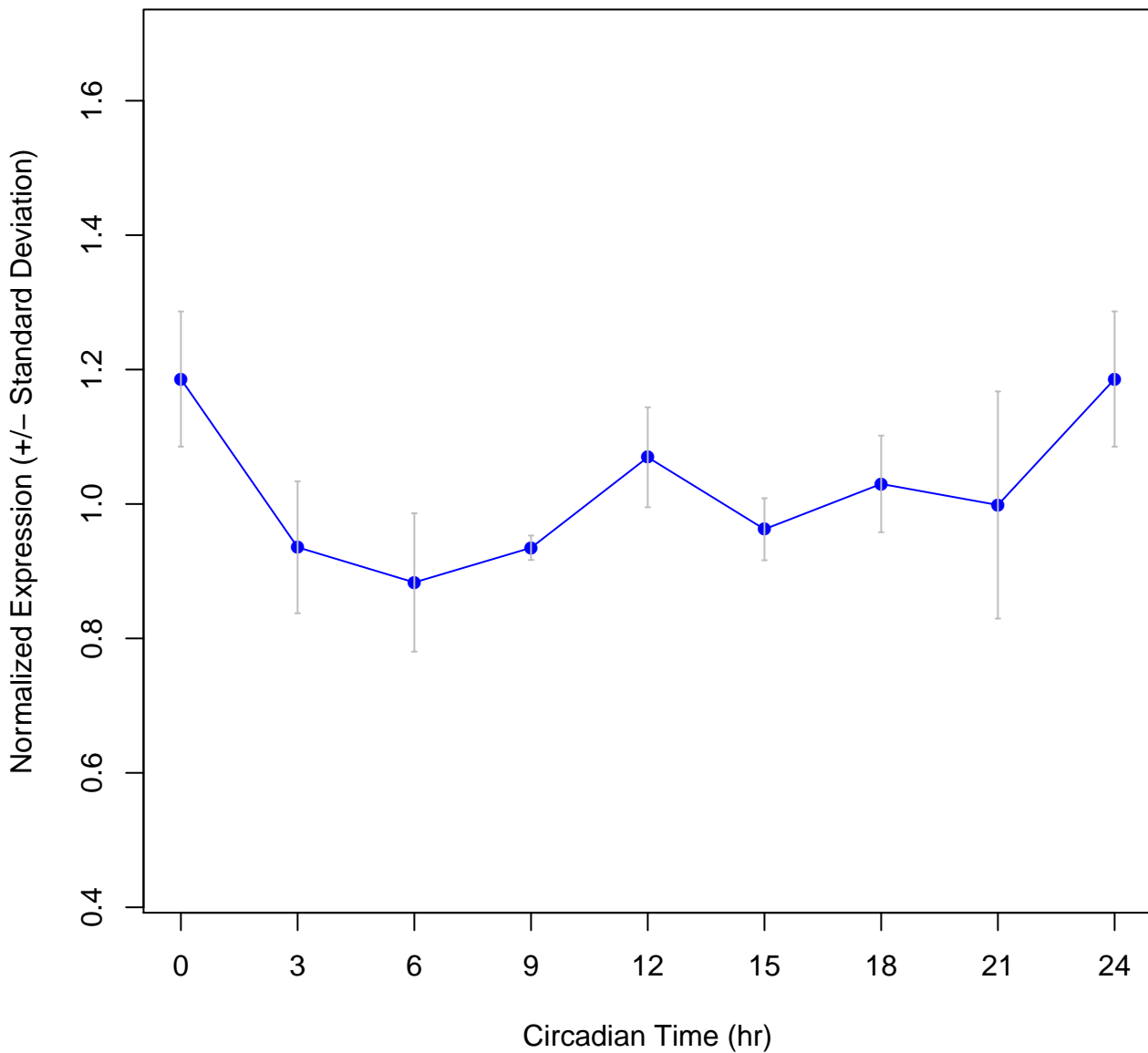
**Supplement Figure 4 lcp2**



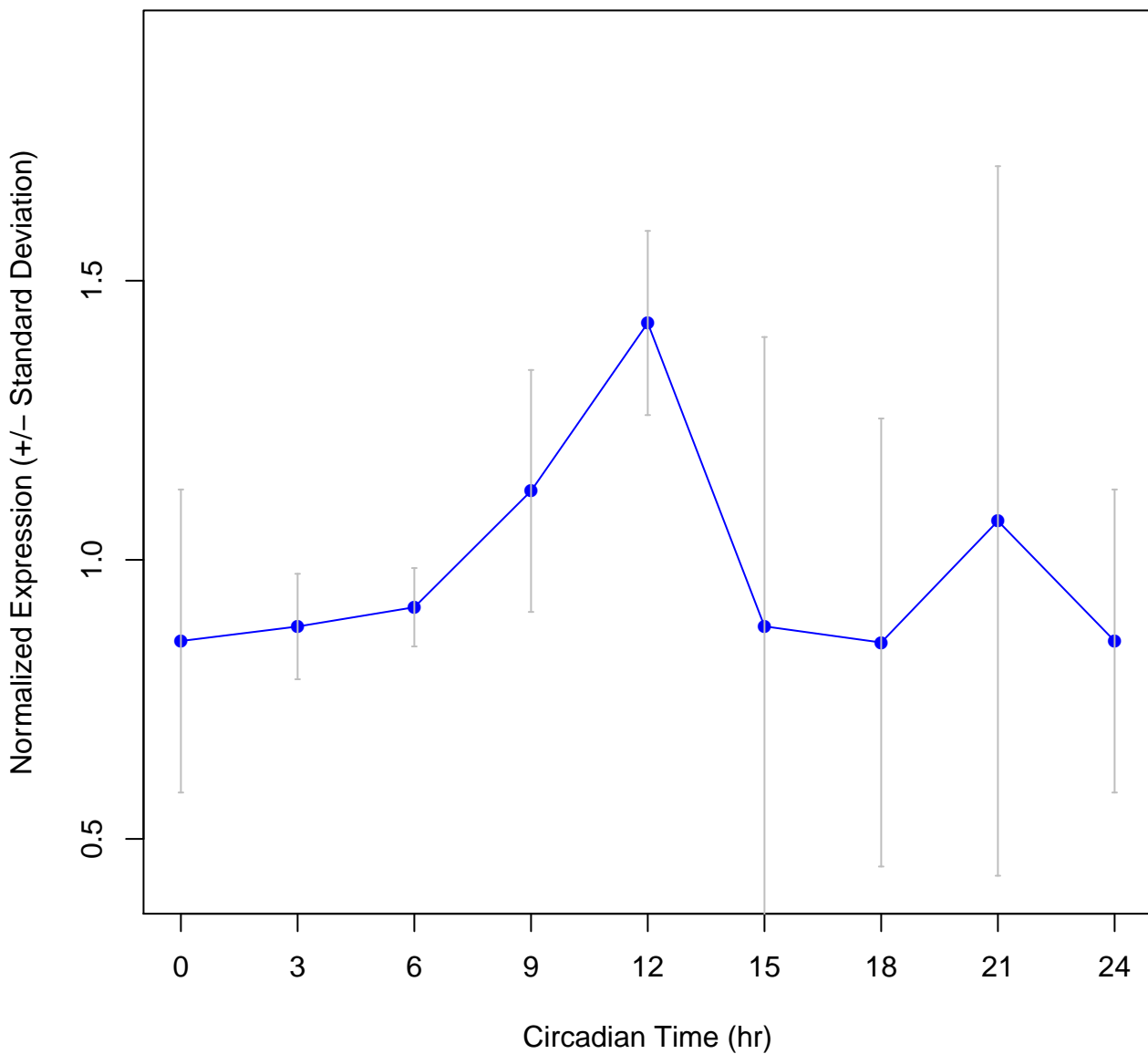
## Supplement Figure 4 Ikb1



## Supplement Figure 4 Ipin1

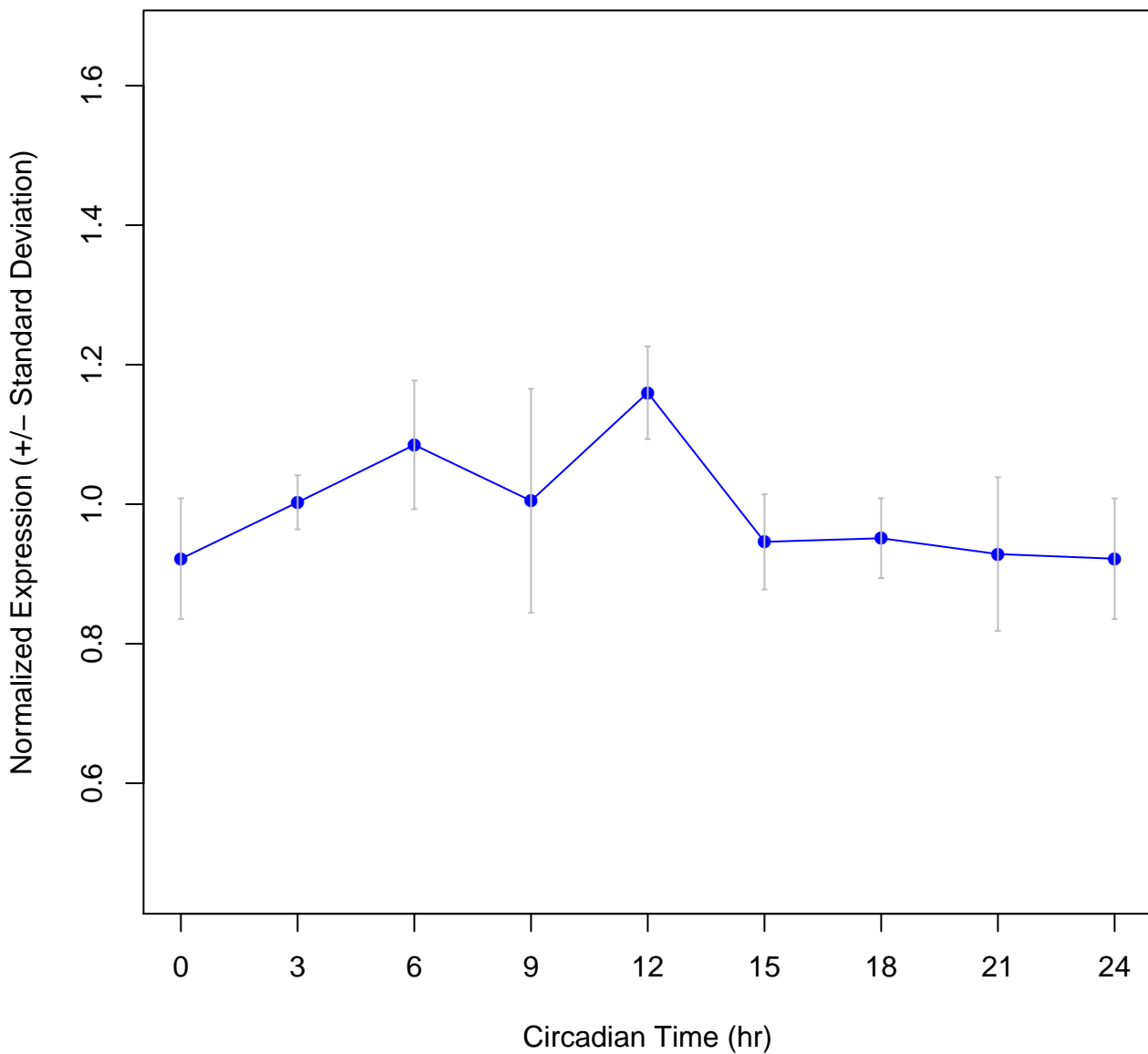


Supplement Figure 4 mad211

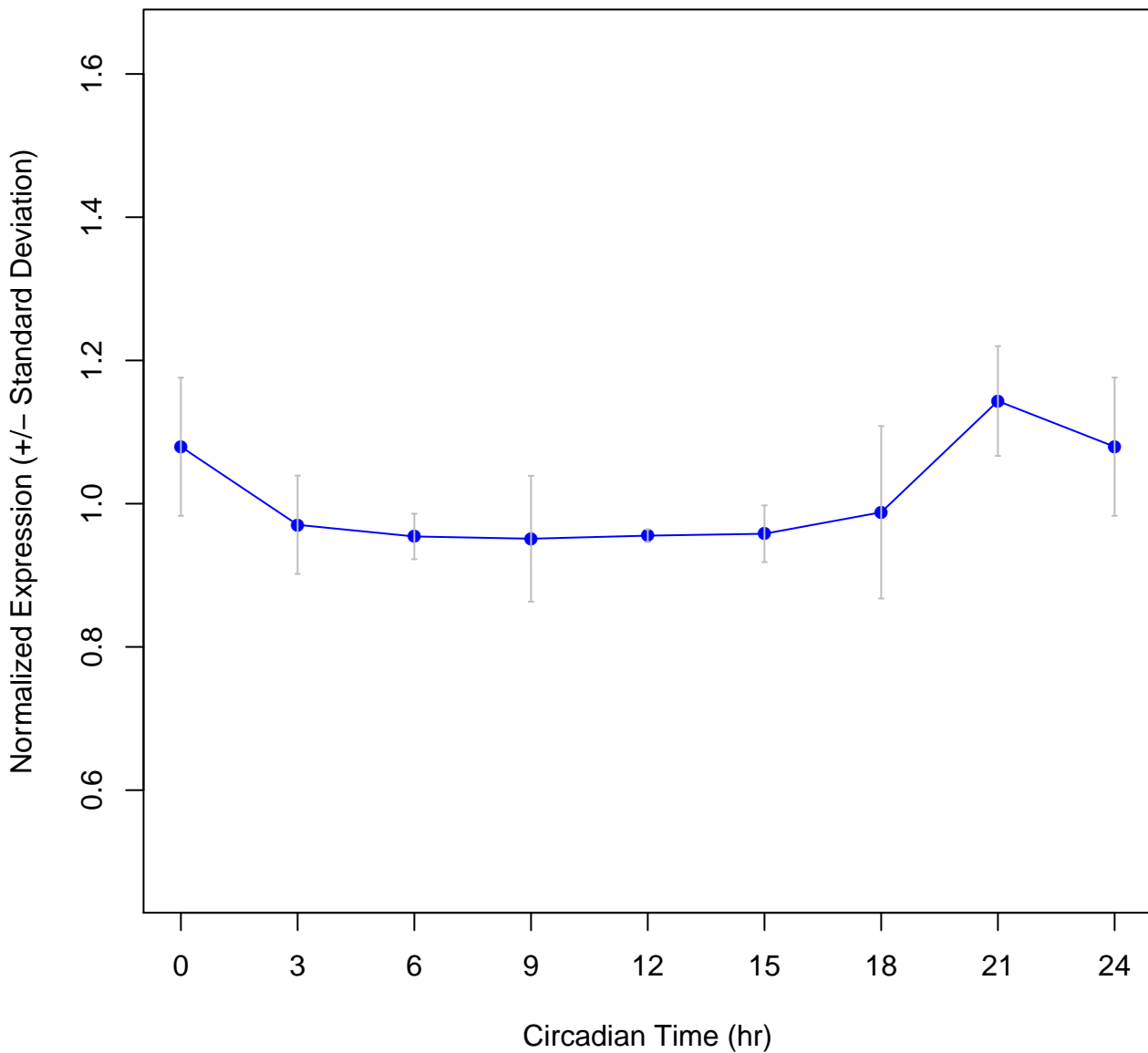




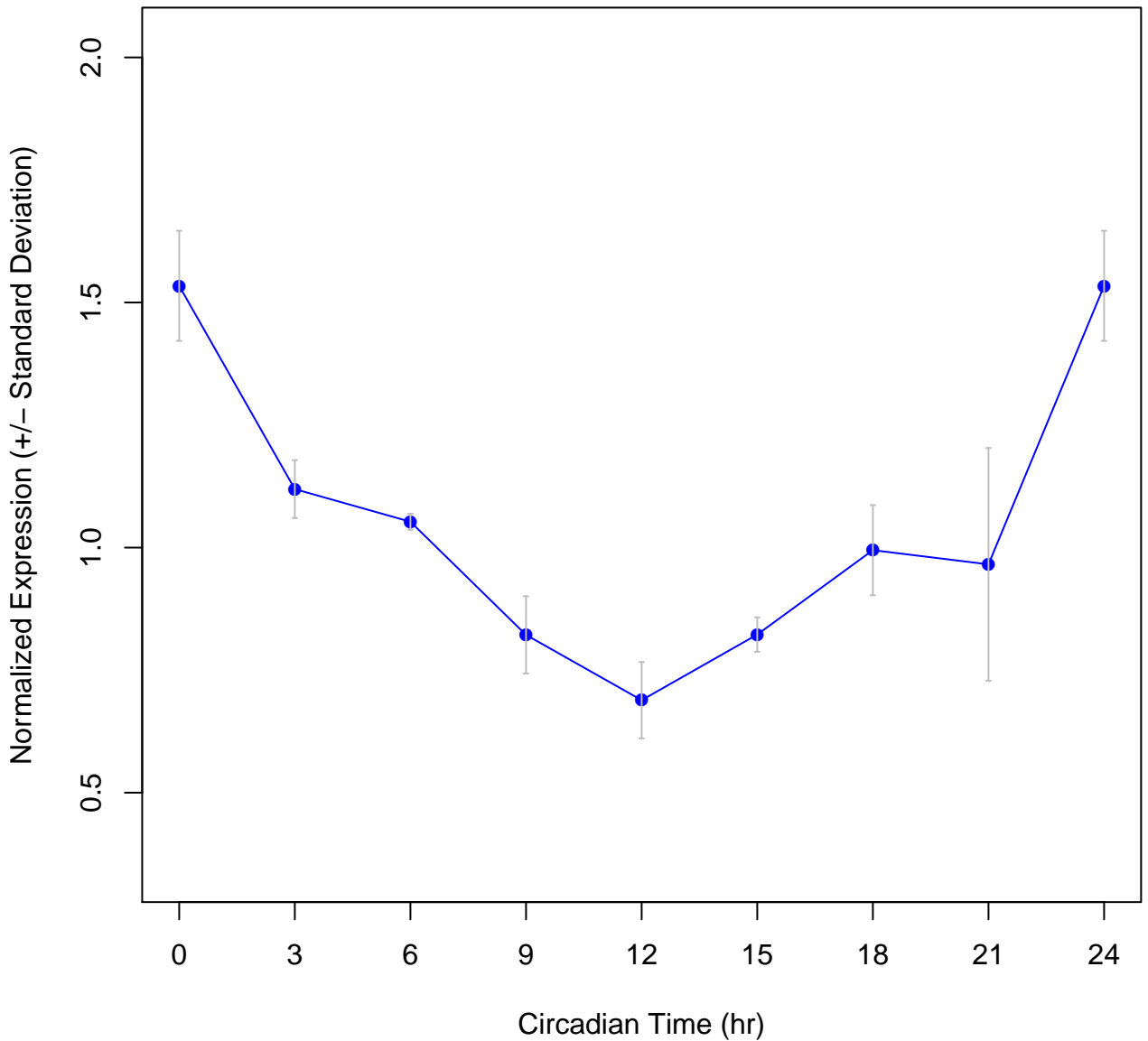
Supplement Figure 4 map2k1



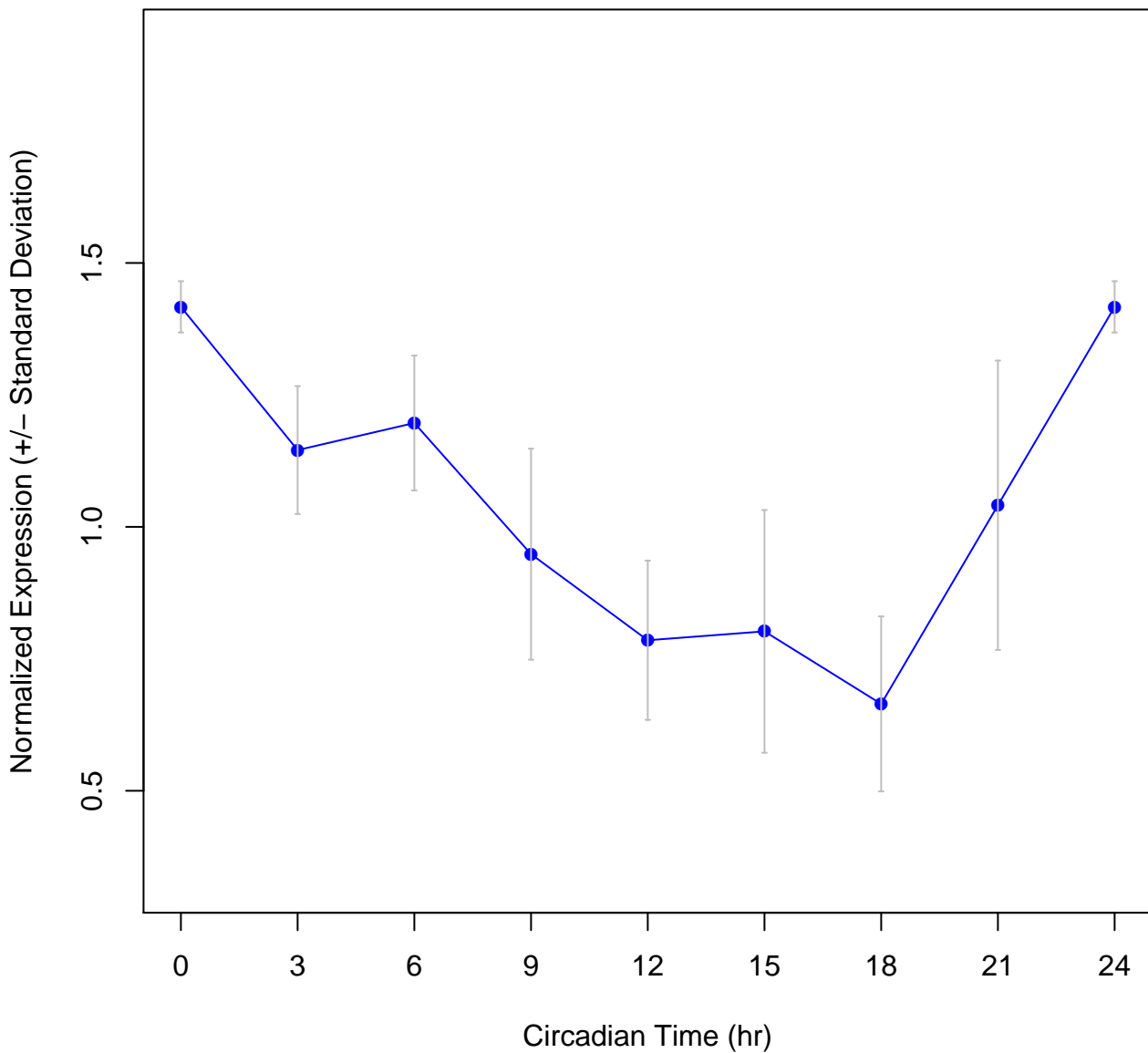
Supplement Figure 4 map2k6



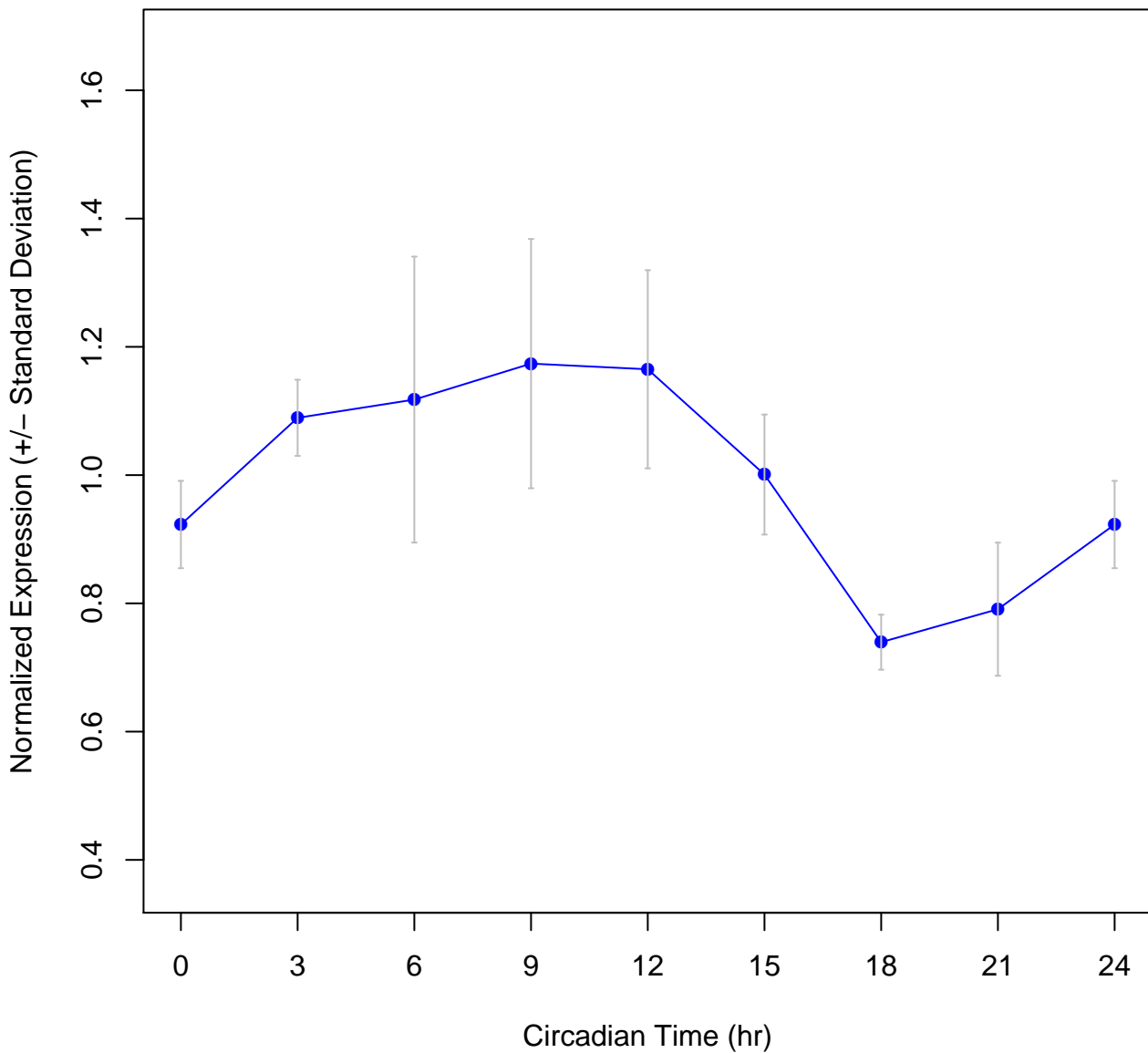
Supplement Figure 4 mcl1



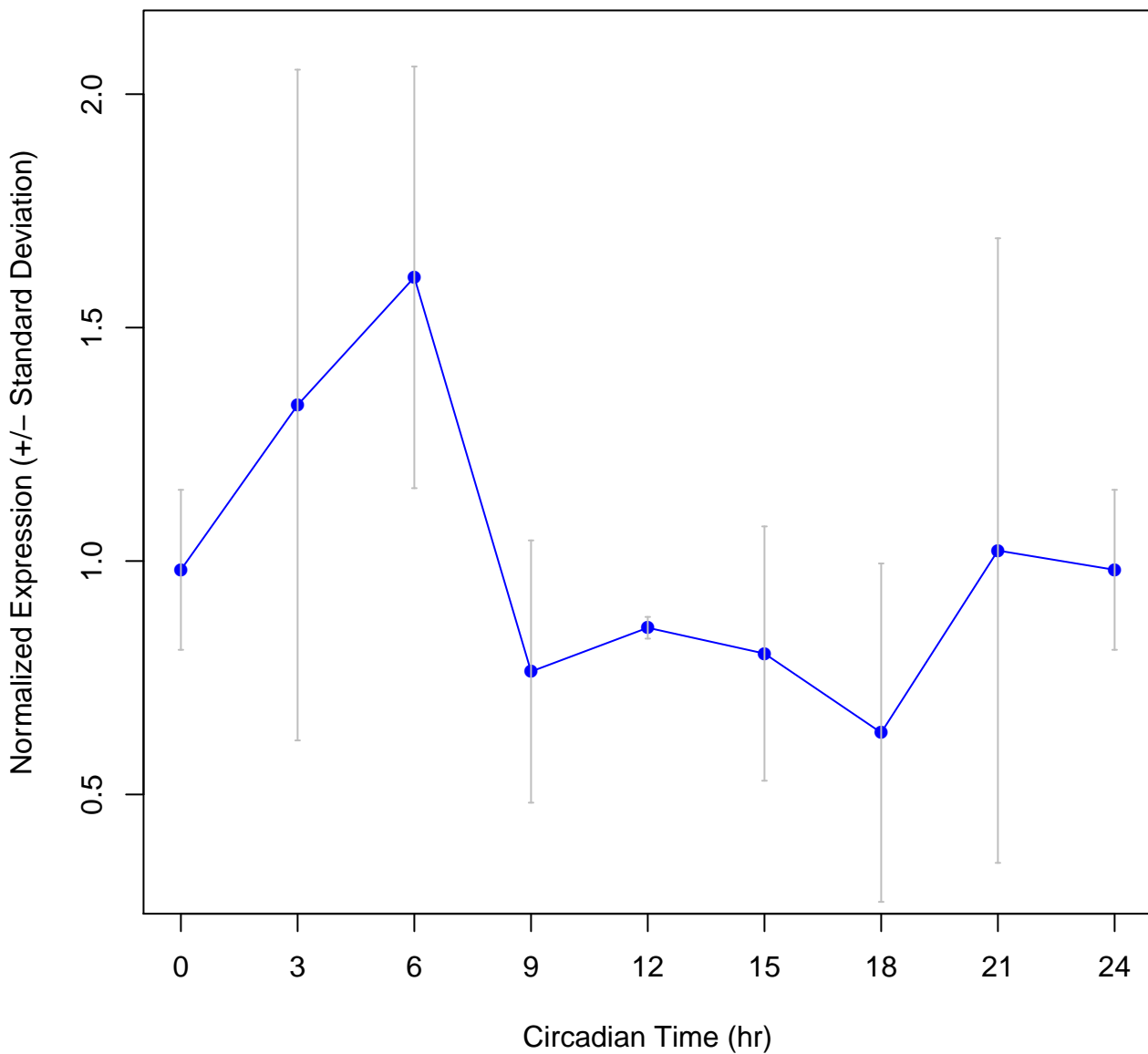
Supplement Figure 4 me1



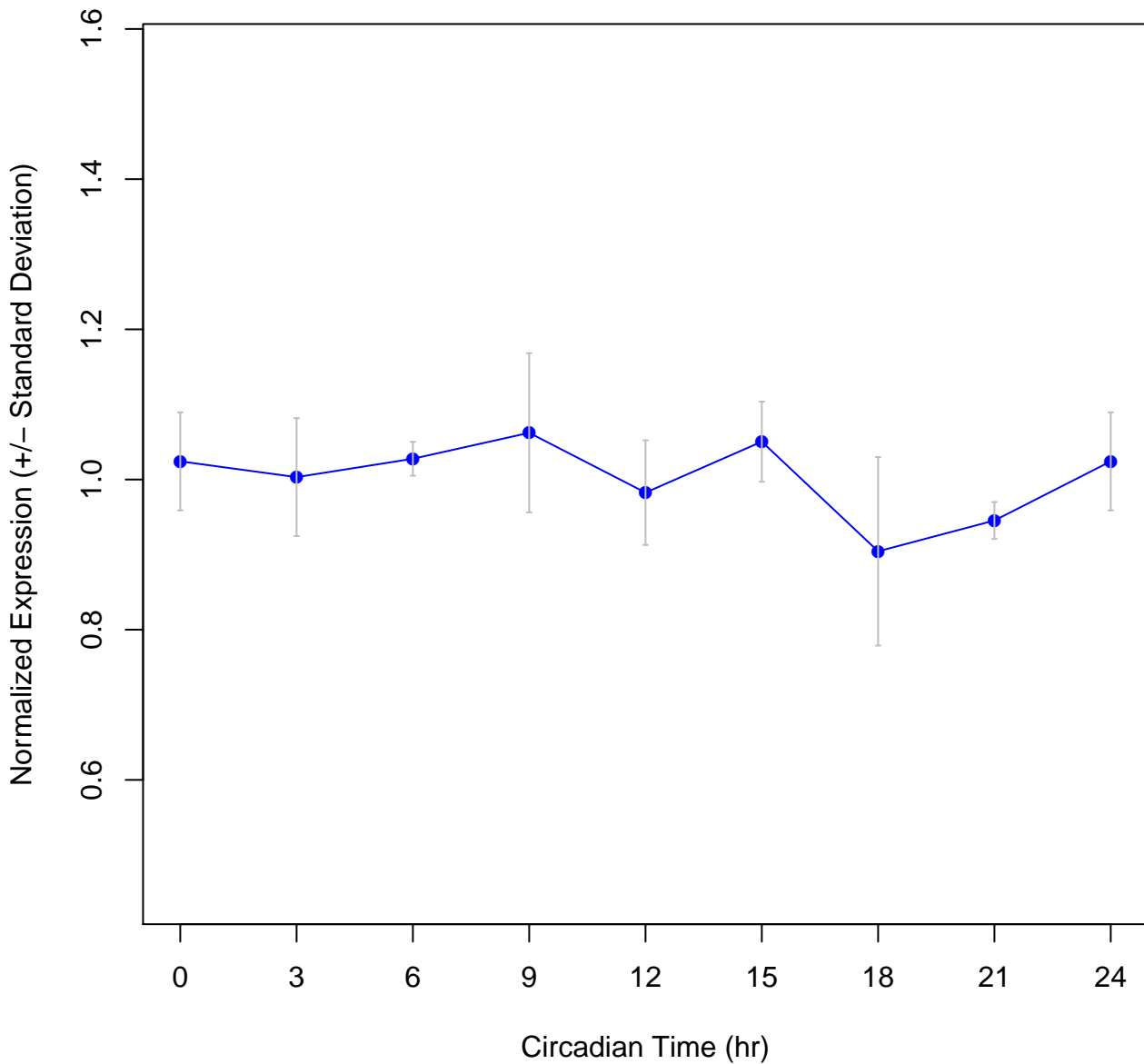
Supplement Figure 4 mgst1



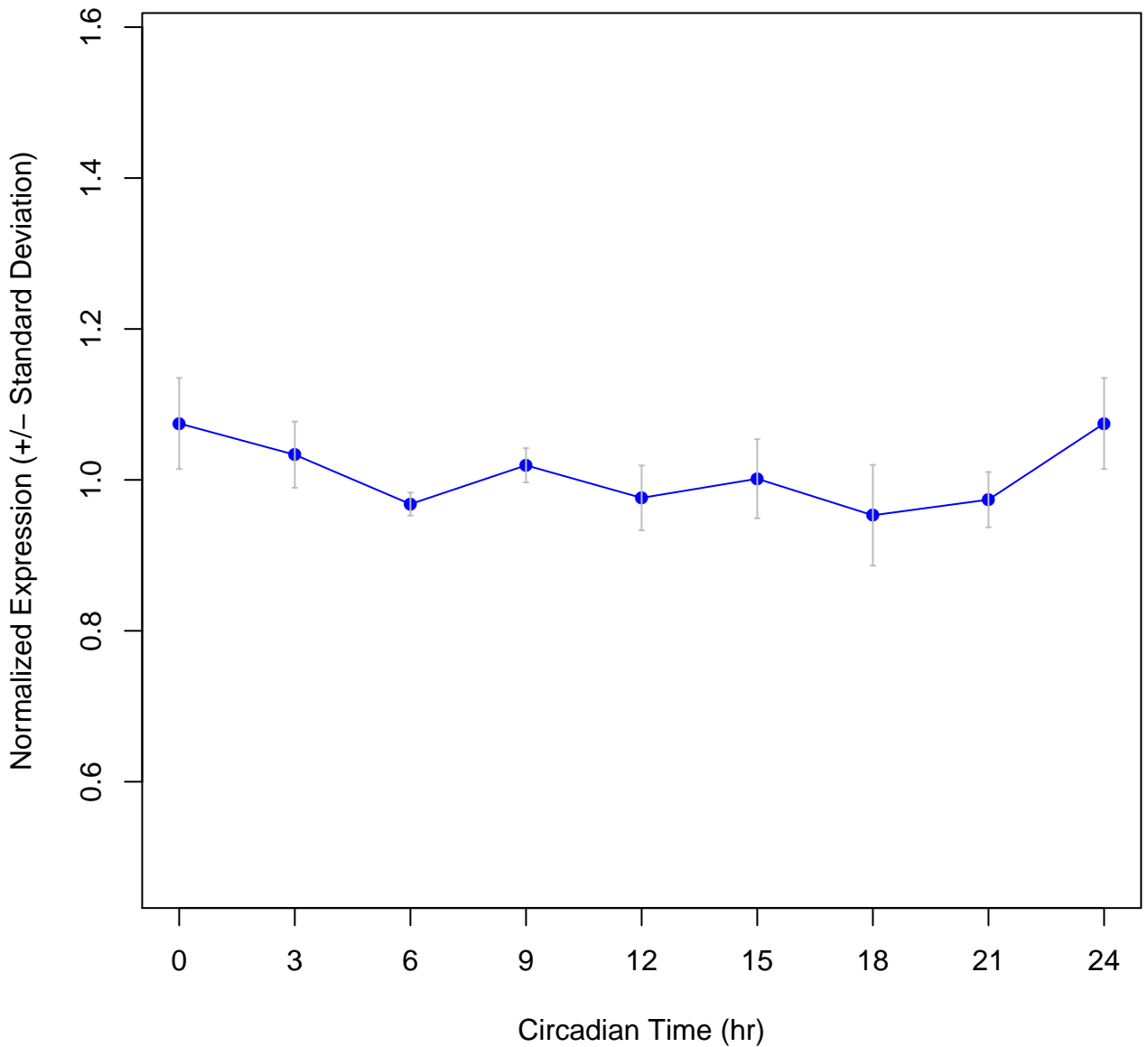
Supplement Figure 4 mitf



Supplement Figure 4 mtcl

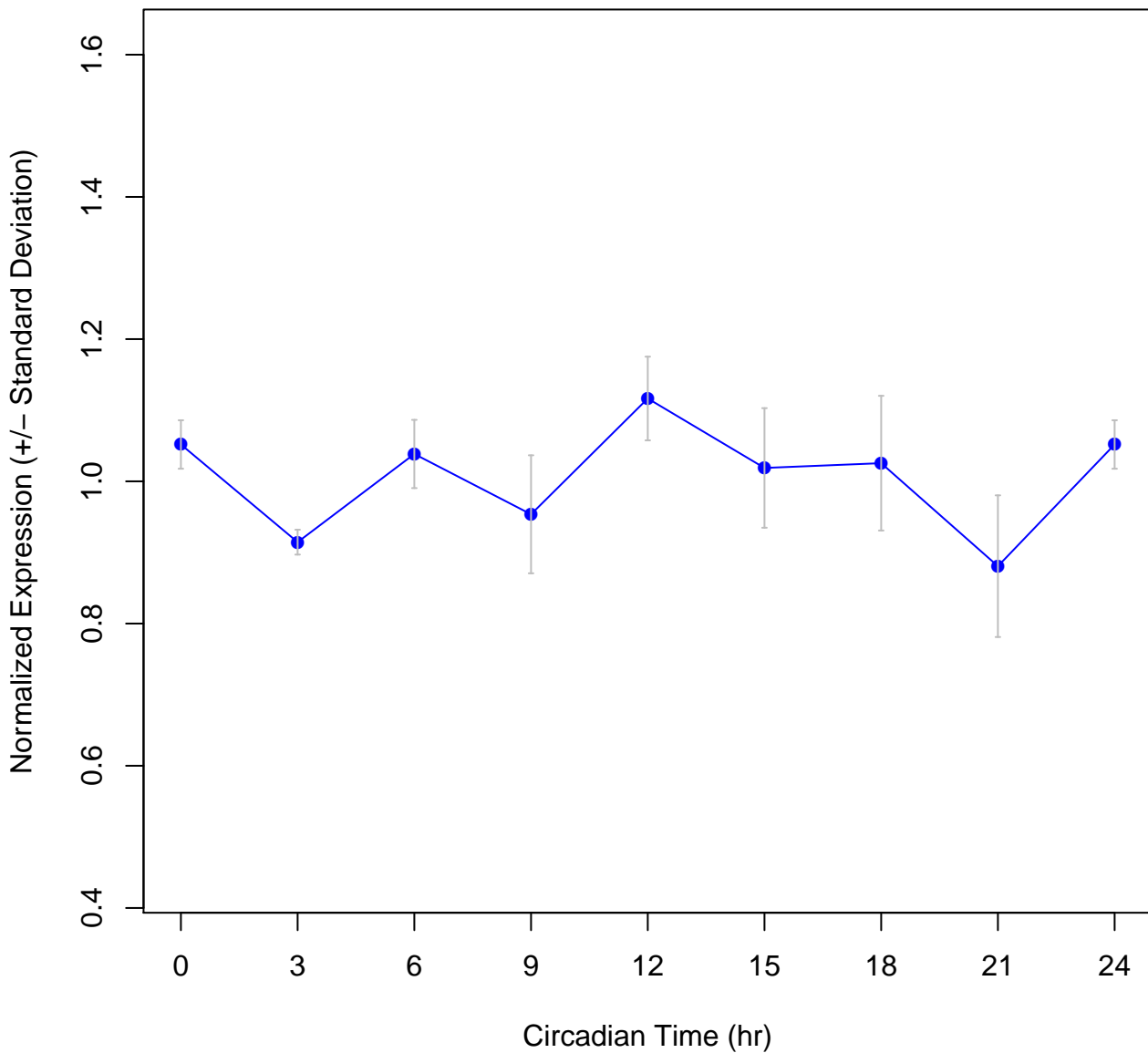


## Supplement Figure 4 mtor

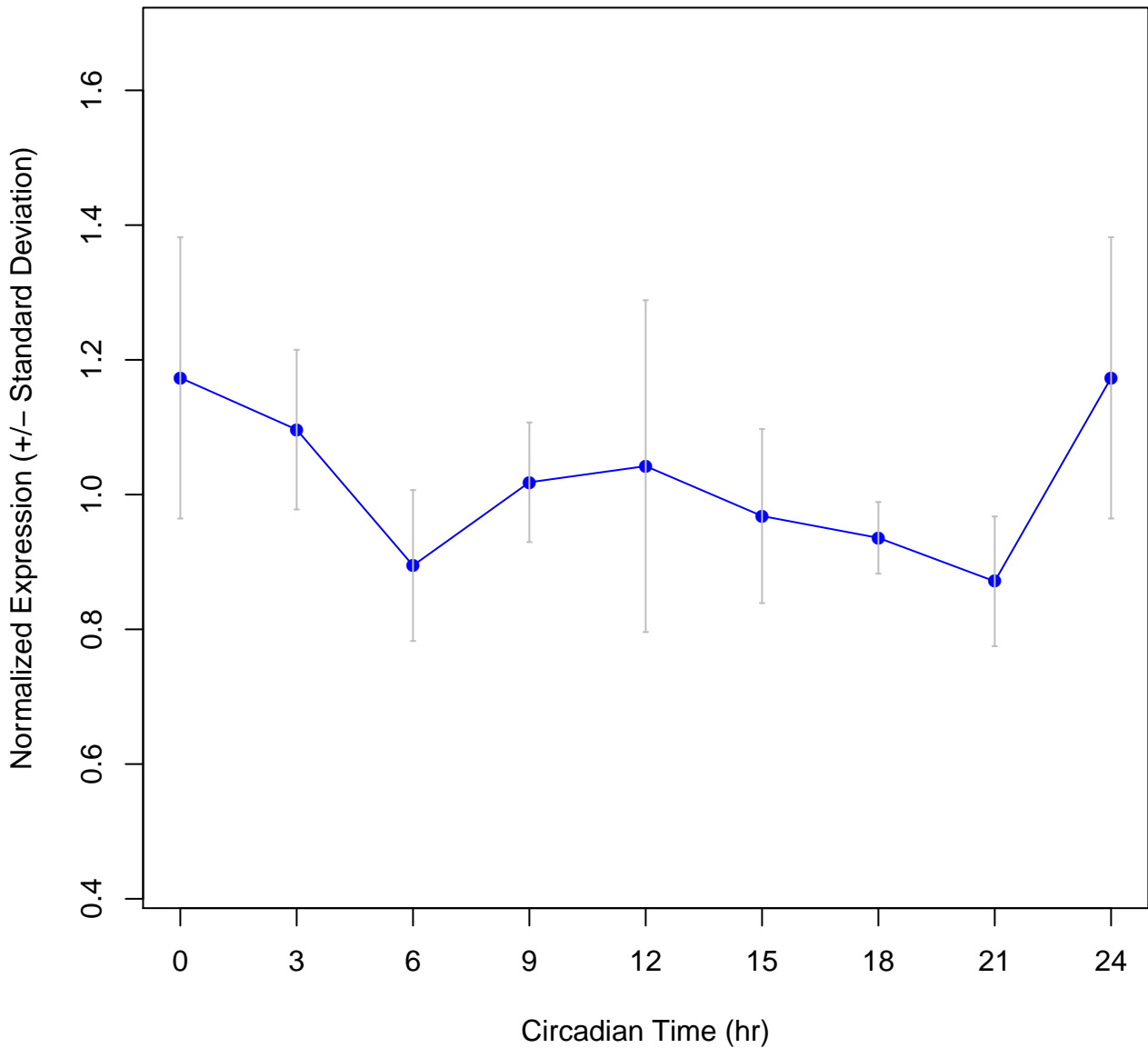




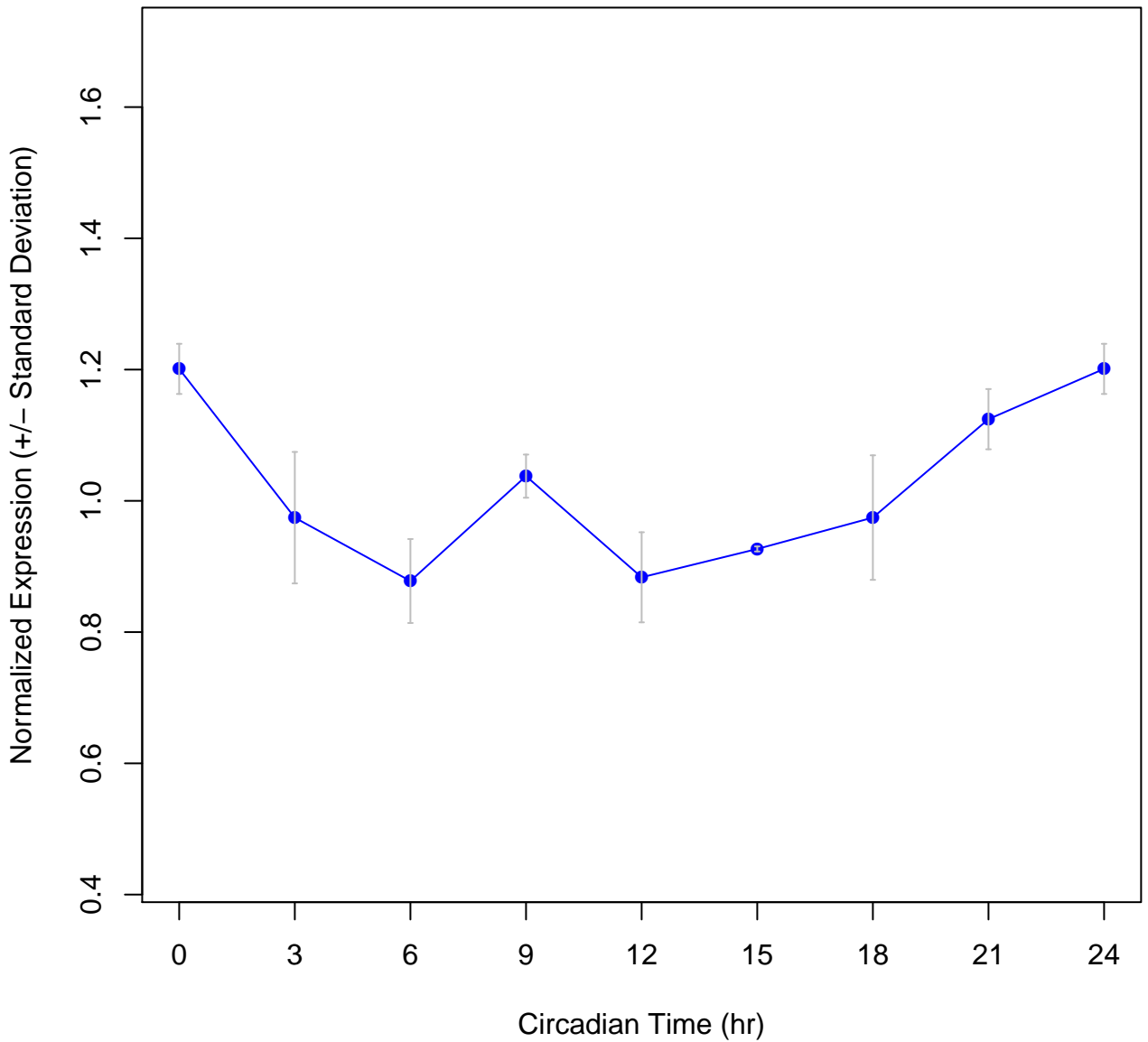
Supplement Figure 4 myh14



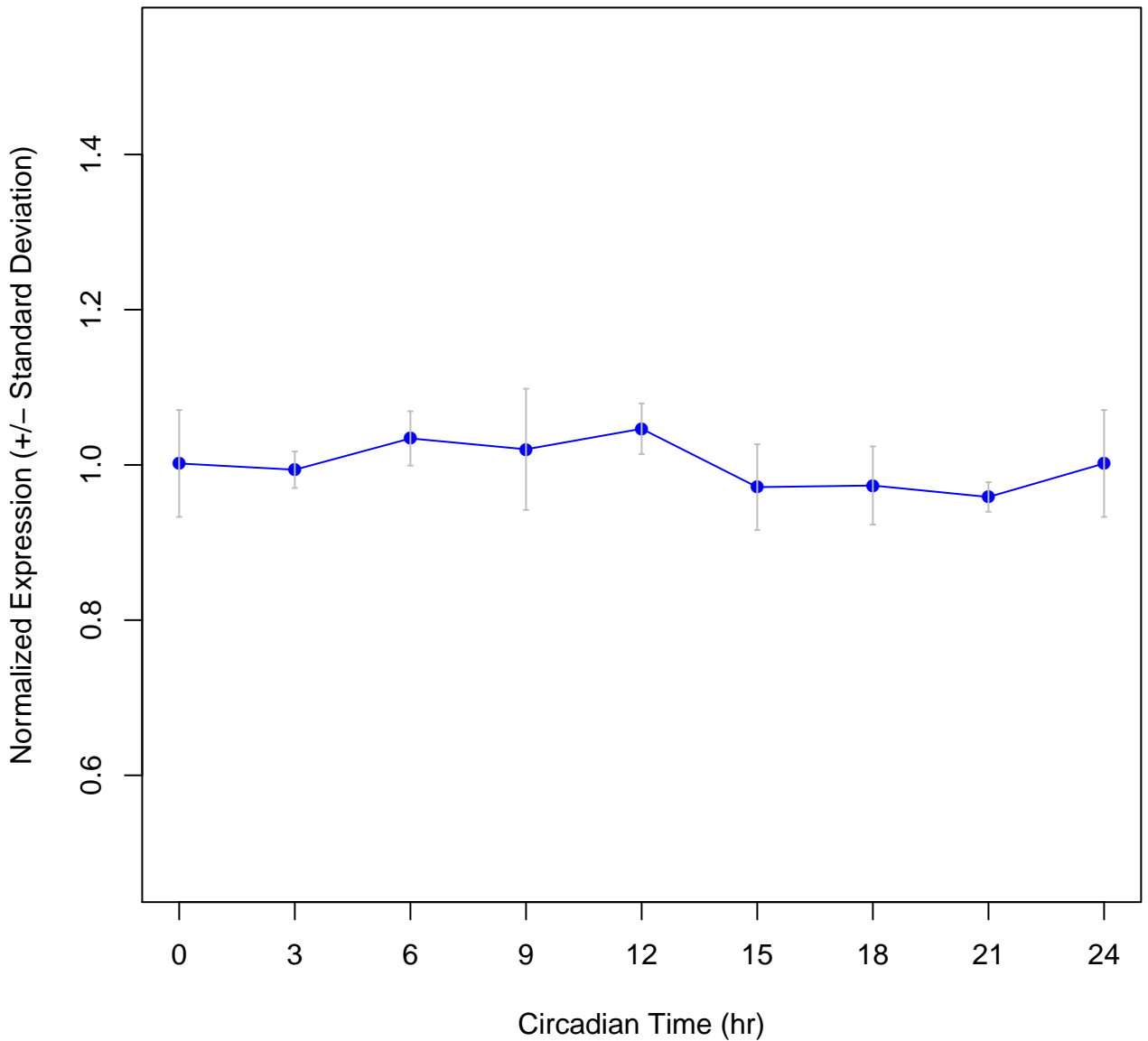
Supplement Figure 4 myl2b



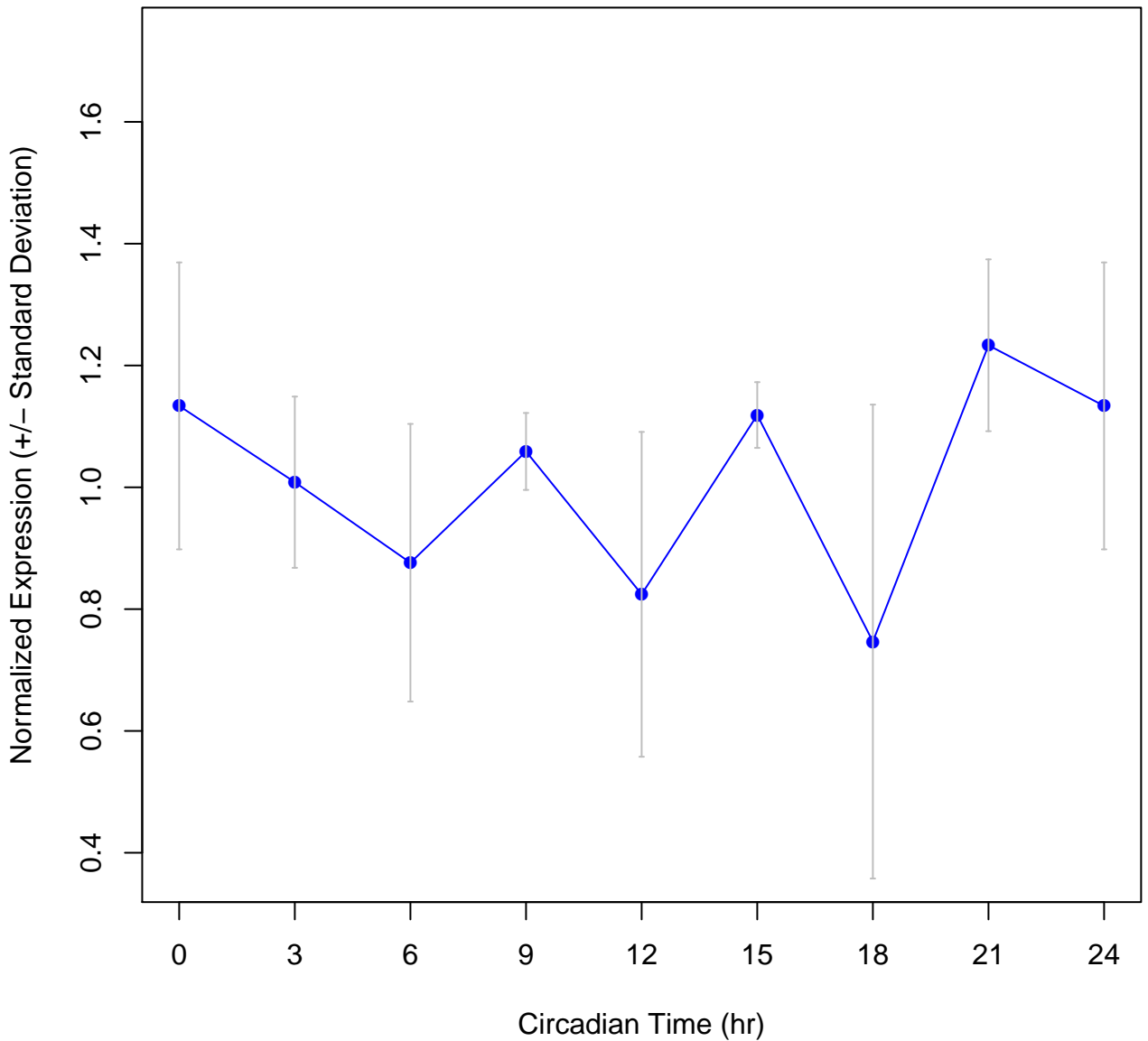
Supplement Figure 4 nadsyn1



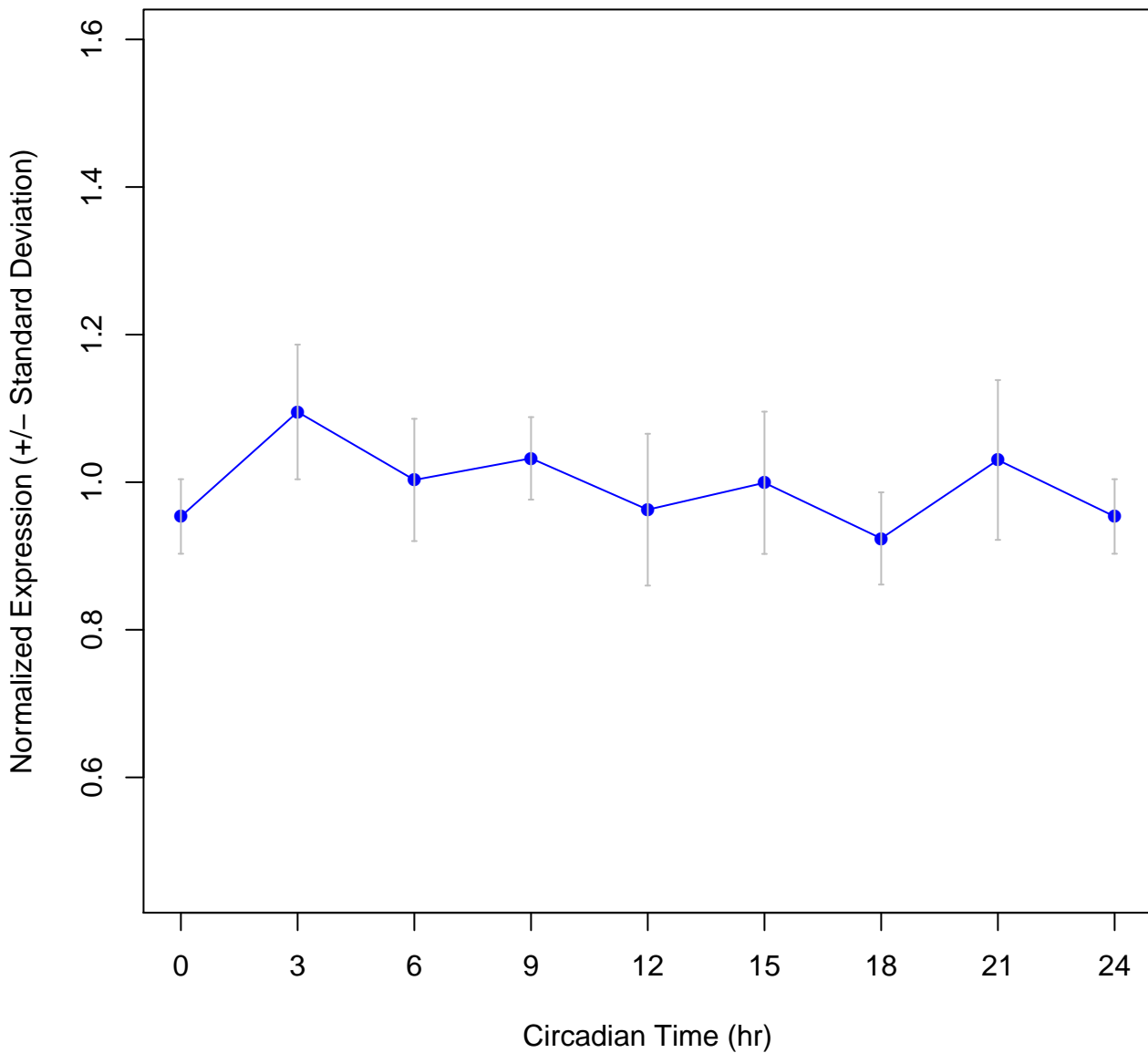
Supplement Figure 4 ncor1



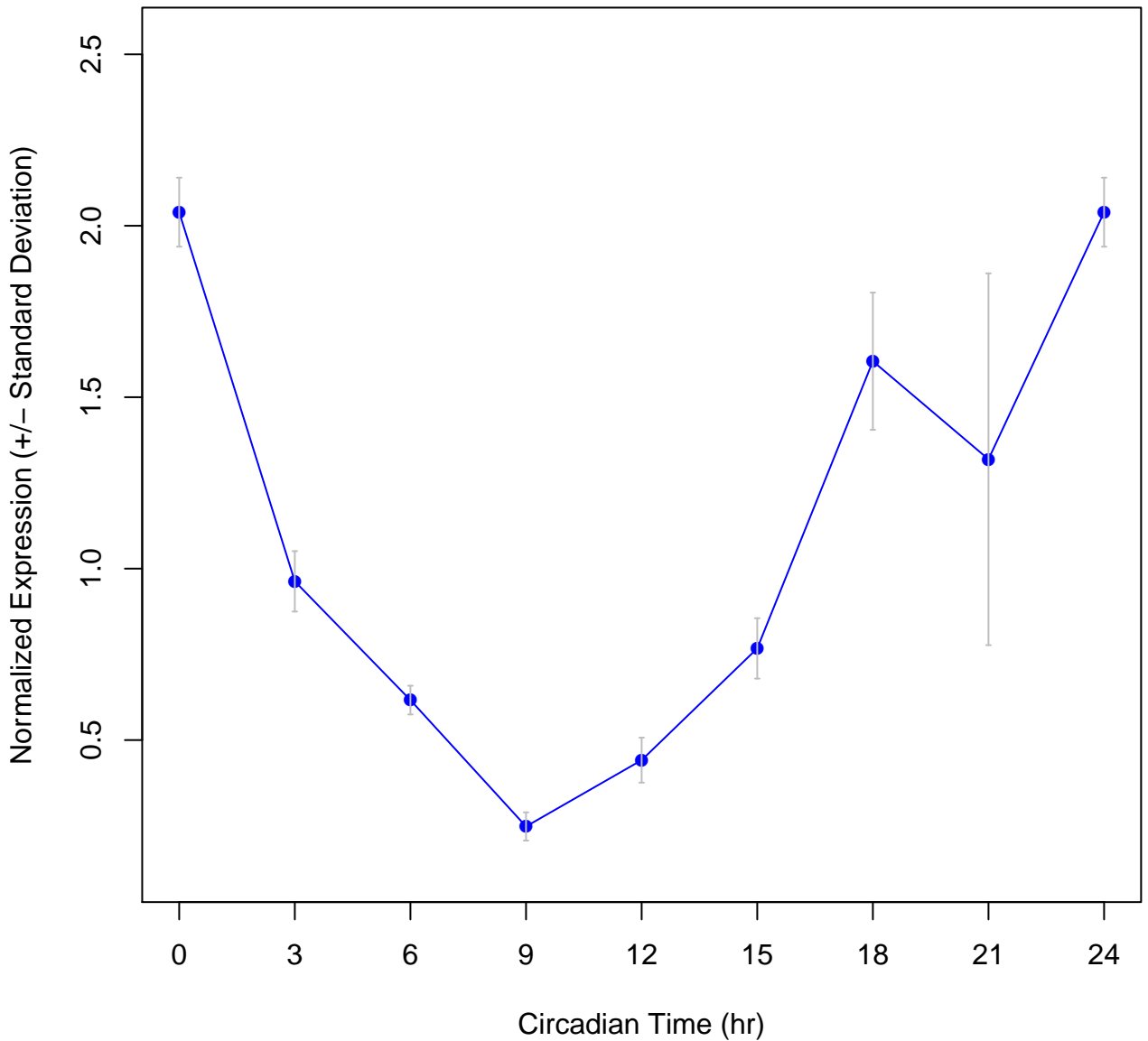
Supplement Figure 4 ncor2



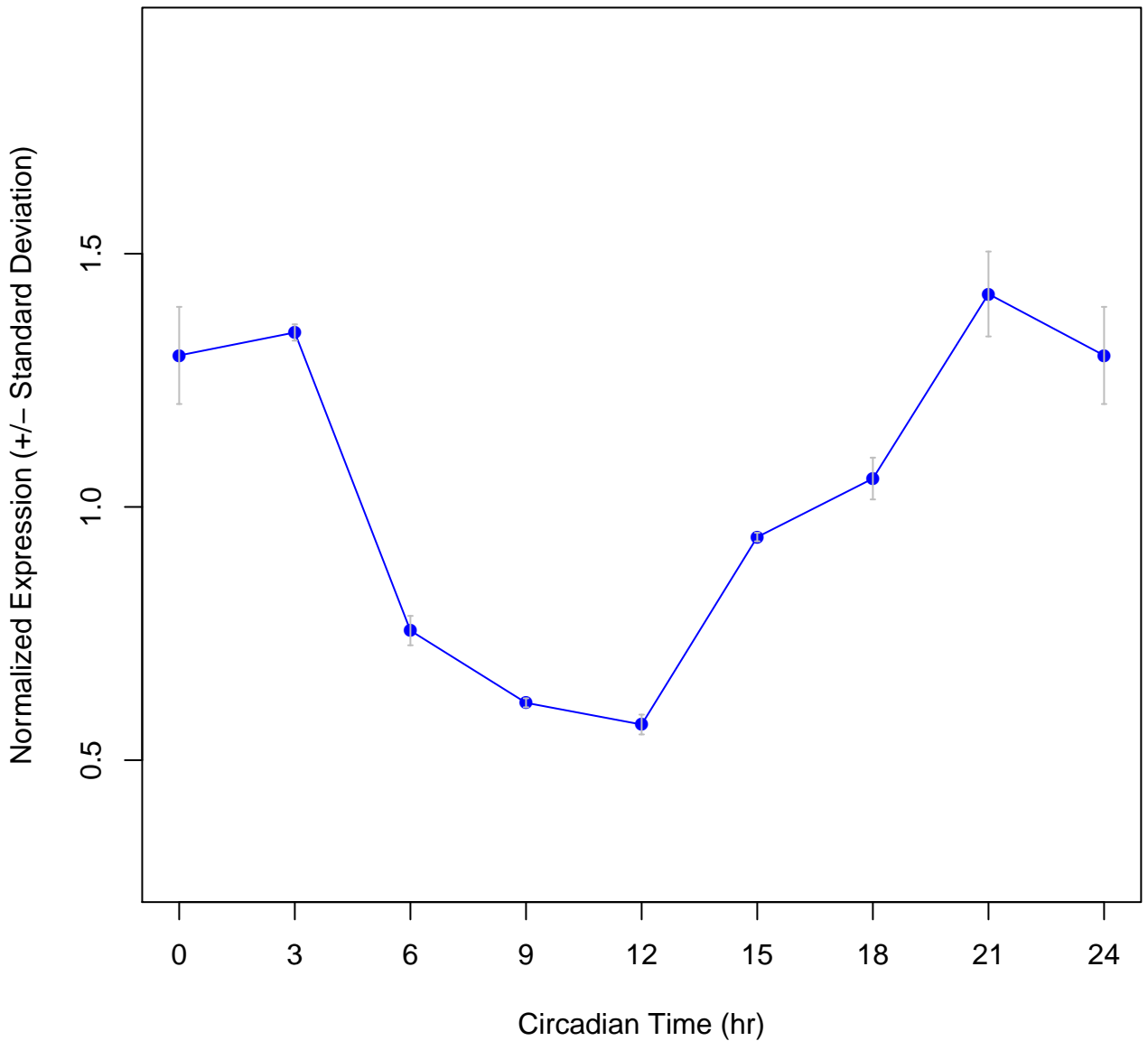
Supplement Figure 4 nos2



**Supplement Figure 4 nr1d1**

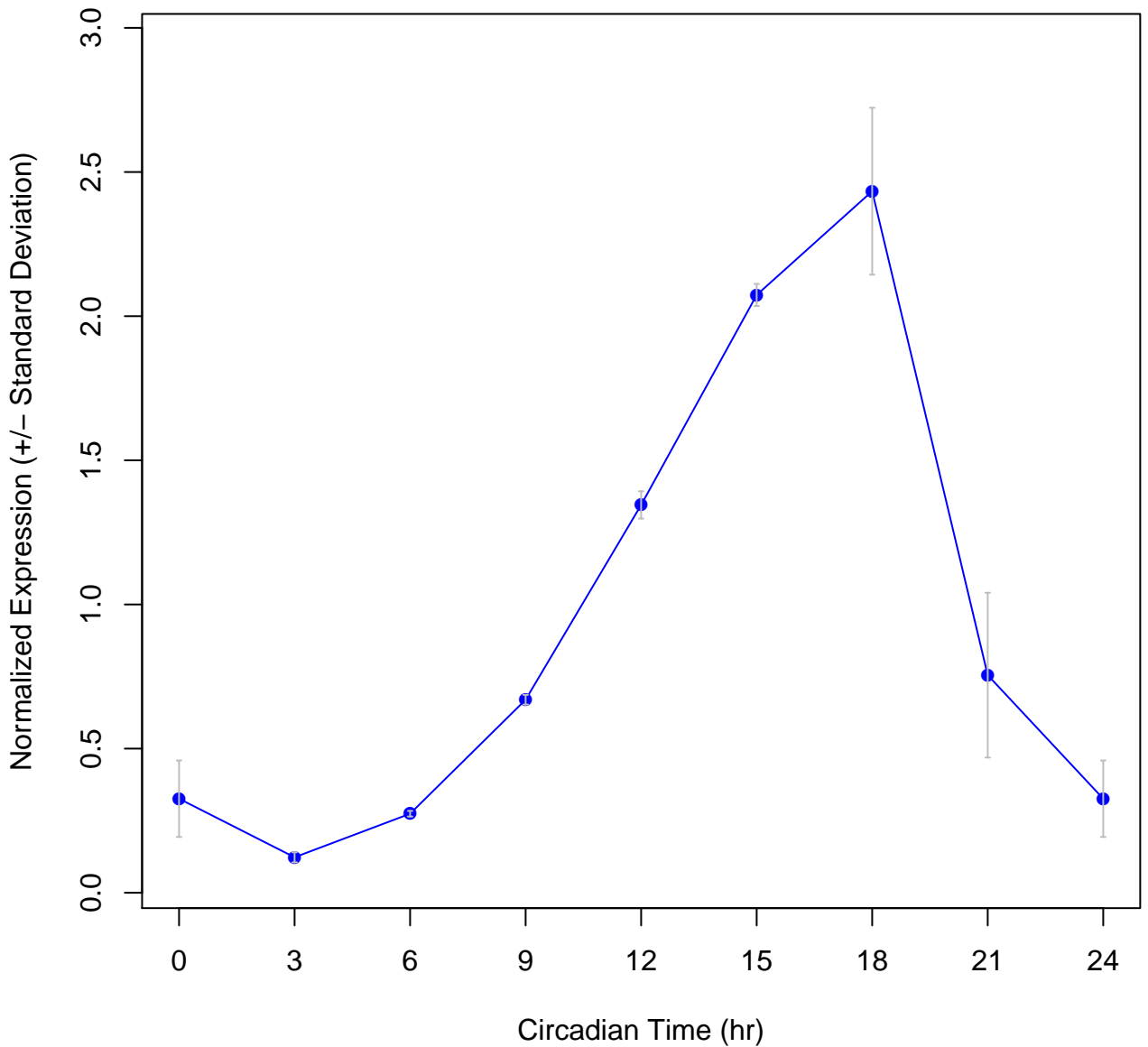


Supplement Figure 4 nr1d2

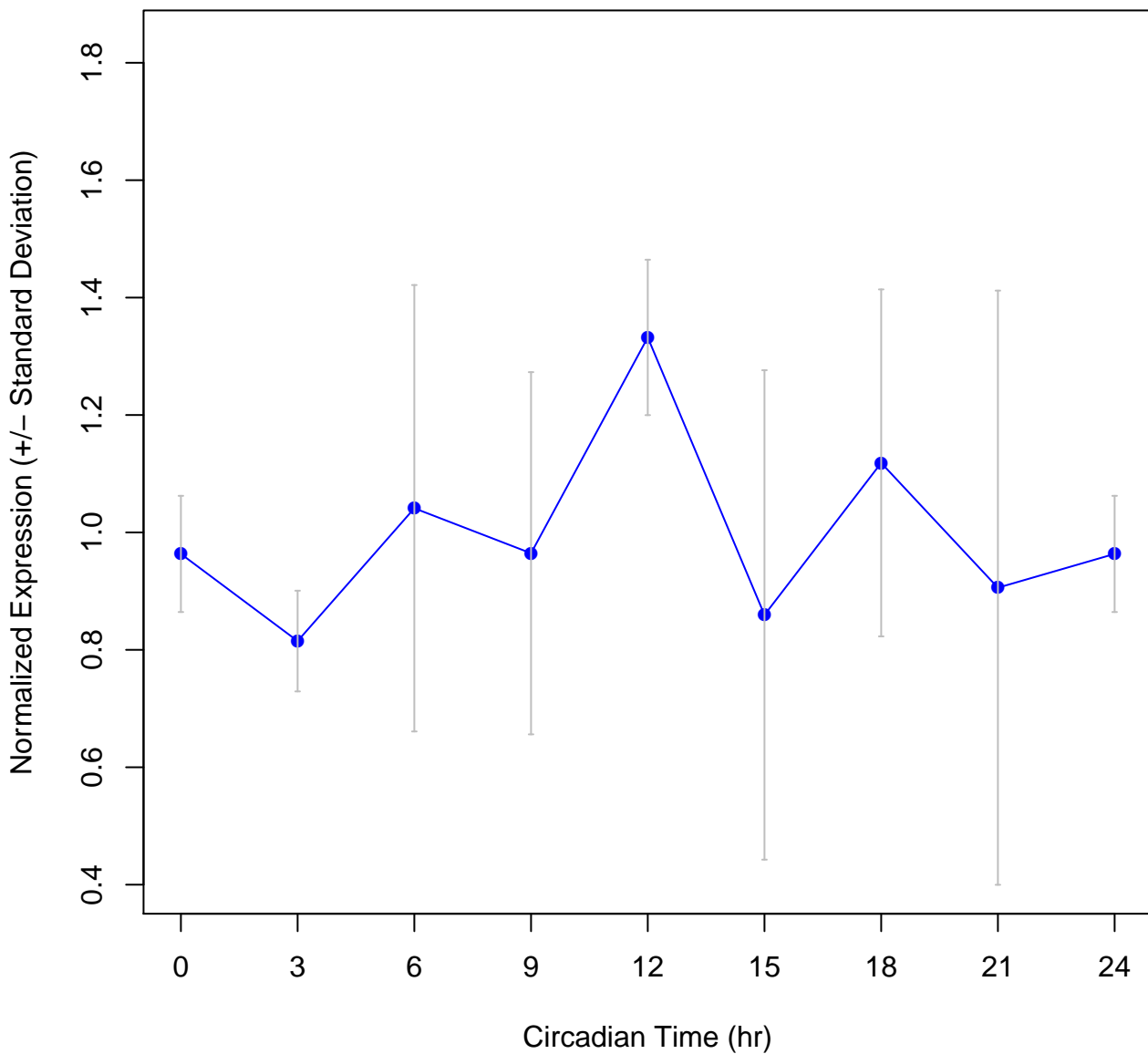




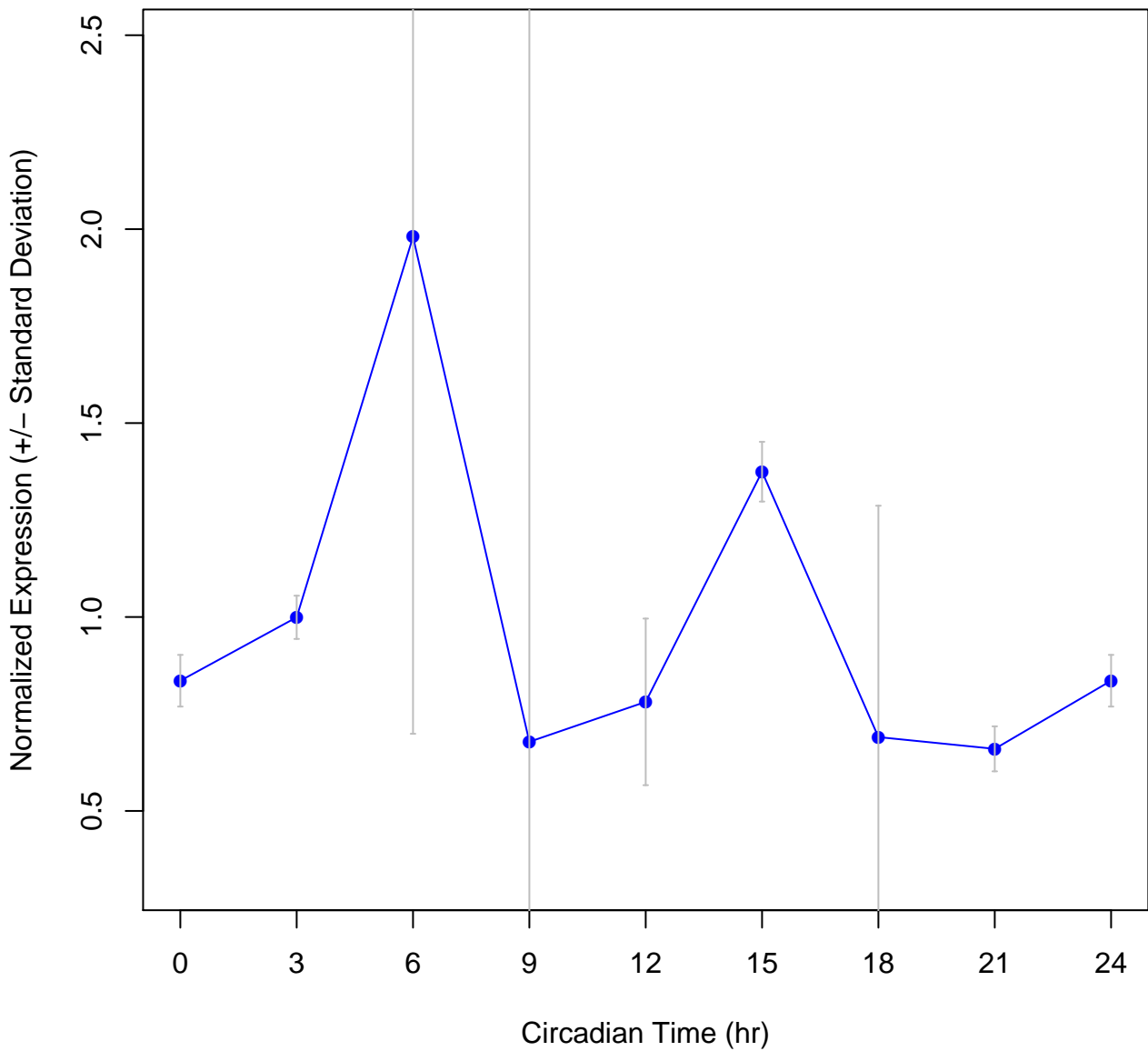
Supplement Figure 4 nr1d4



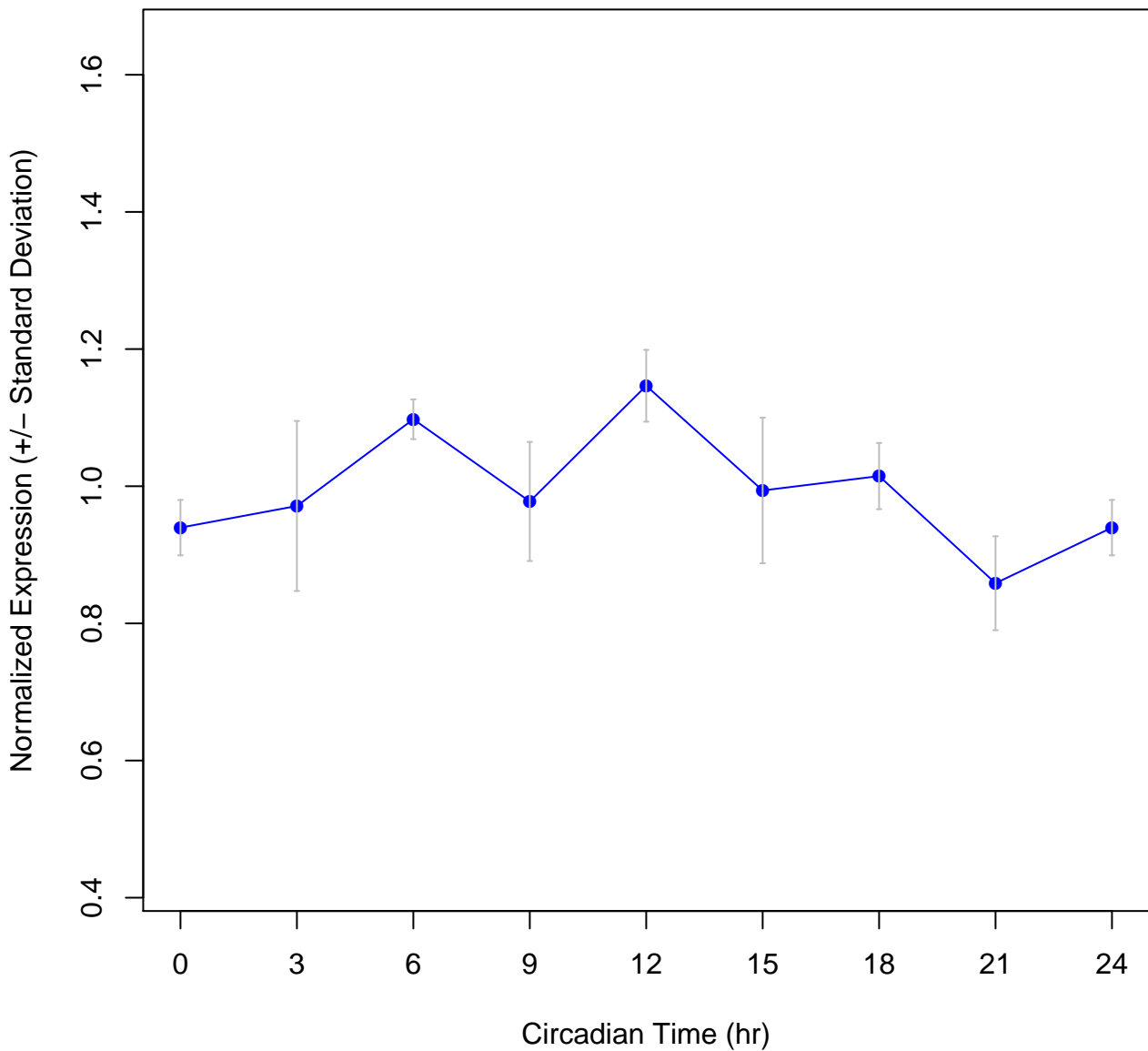
Supplement Figure 4 numa1



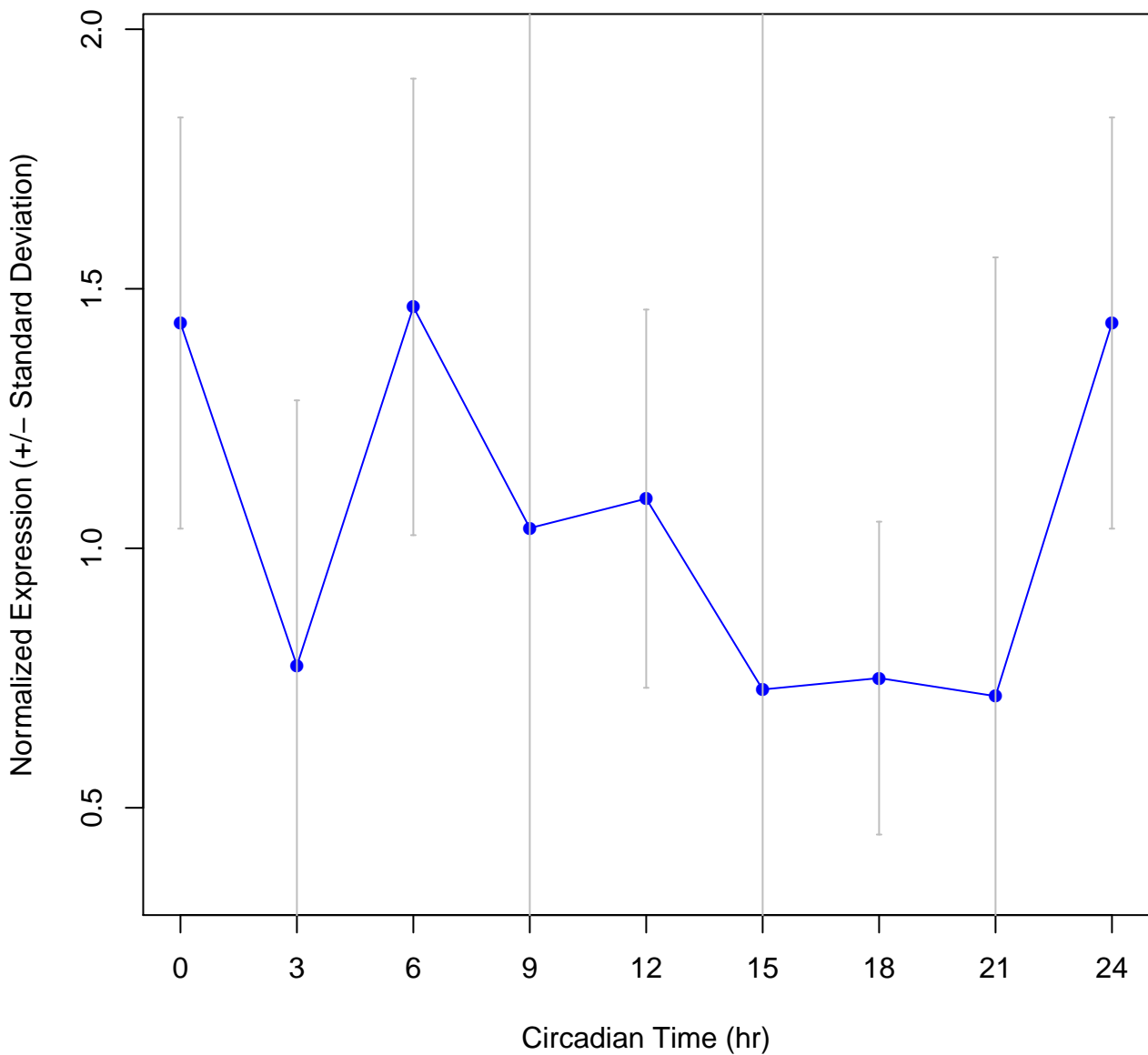
Supplement Figure 4 opn1sw



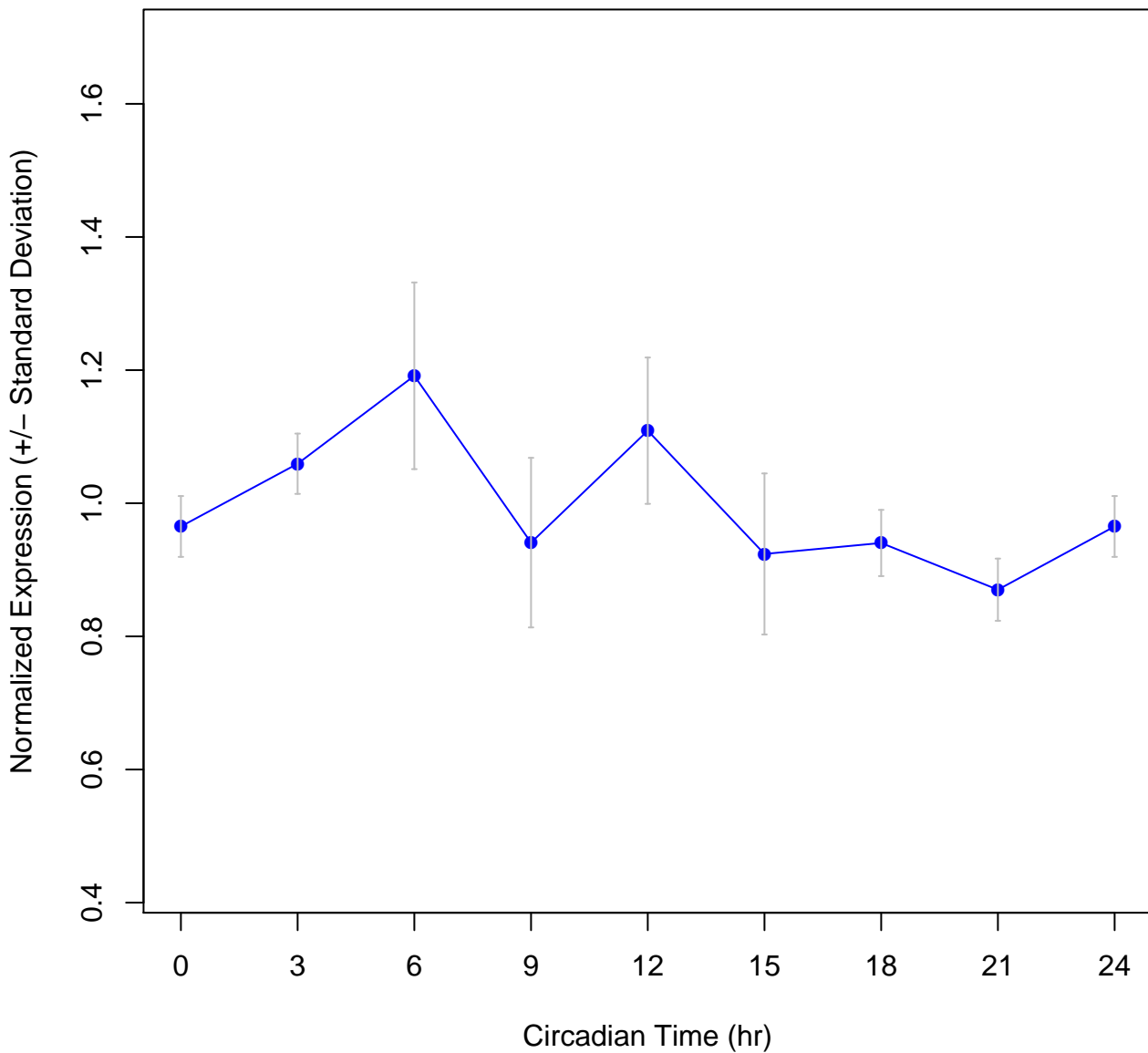
## Supplement Figure 4 pacap



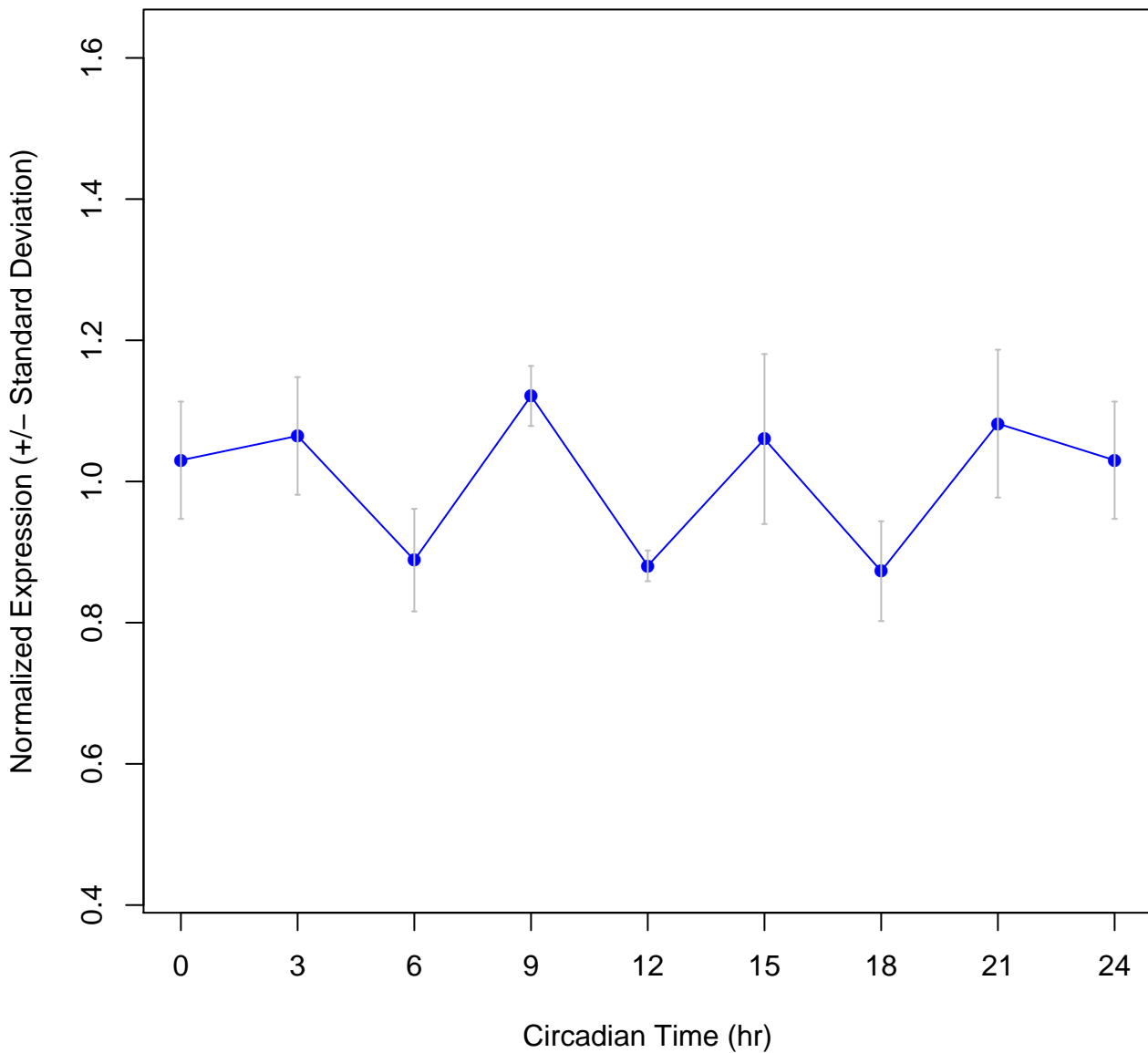
Supplement Figure 4 parpbp



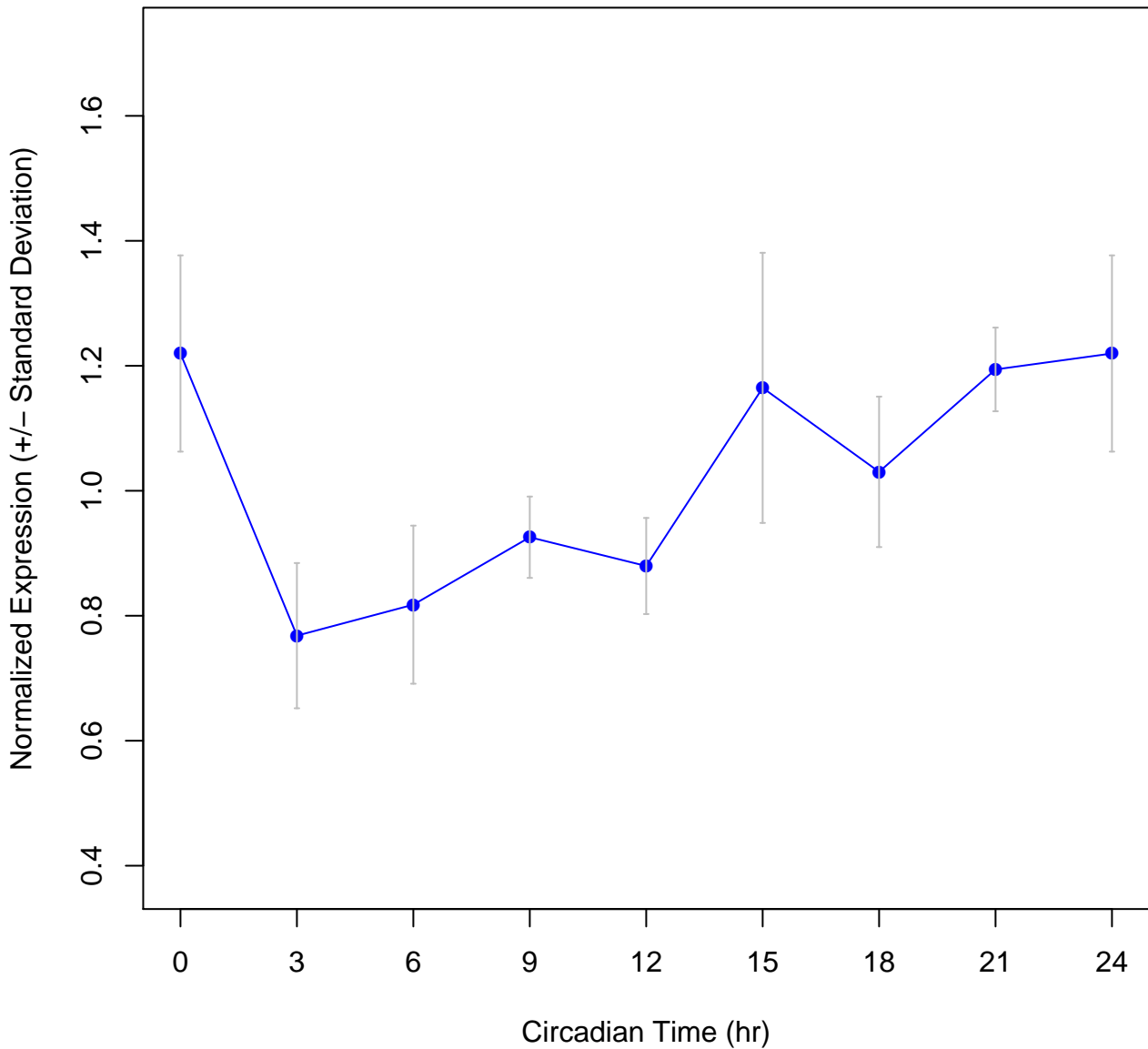
Supplement Figure 4 pcna



Supplement Figure 4 pcp4

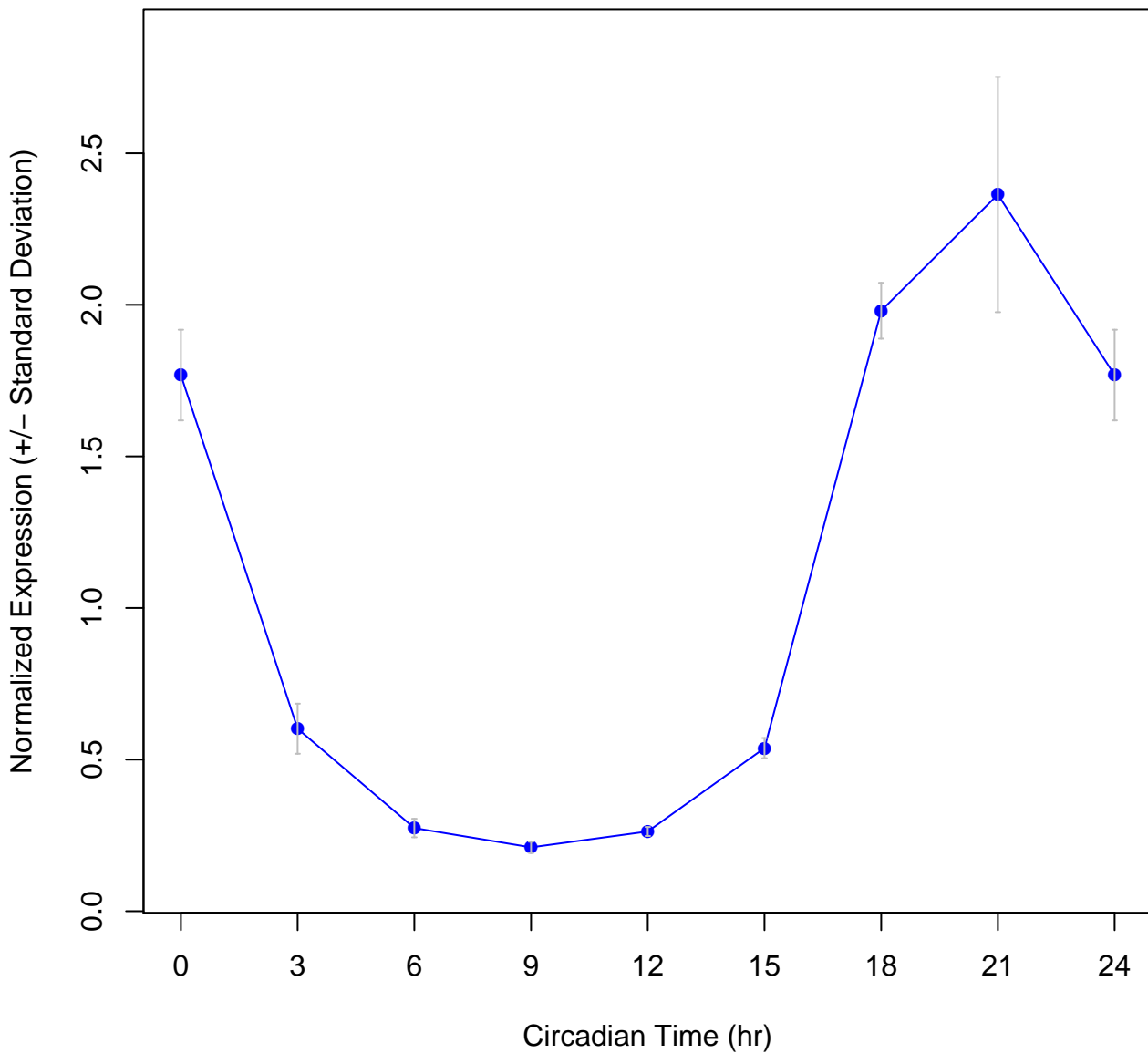


Supplement Figure 4 pdgfc

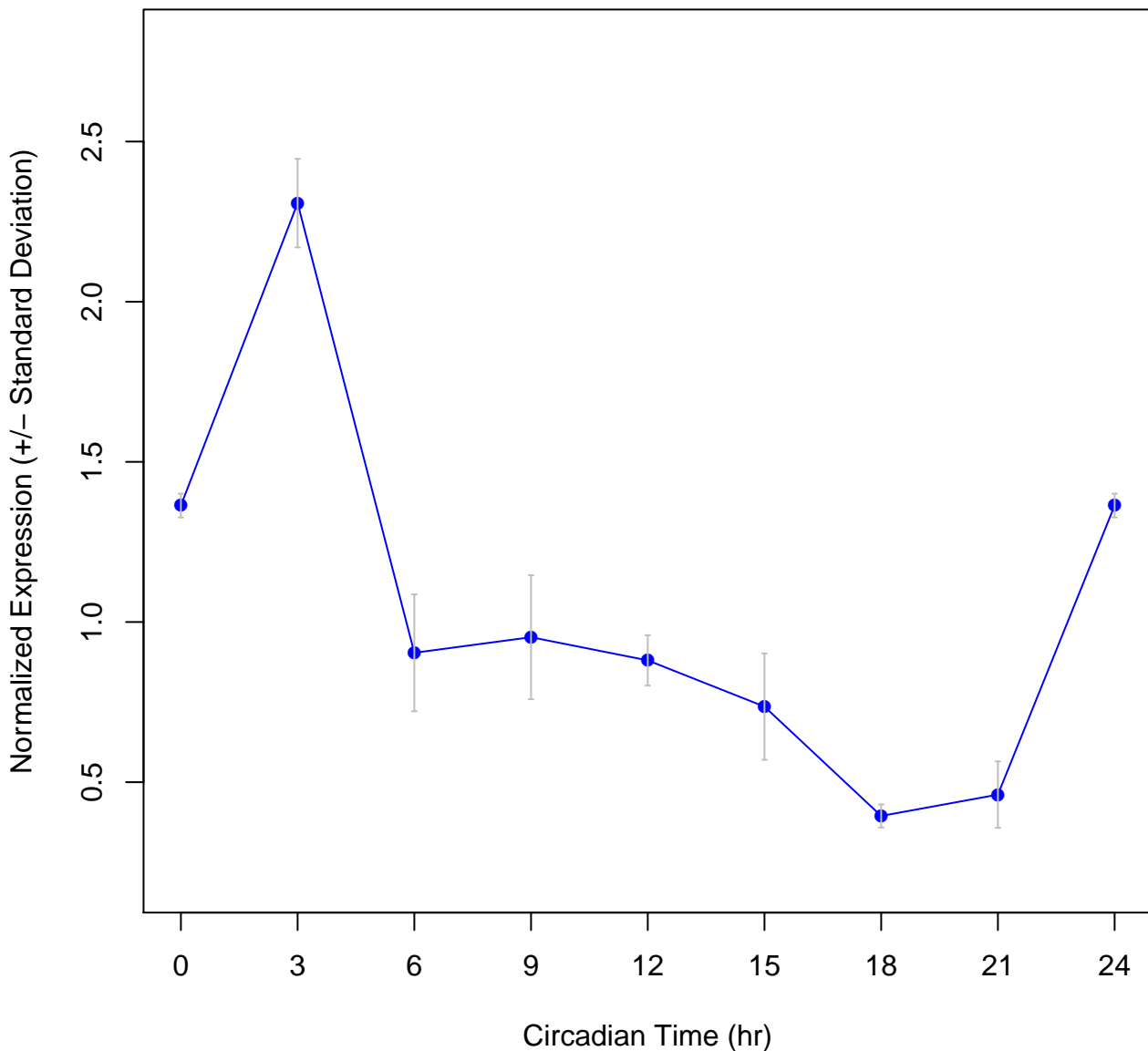




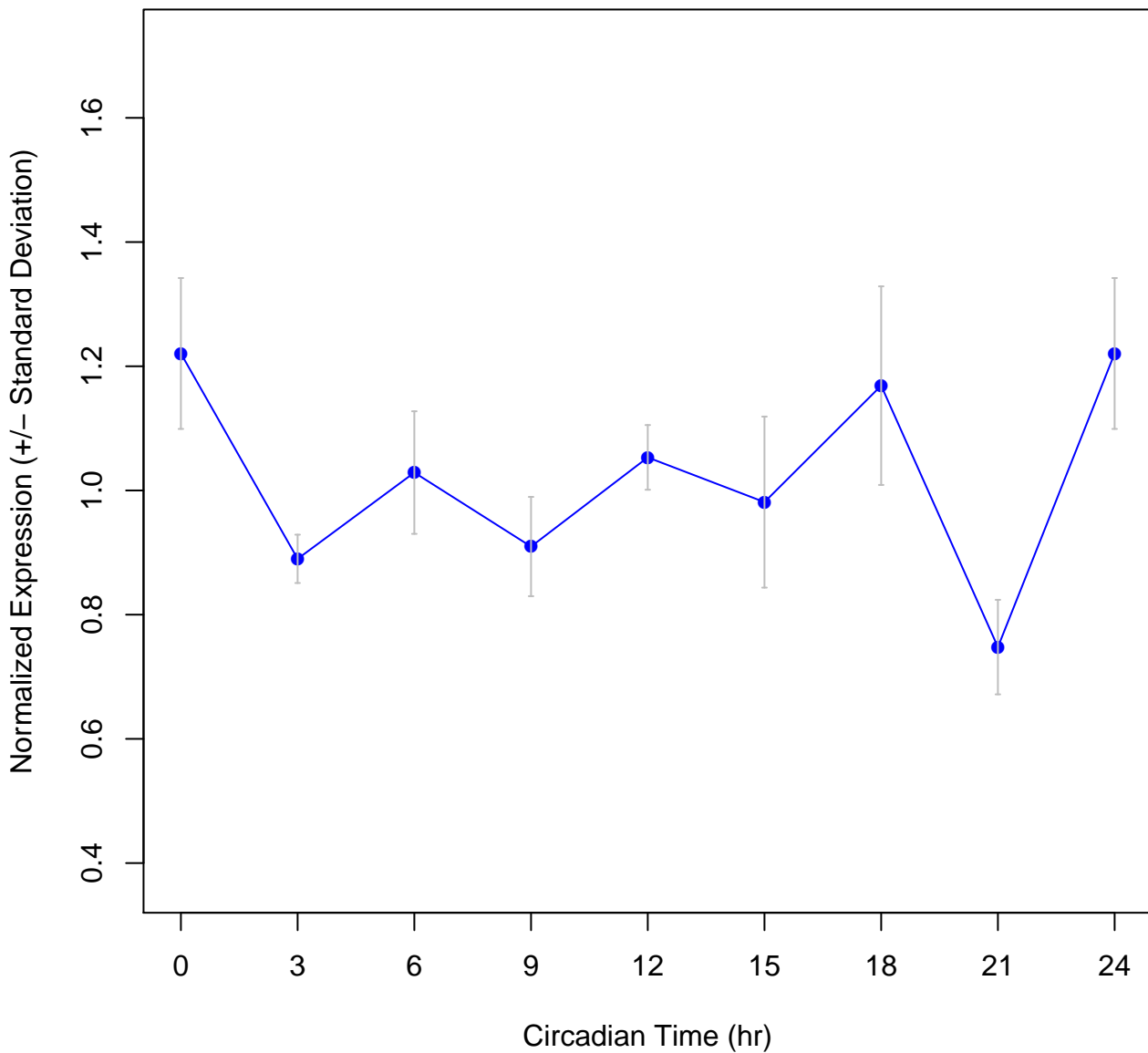
Supplement Figure 4 per1



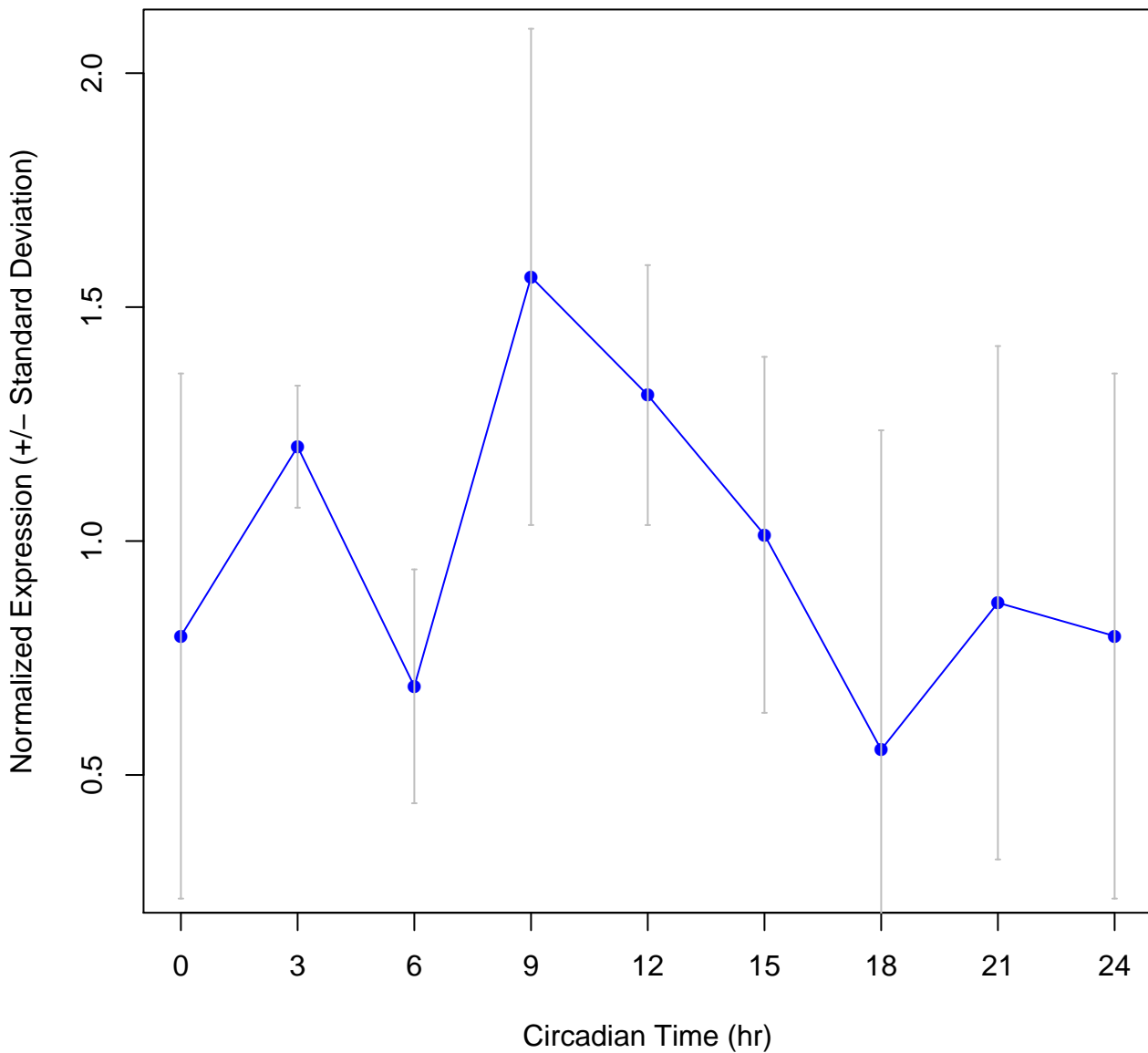
Supplement Figure 4 per2



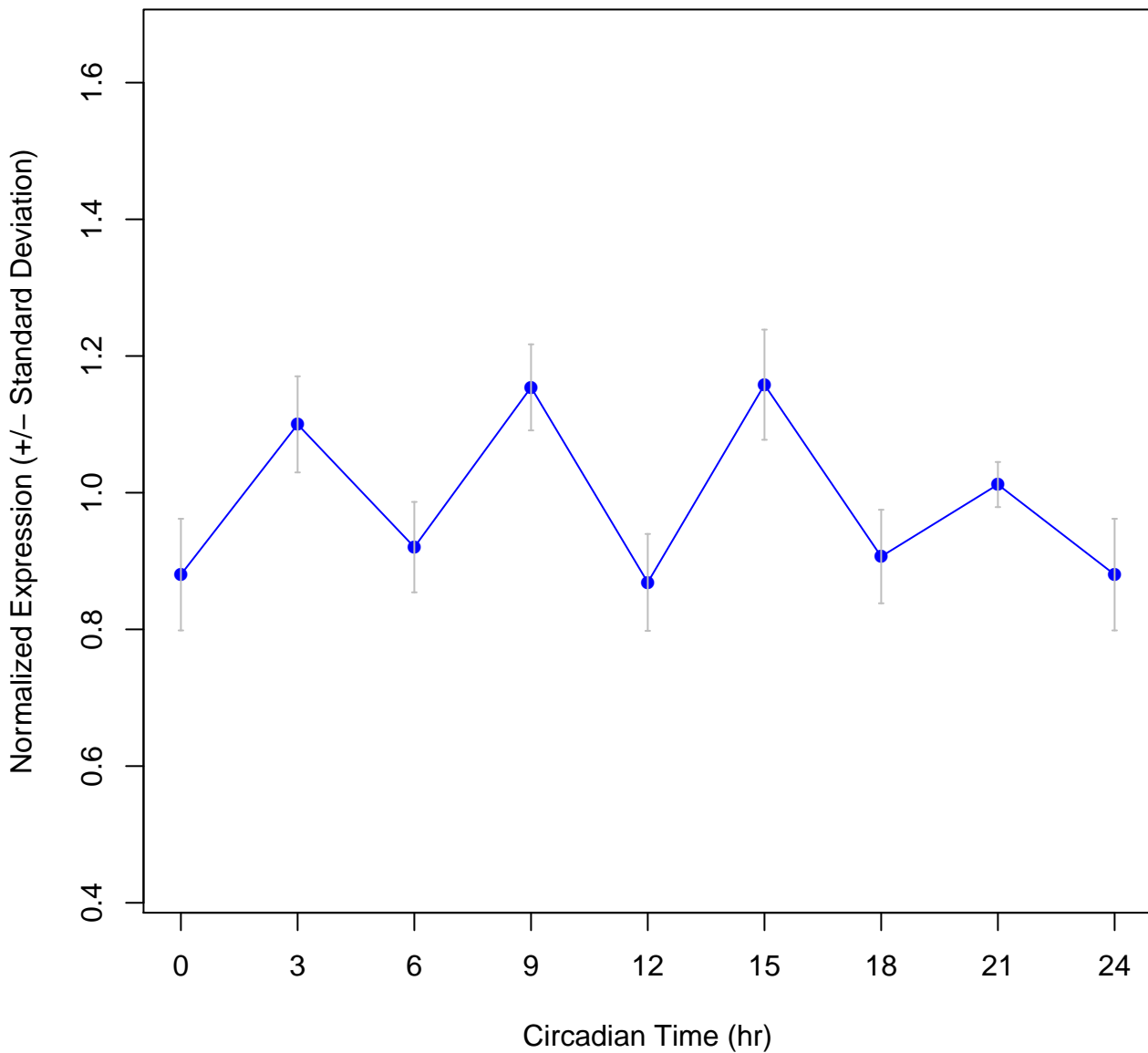
Supplement Figure 4 pfkfb1



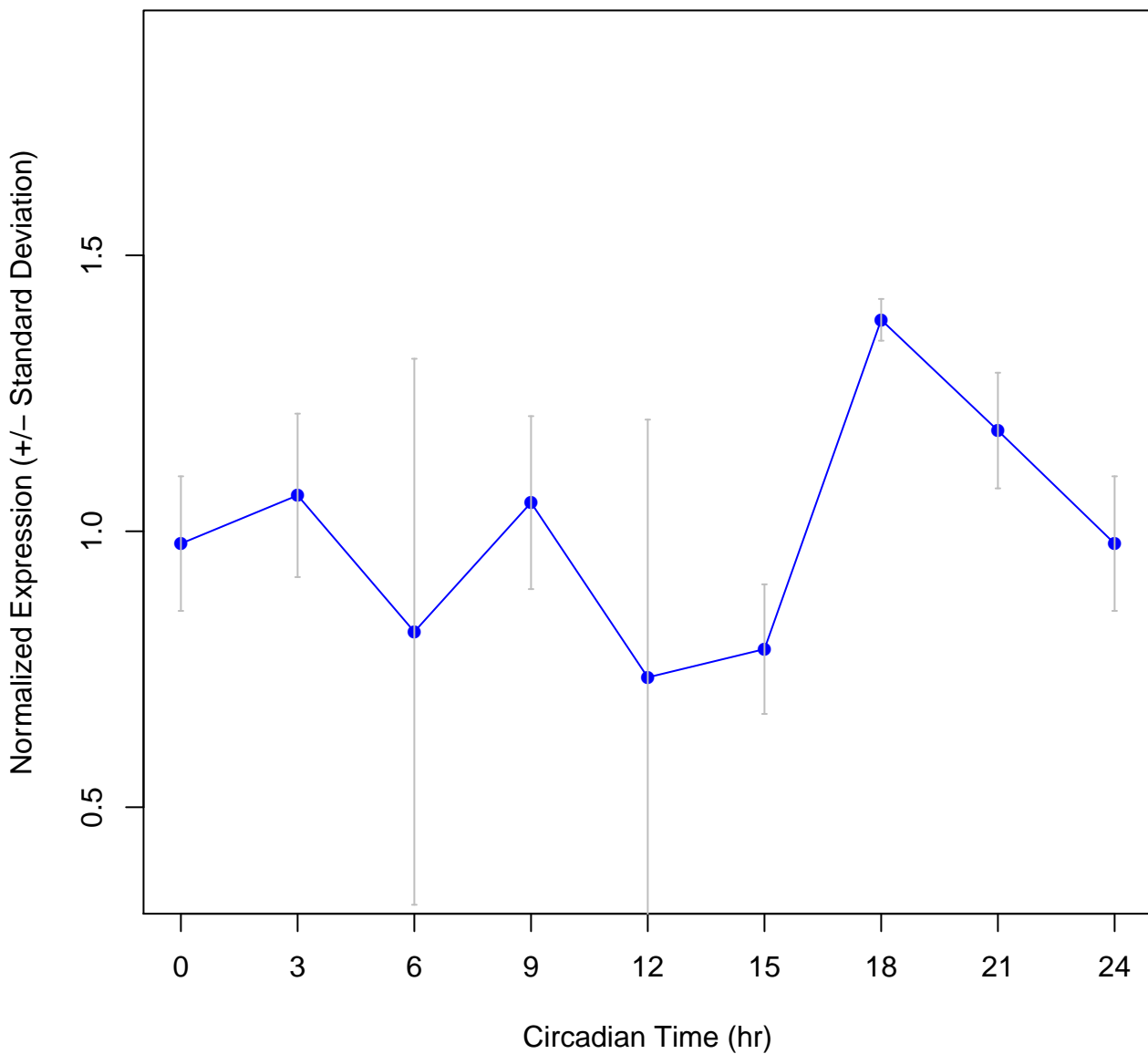
Supplement Figure 4 pif1



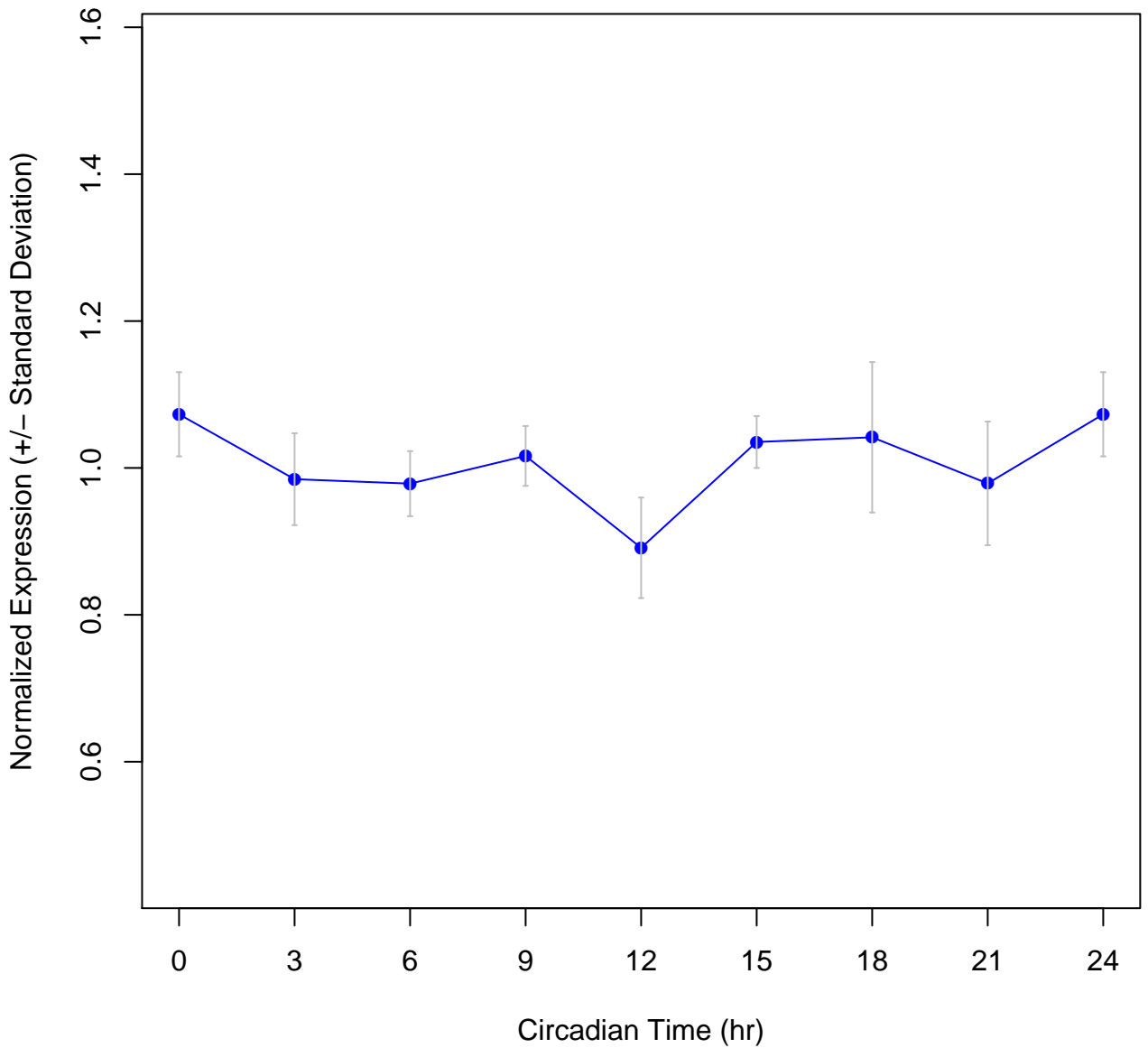
Supplement Figure 4 pik3c2b



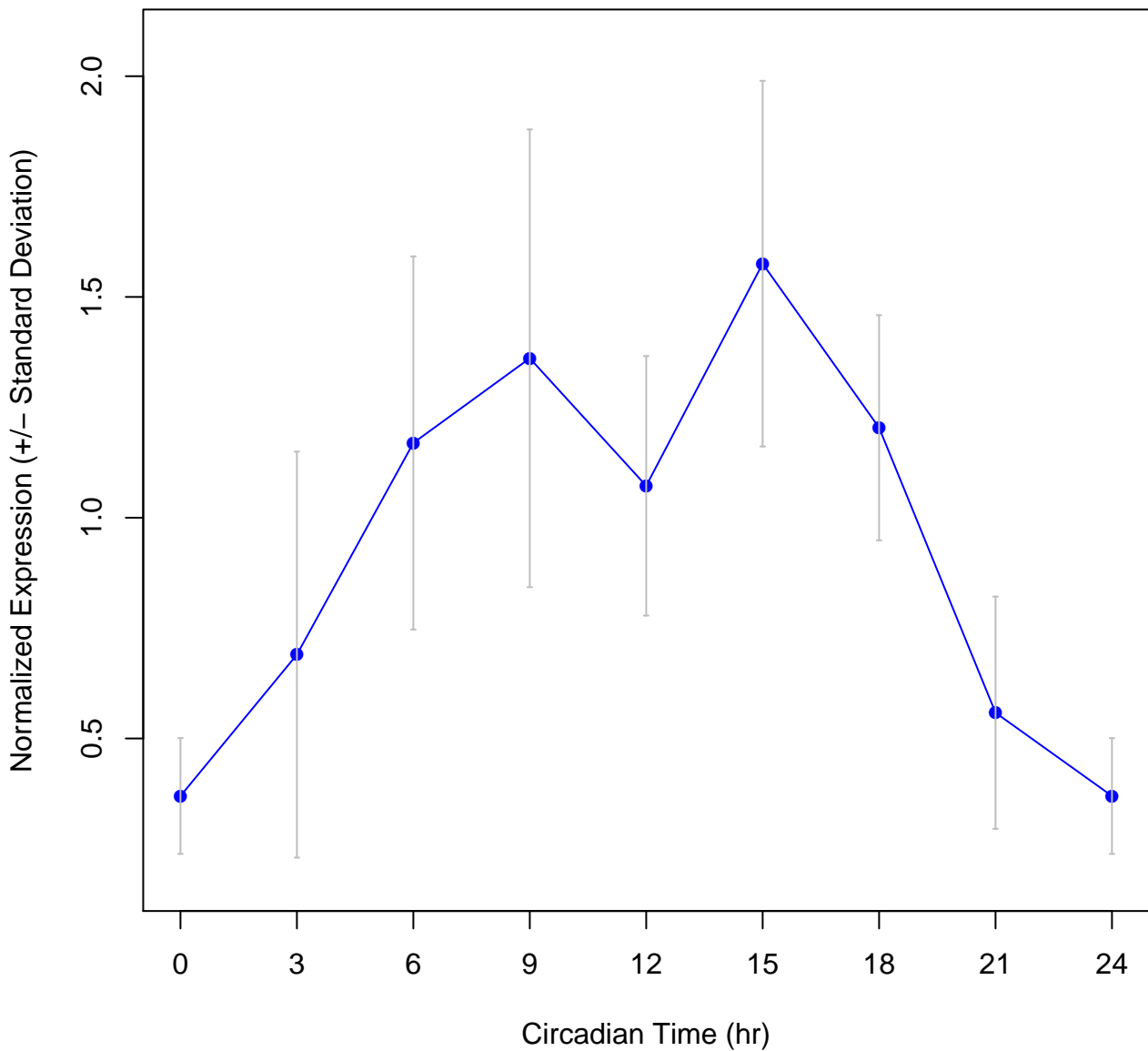
Supplement Figure 4 pkmyt1



Supplement Figure 4 *plcb1*

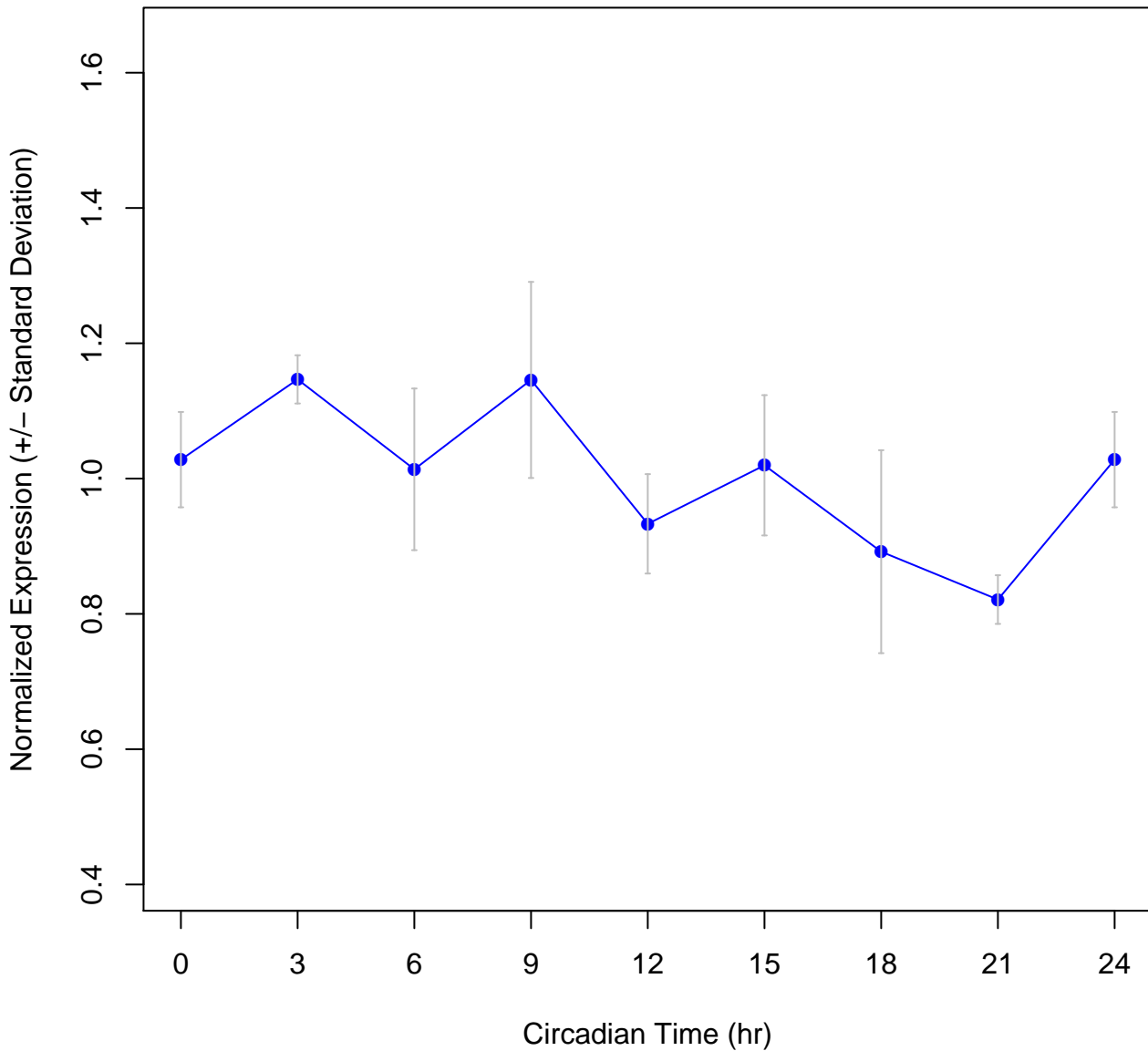


Supplement Figure 4 *plcd1*

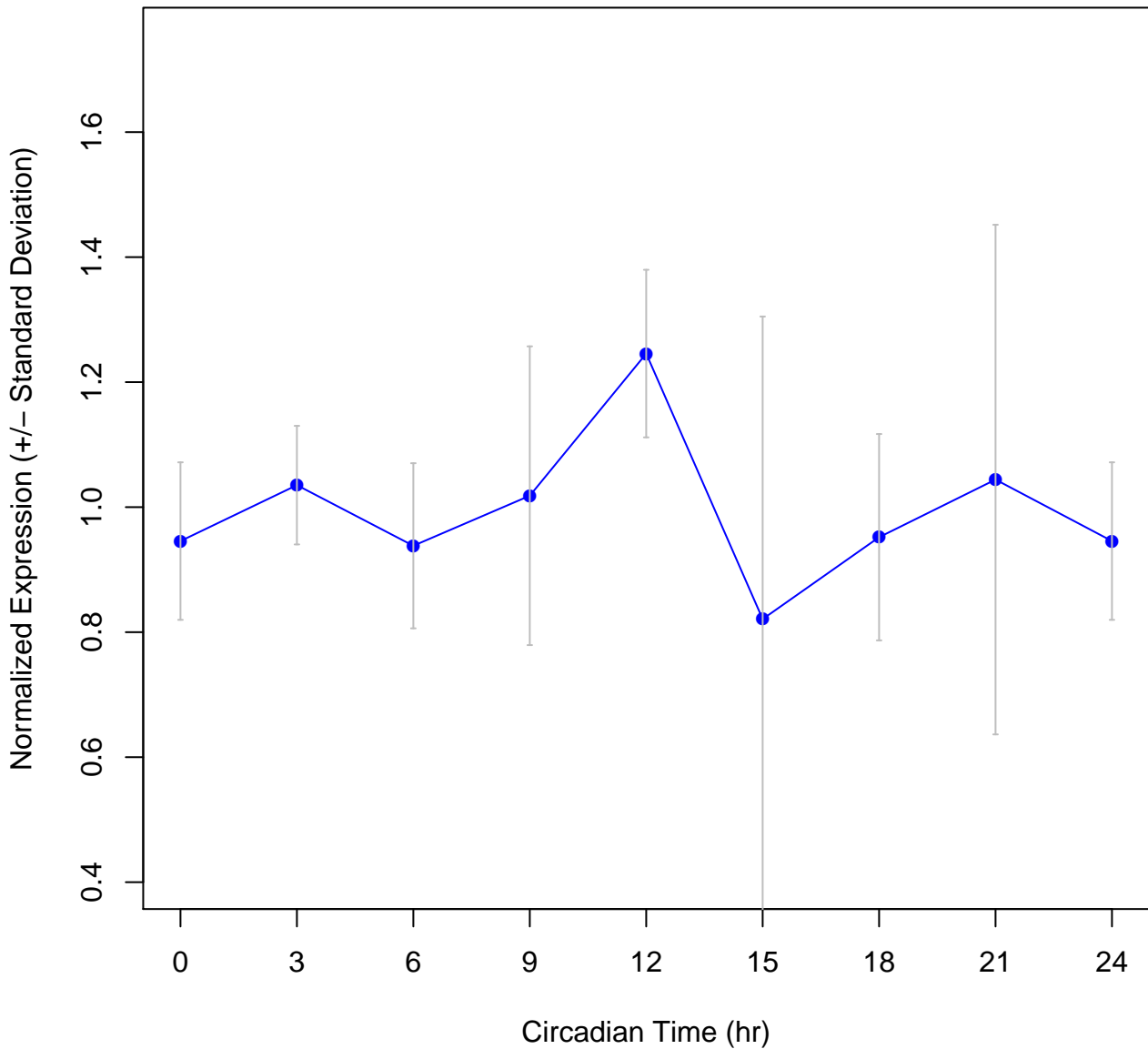




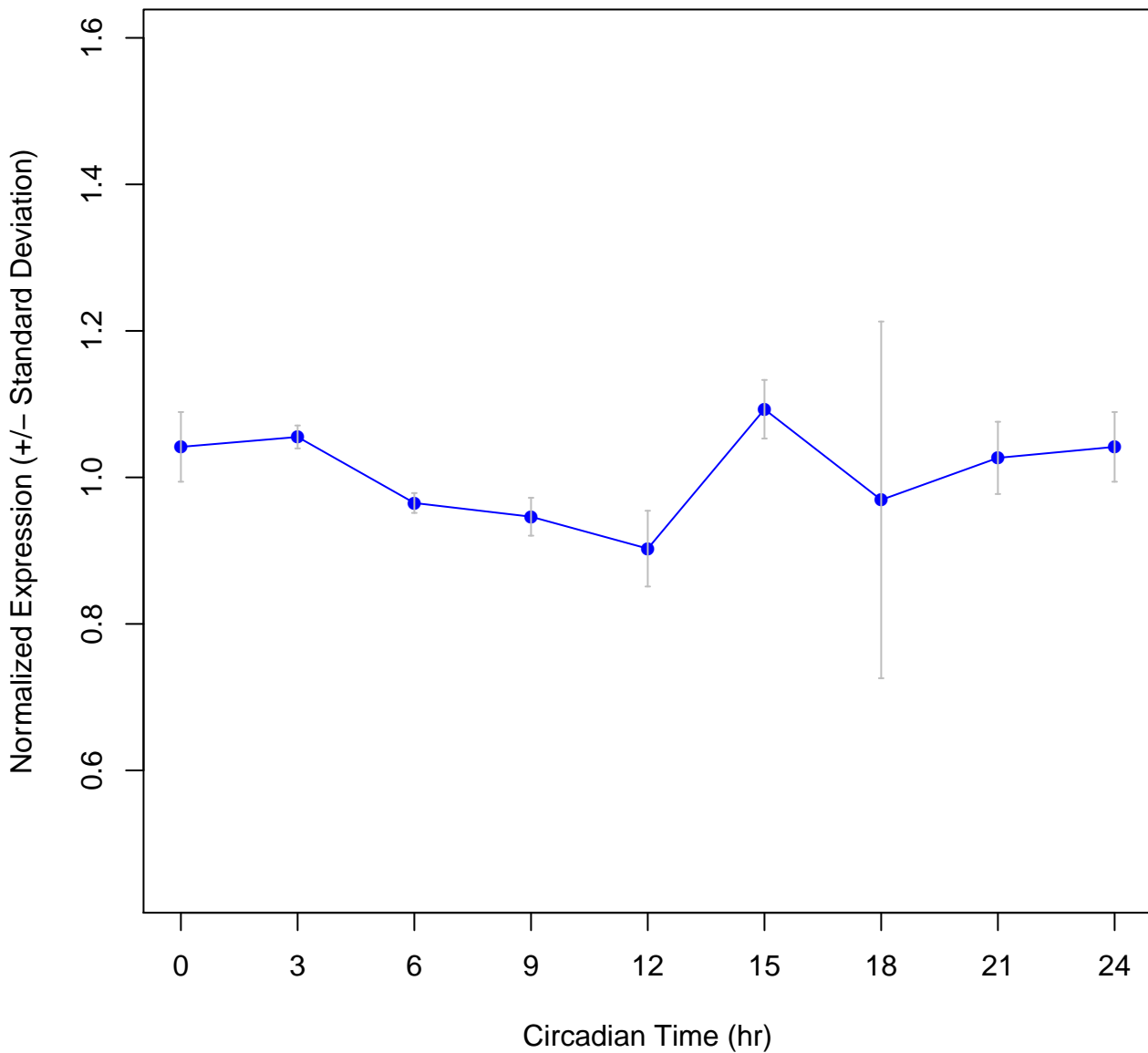
Supplement Figure 4 plch2



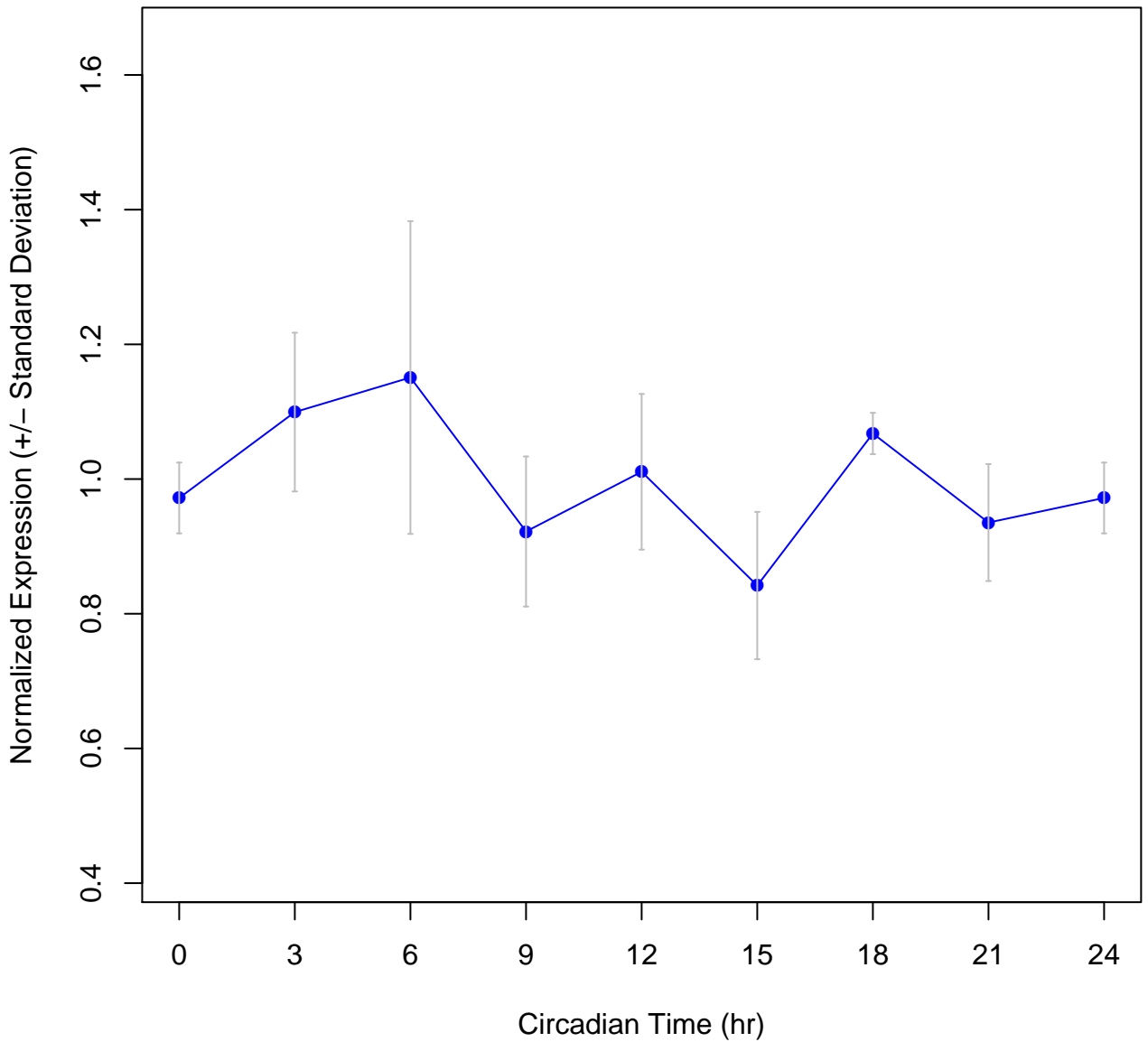
Supplement Figure 4 plk1



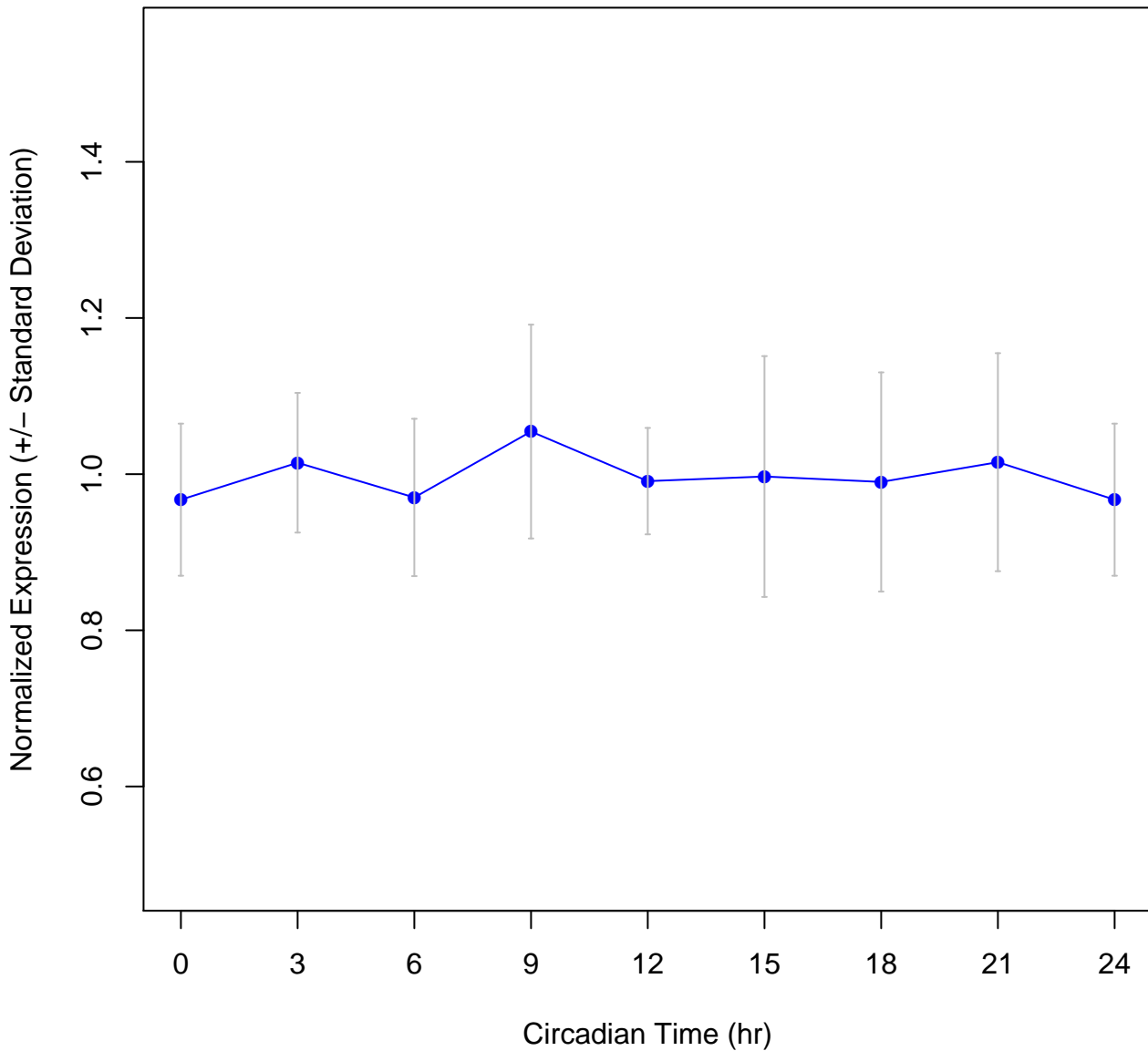
Supplement Figure 4 polr2a



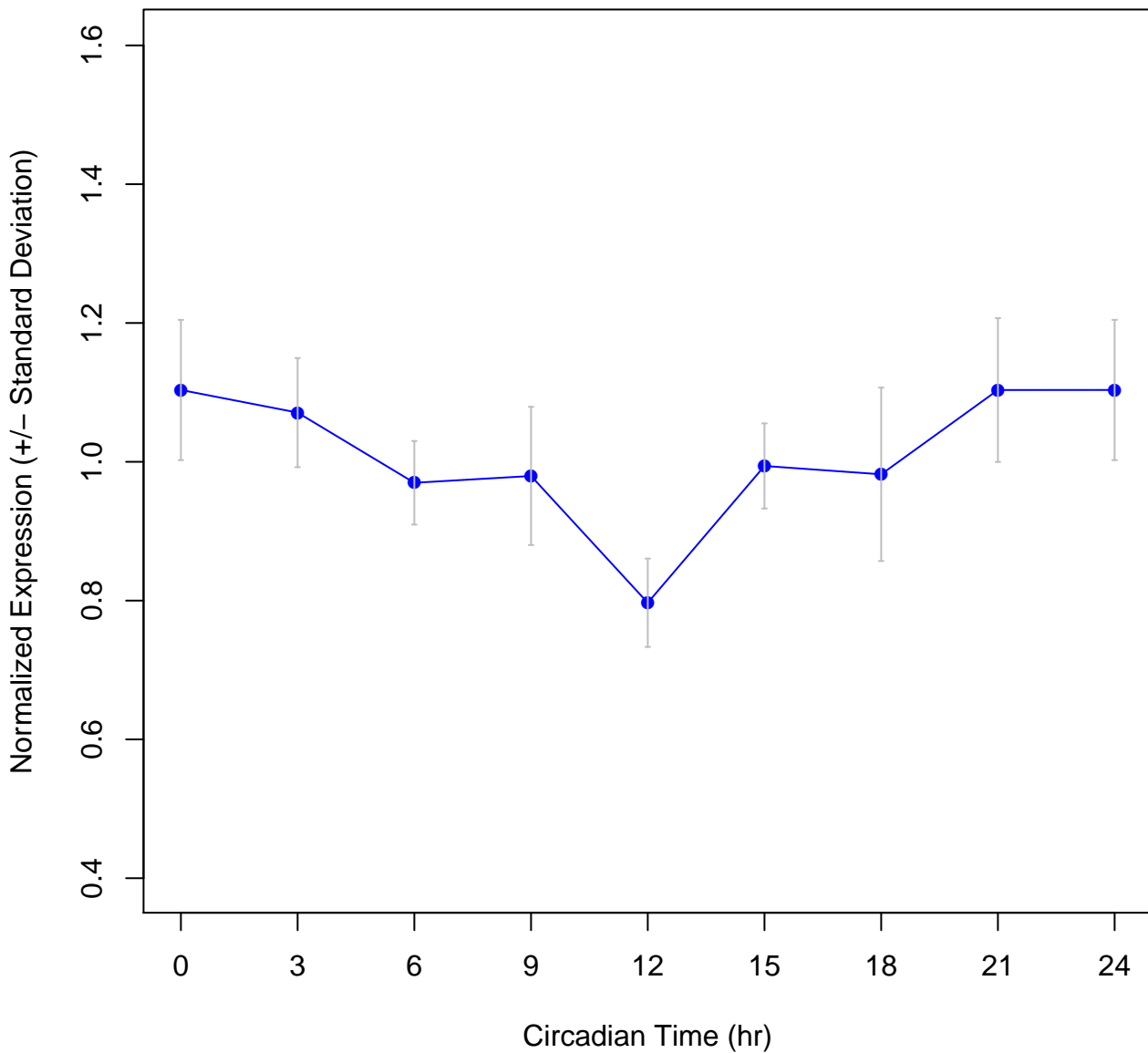
## Supplement Figure 4 pomc



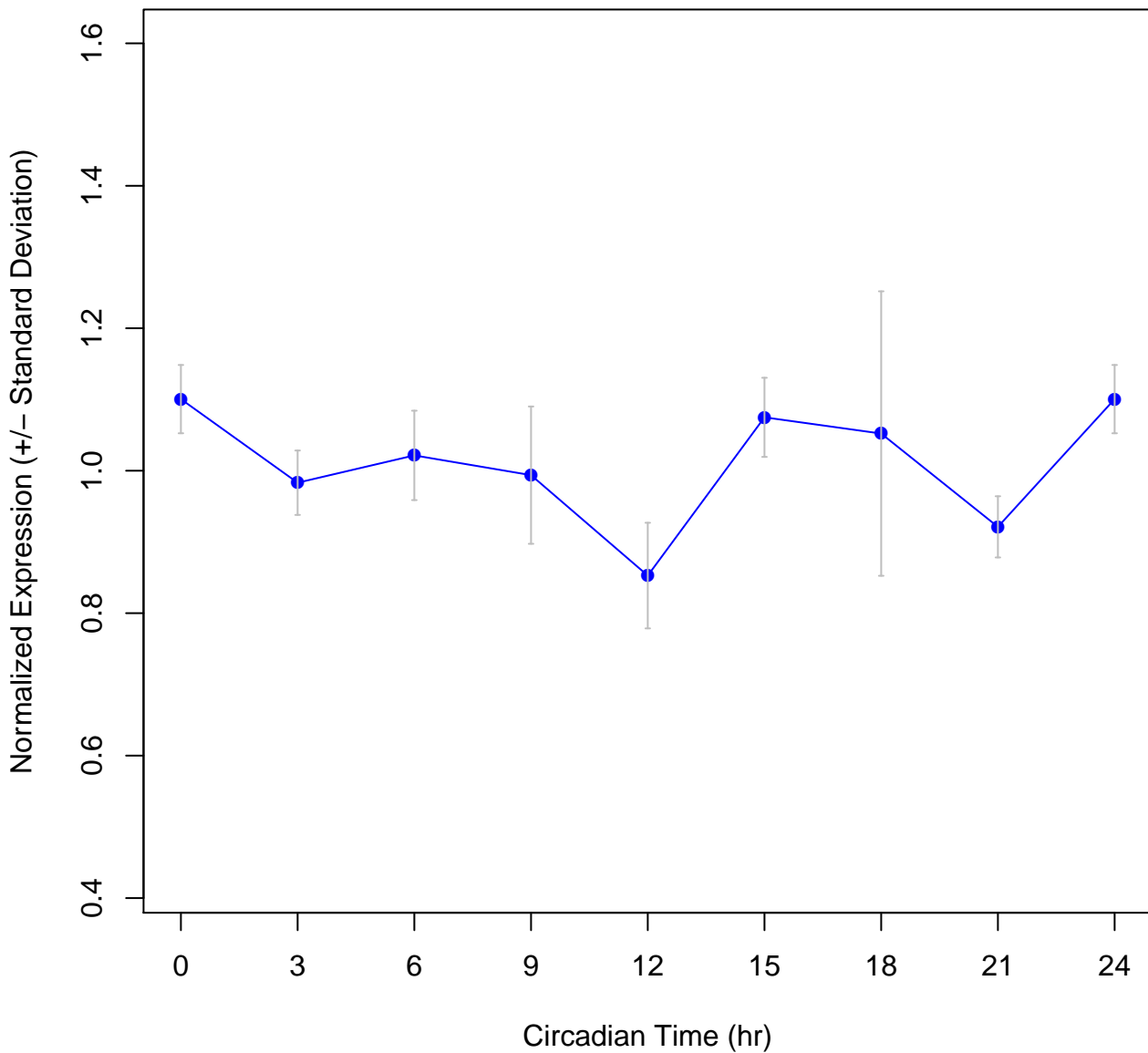
# Supplement Figure 4 pparaa



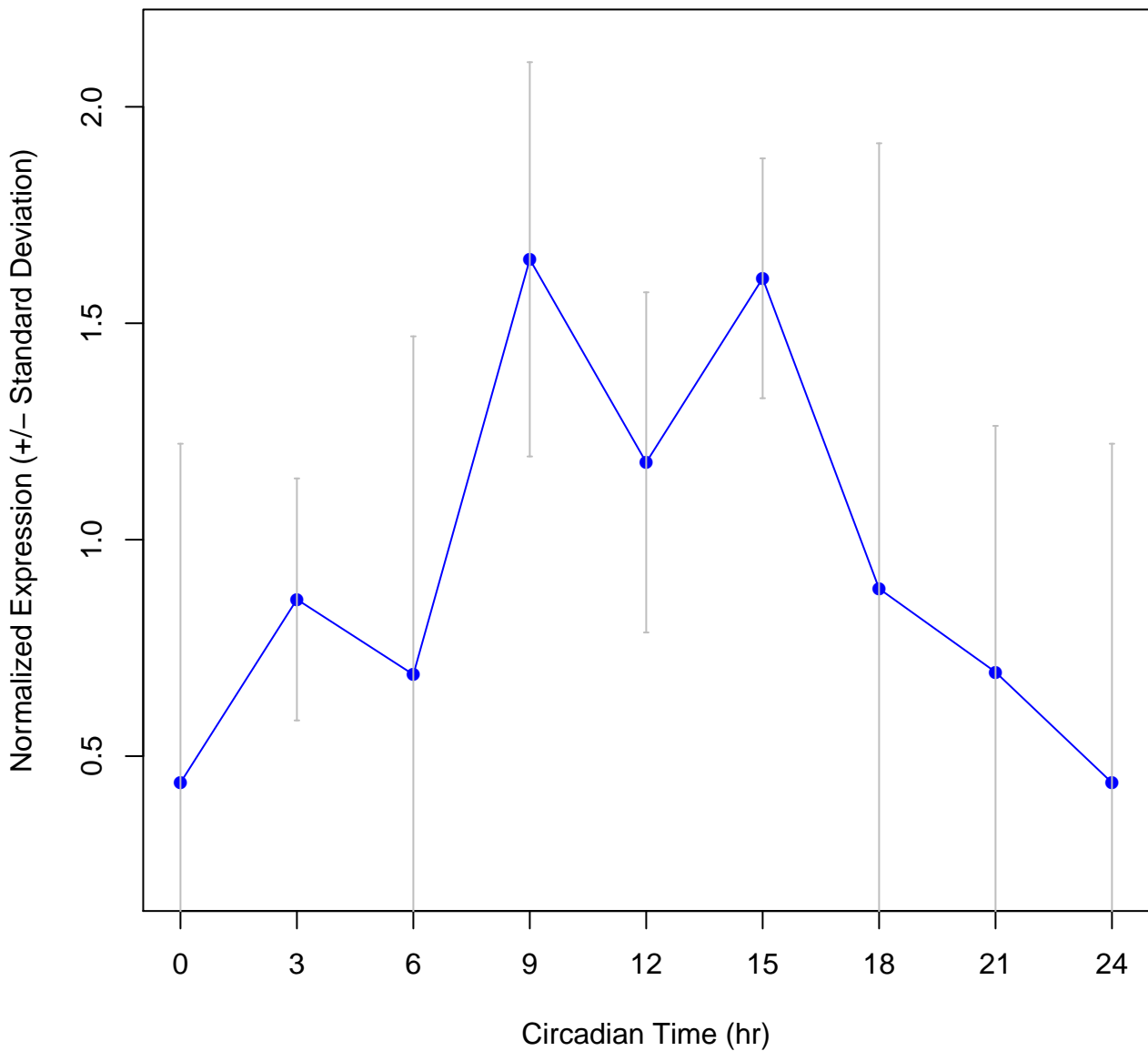
Supplement Figure 4 pparab



Supplement Figure 4 ppargc1a

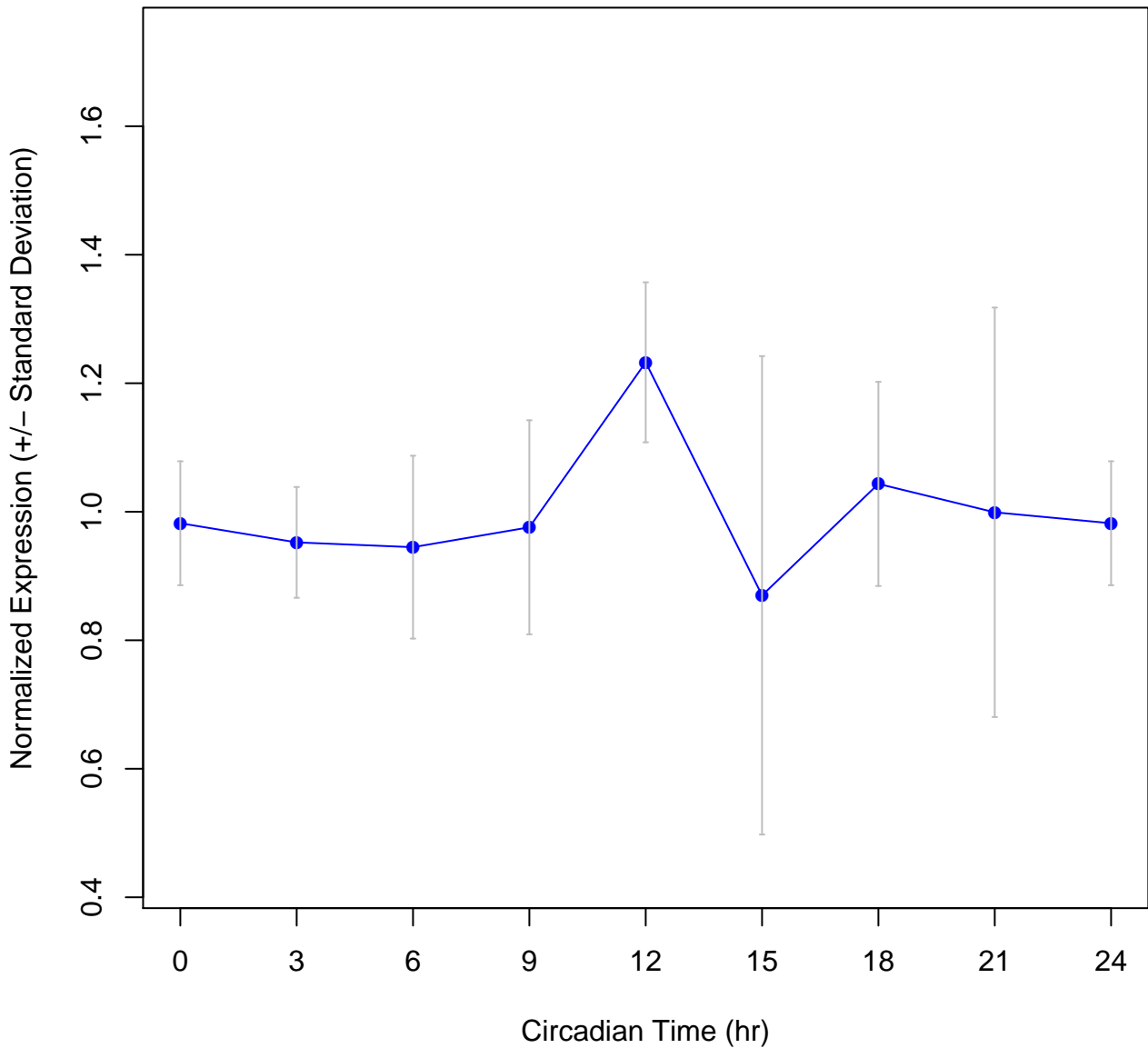


Supplement Figure 4 ppp1r27

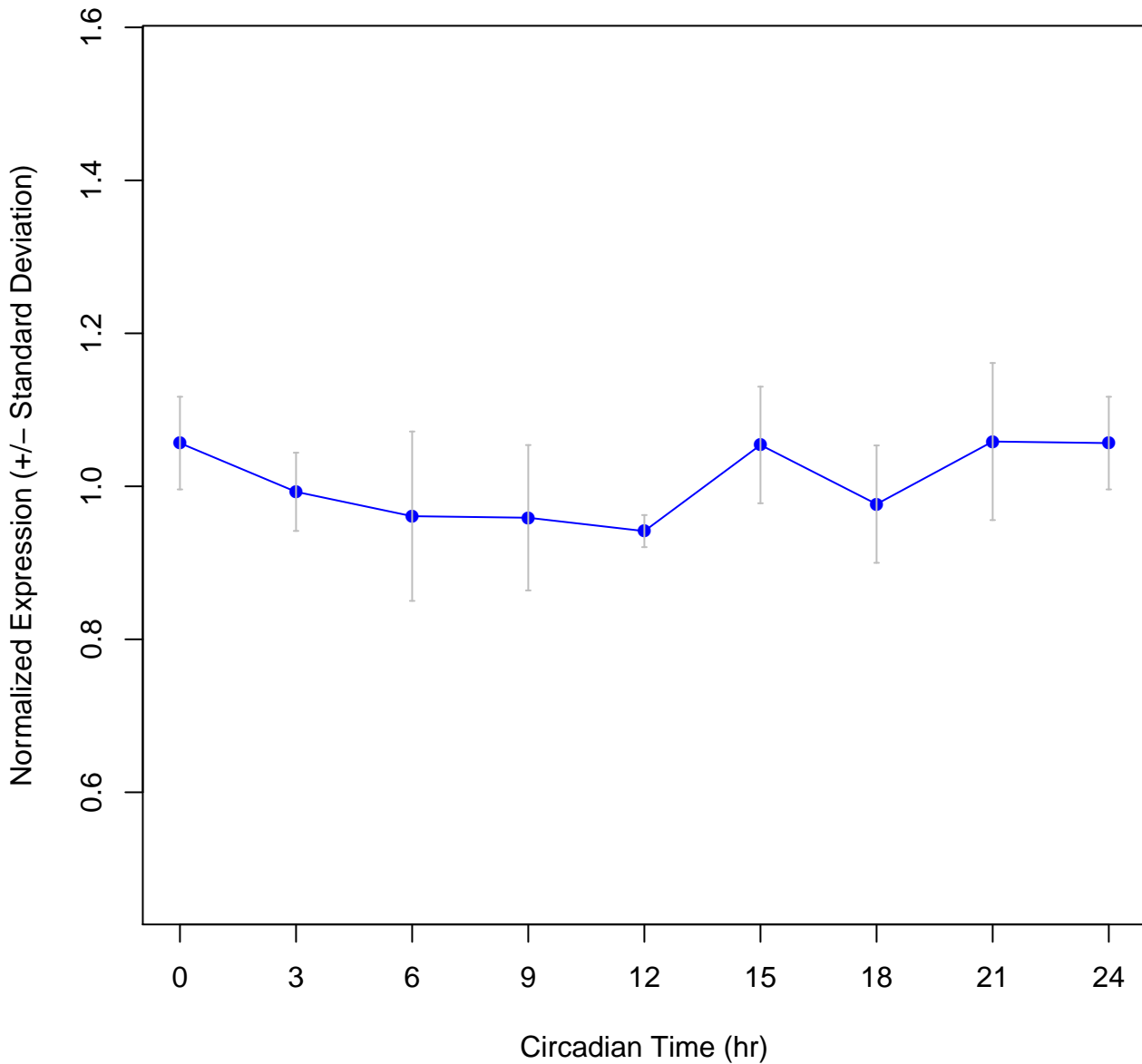




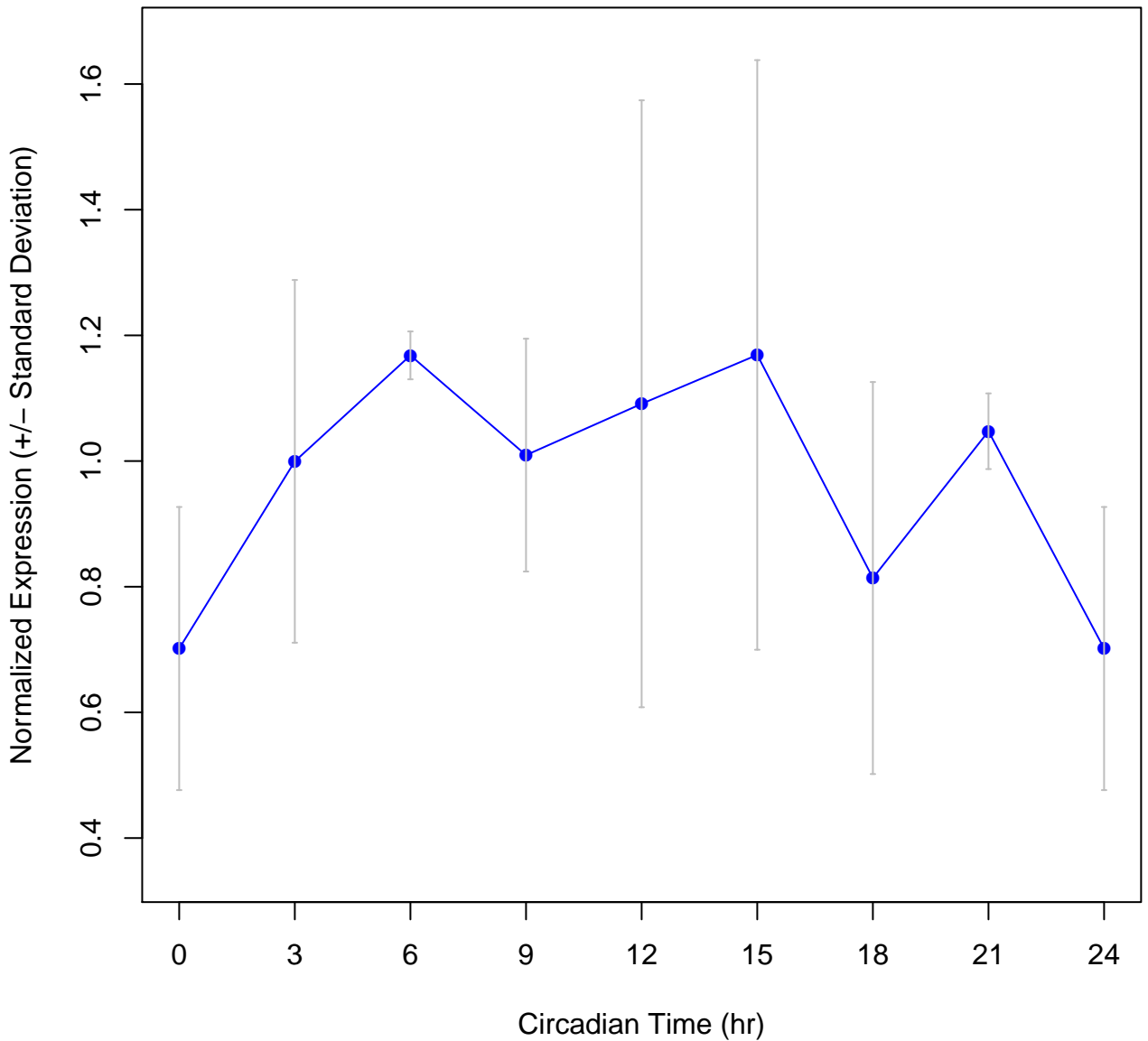
Supplement Figure 4 prc1



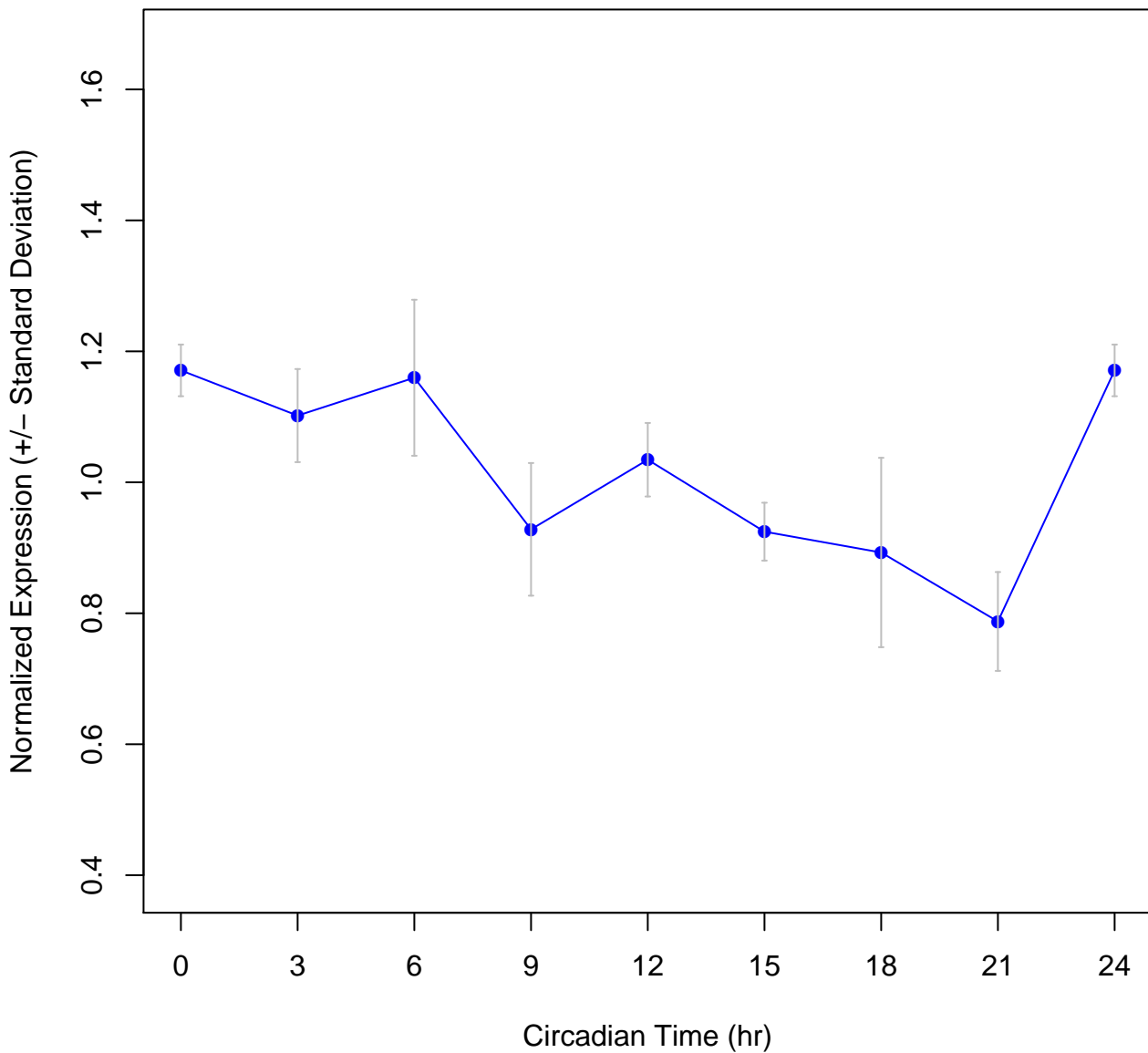
Supplement Figure 4 prkaa2



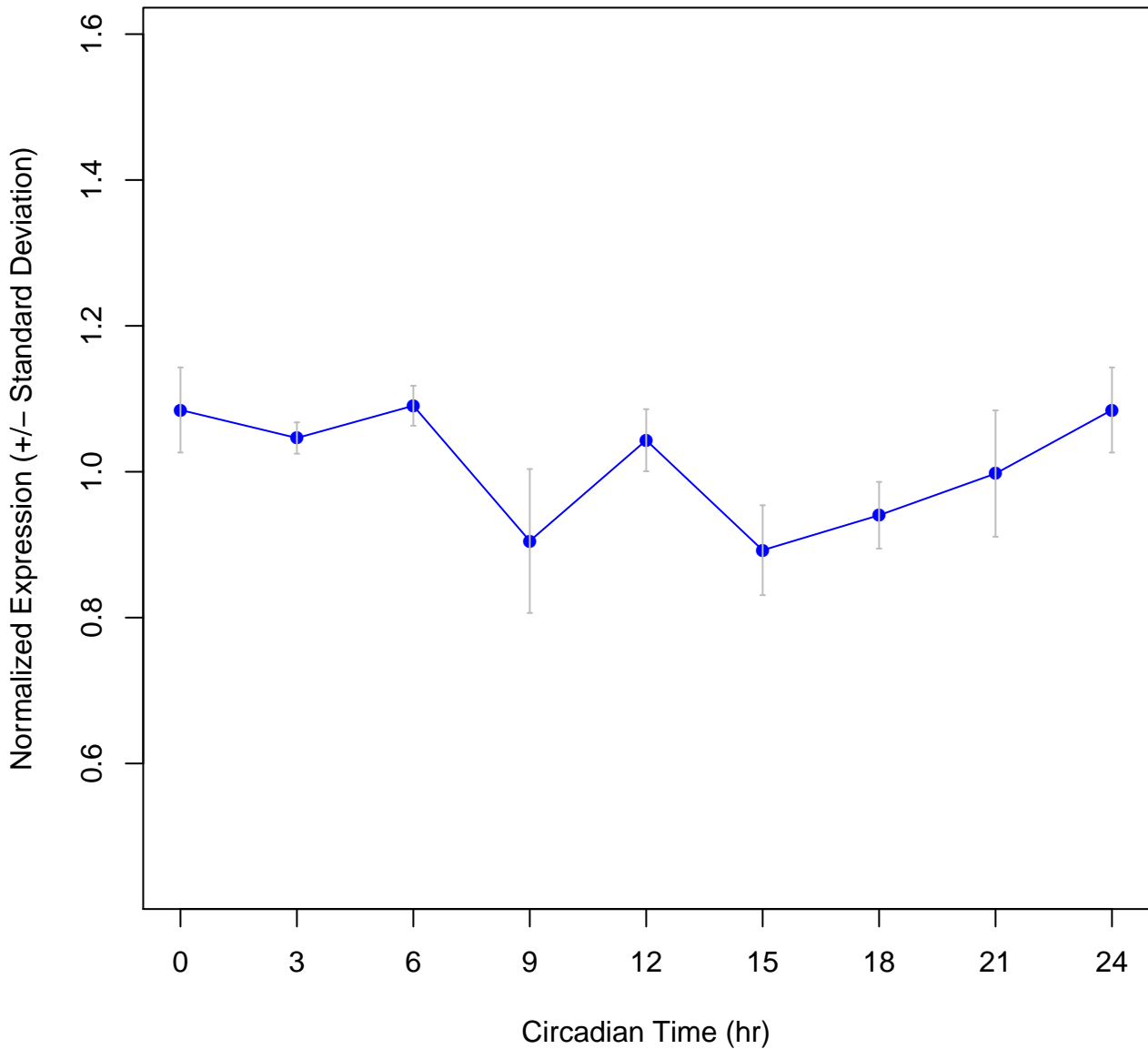
Supplement Figure 4 prkar2a



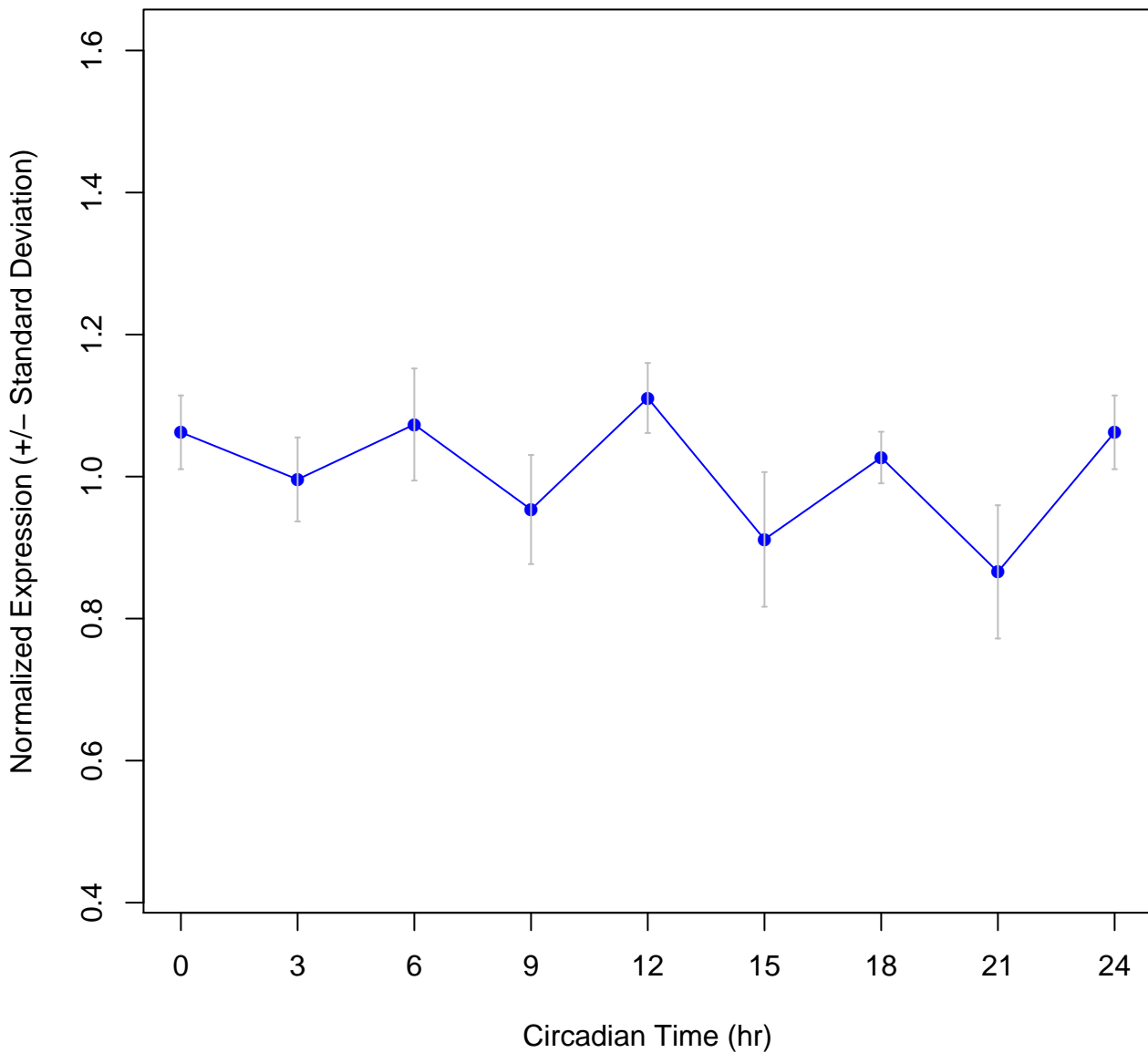
Supplement Figure 4 prkca\_1



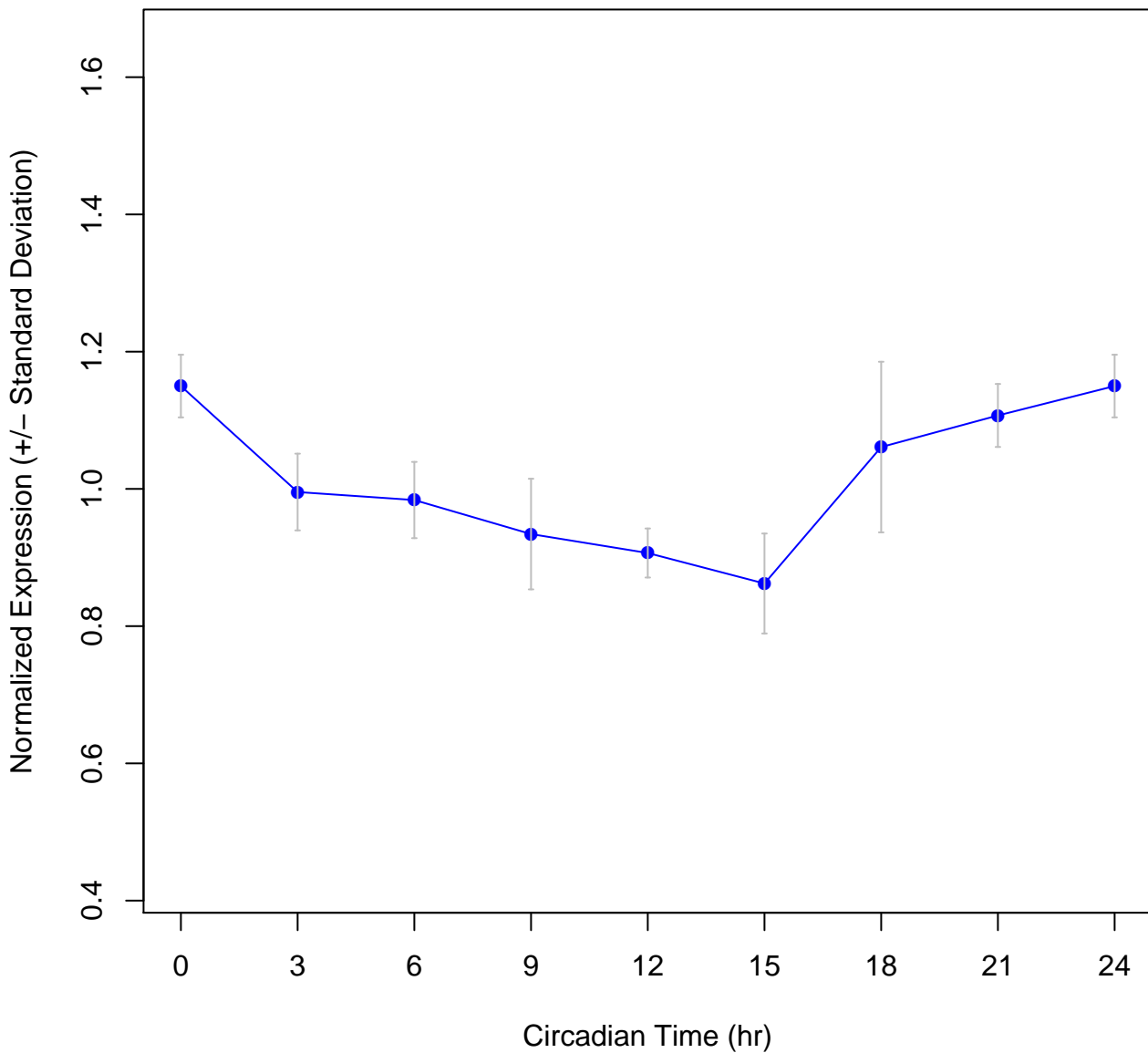
Supplement Figure 4 prkca\_2



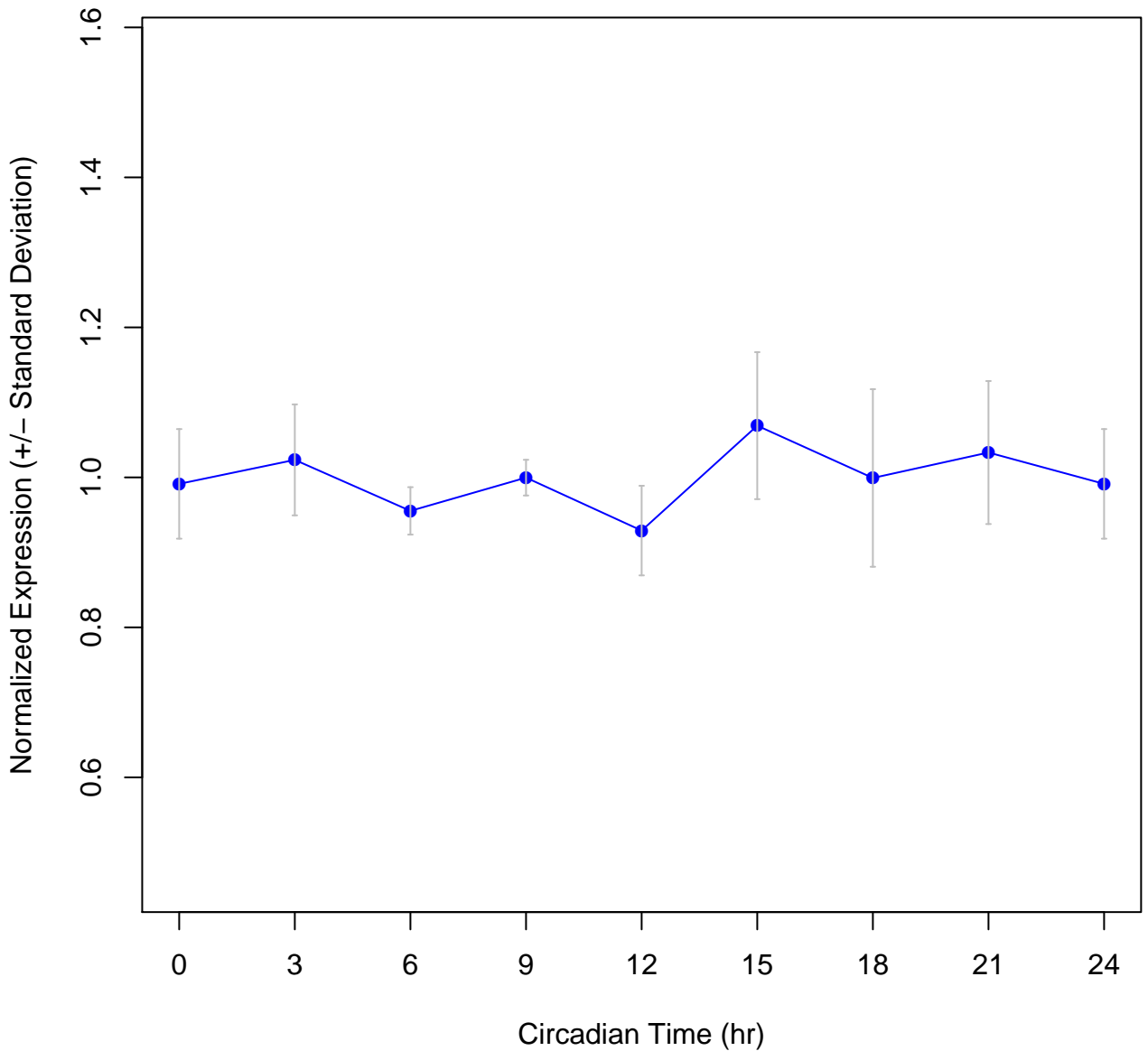
**Supplement Figure 4 prkcb**



Supplement Figure 4 prkdc

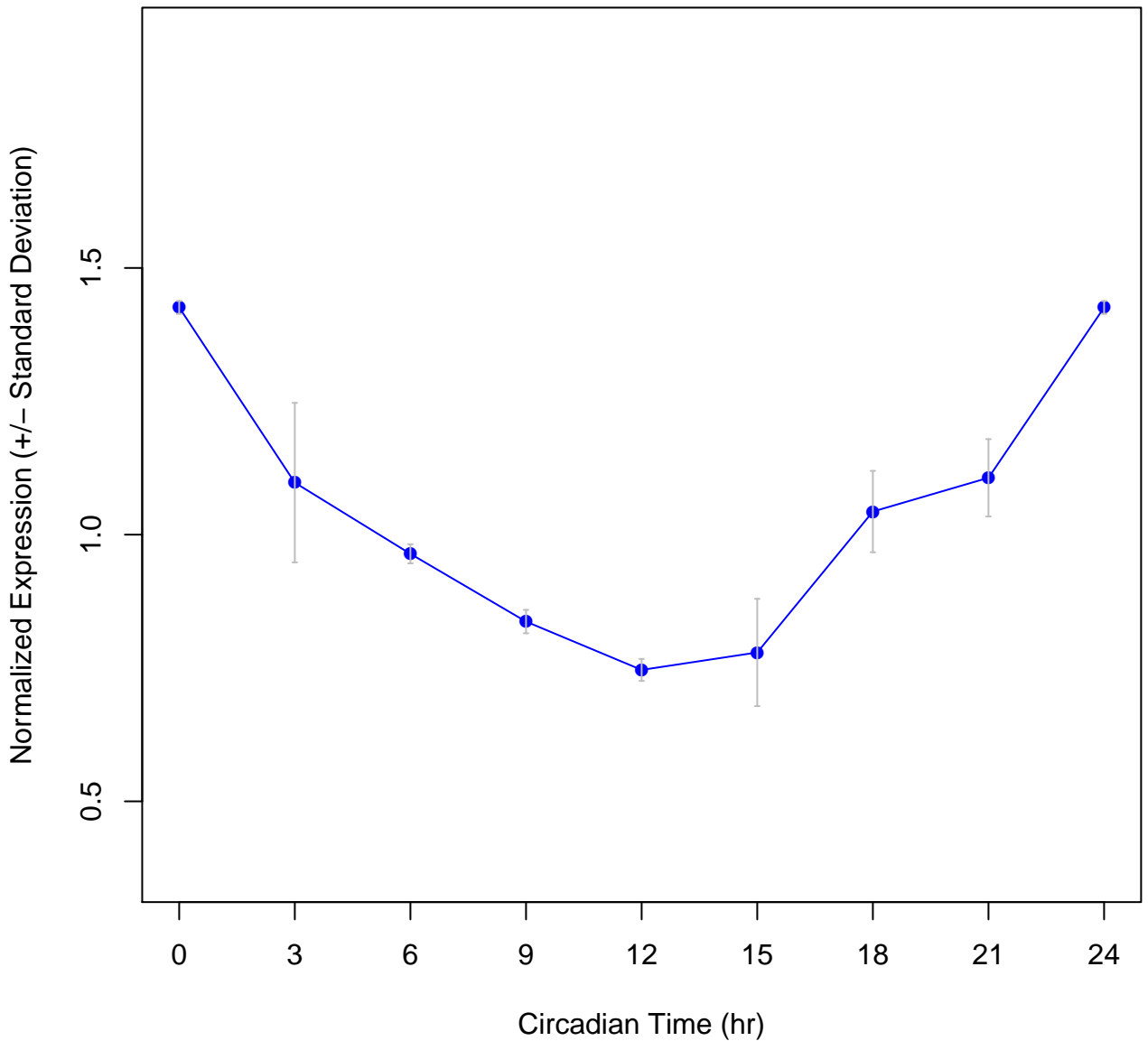


Supplement Figure 4 rab3b

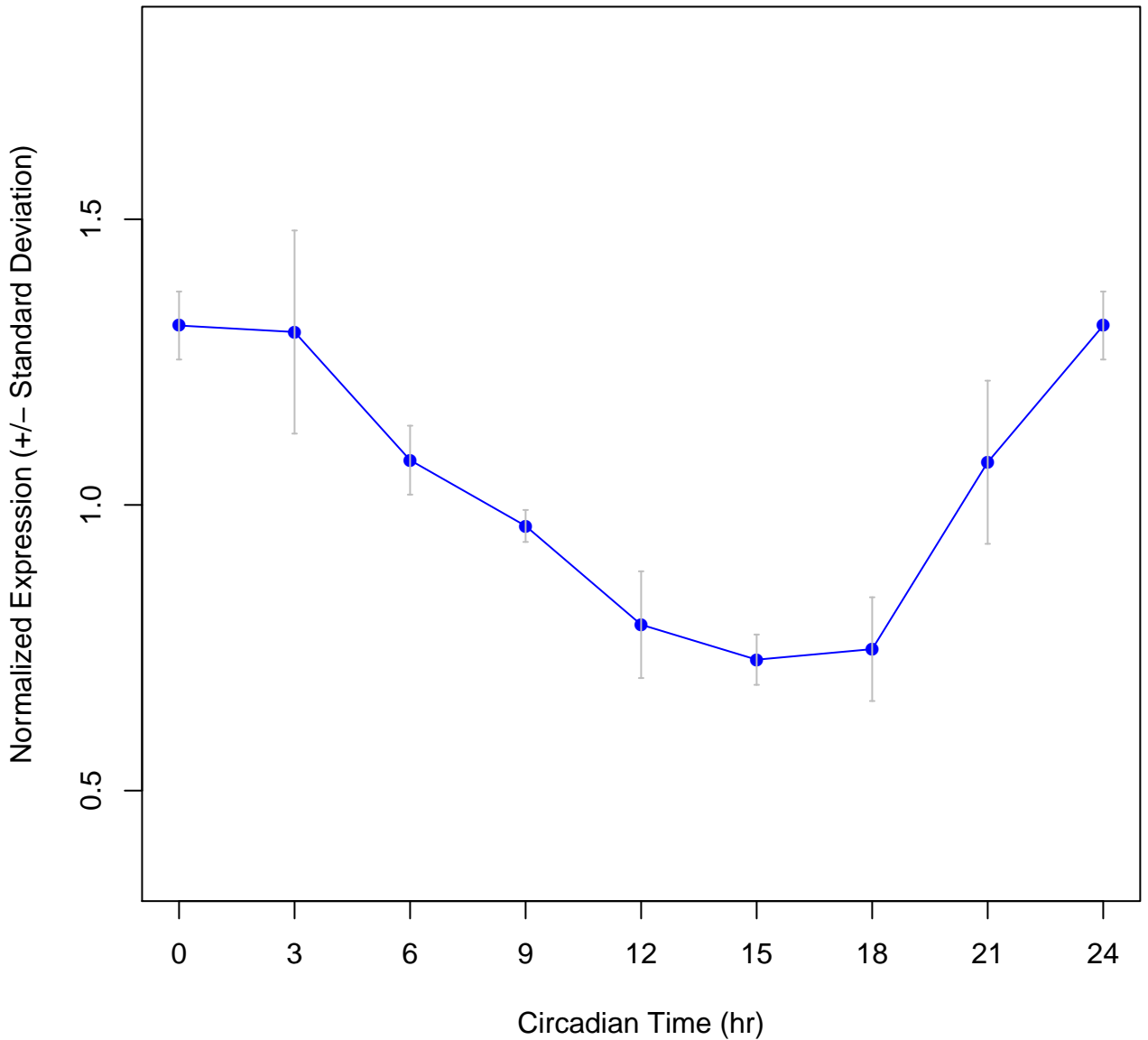




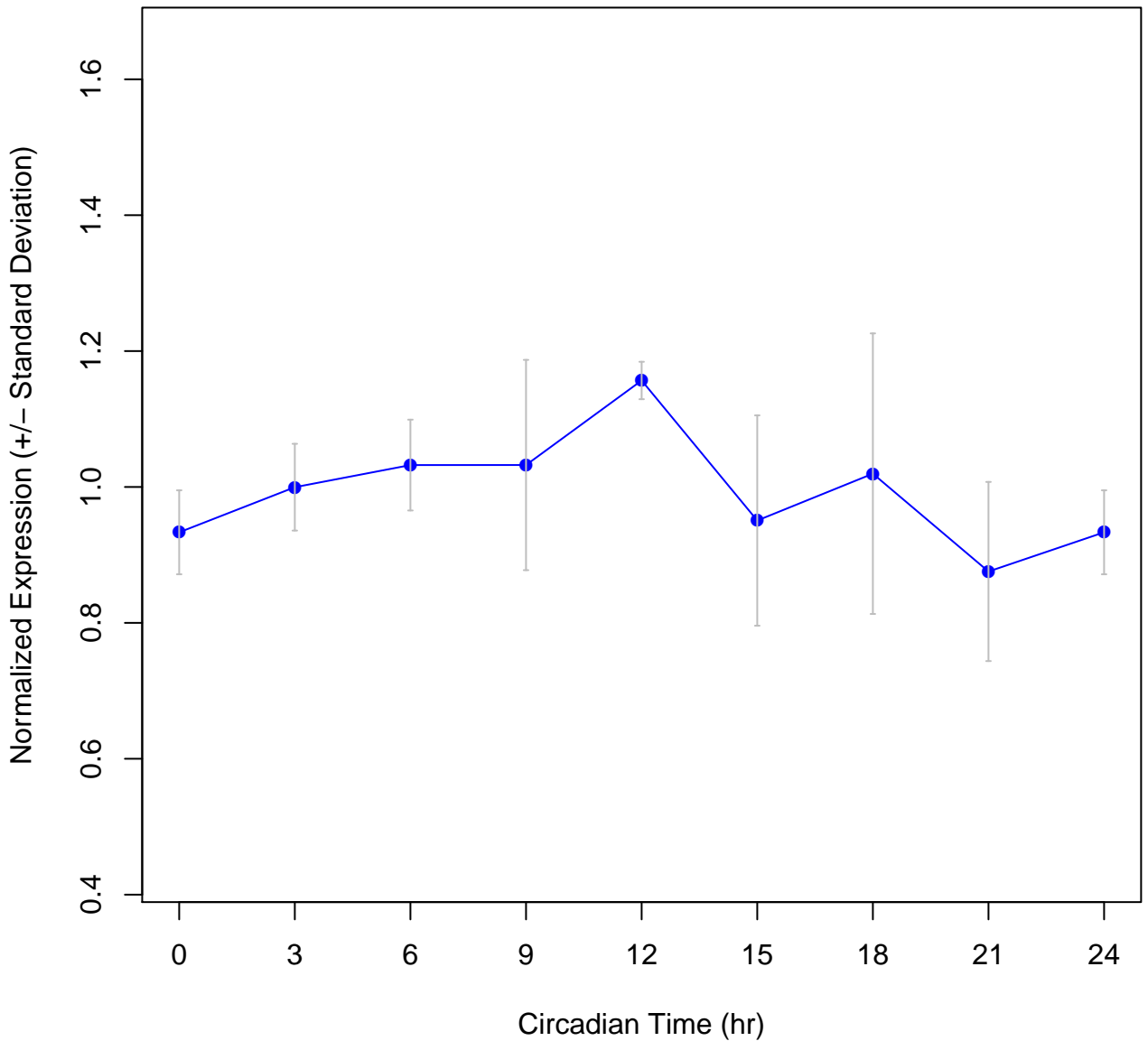
Supplement Figure 4 rara



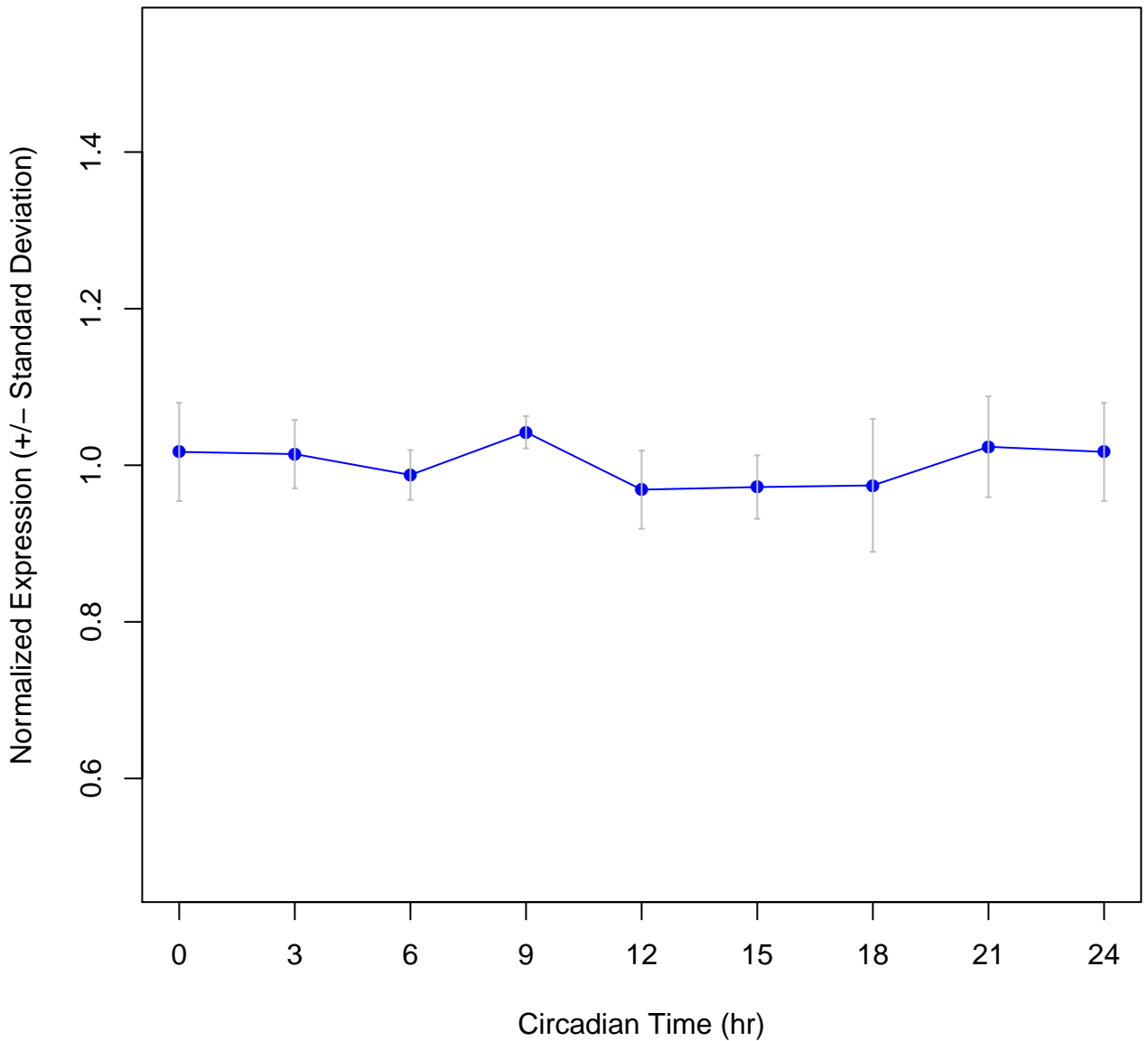
**Supplement Figure 4 rarb**



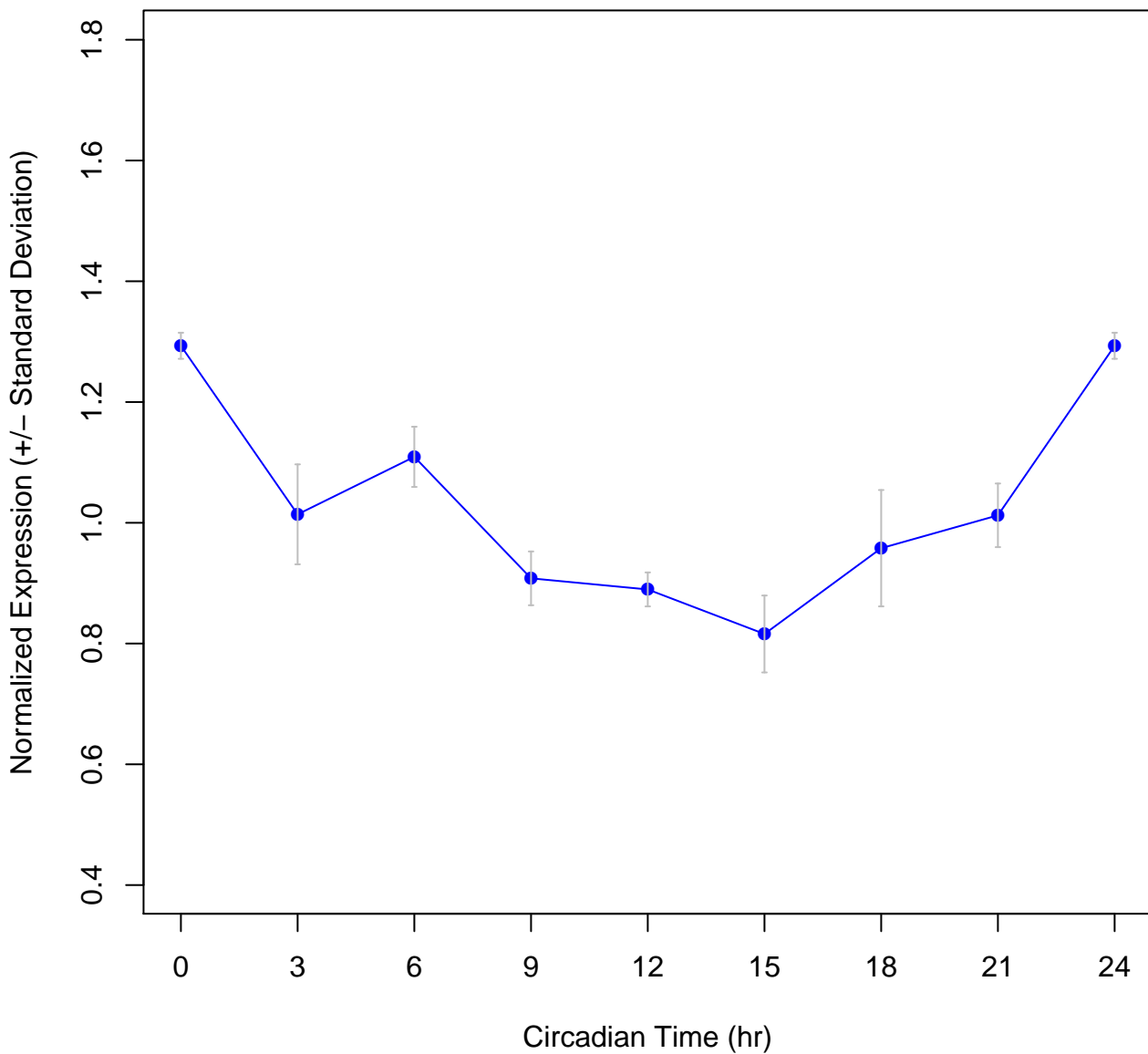
Supplement Figure 4 raver1



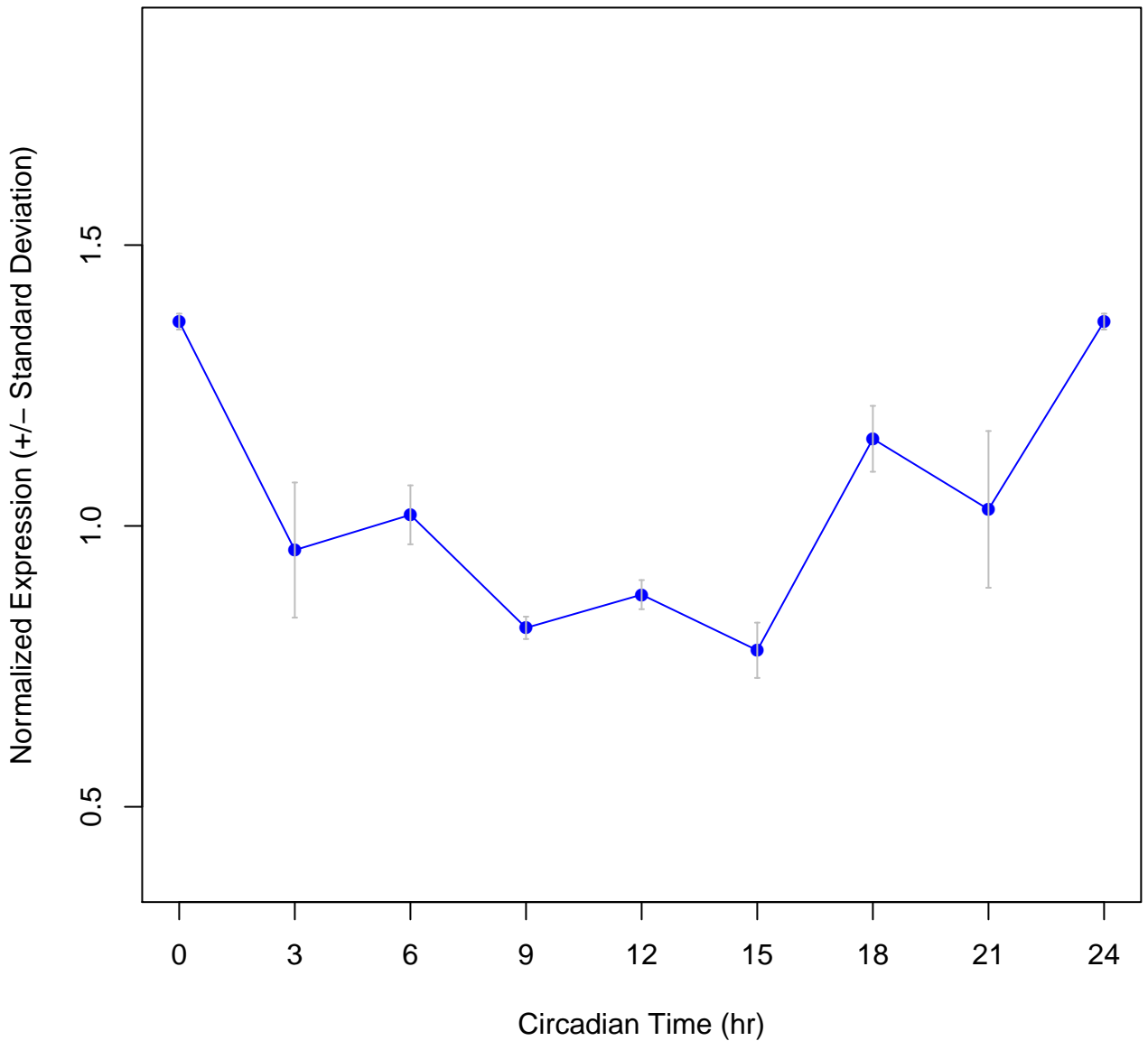
Supplement Figure 4 rbbp5



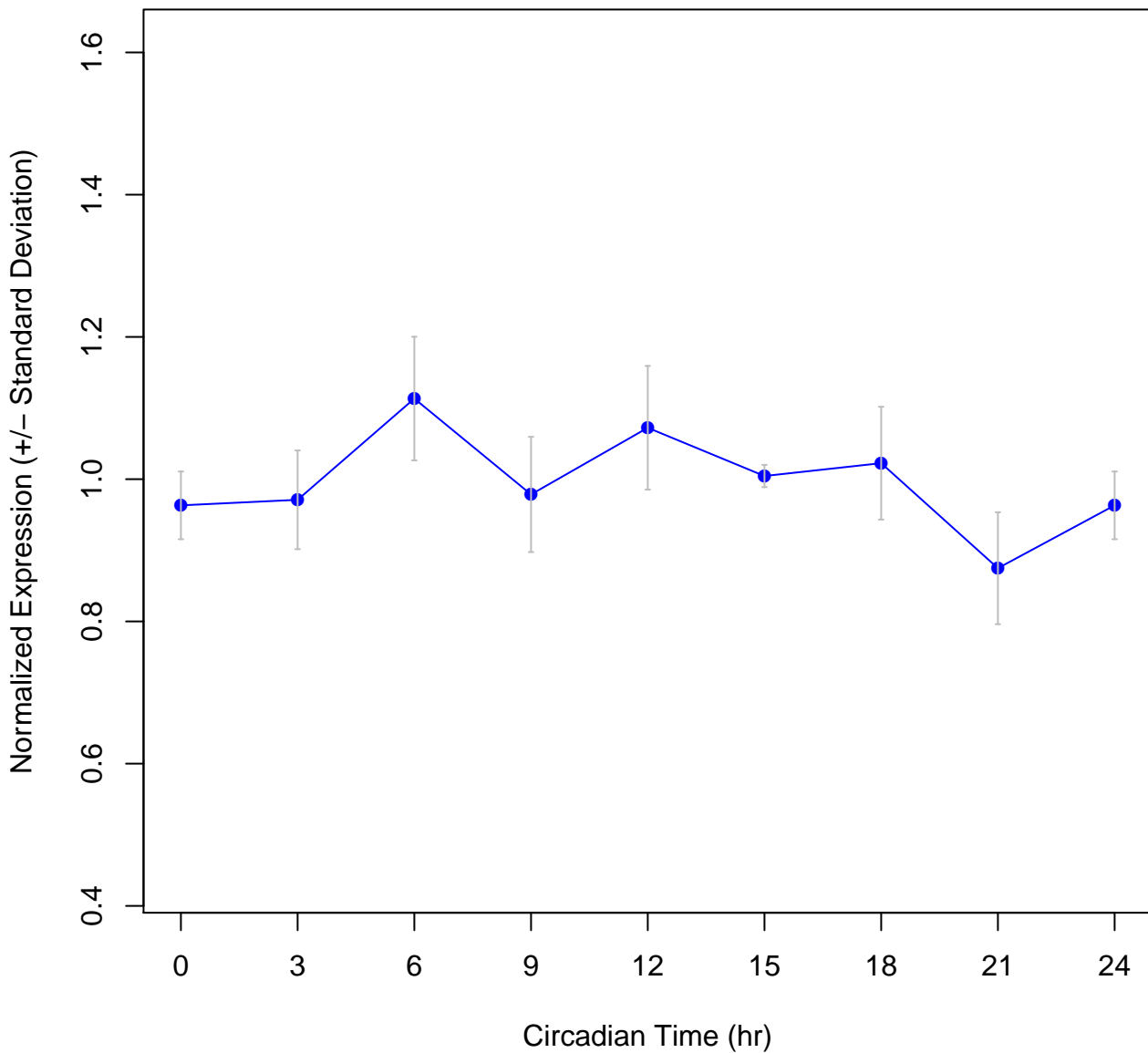
Supplement Figure 4 rora



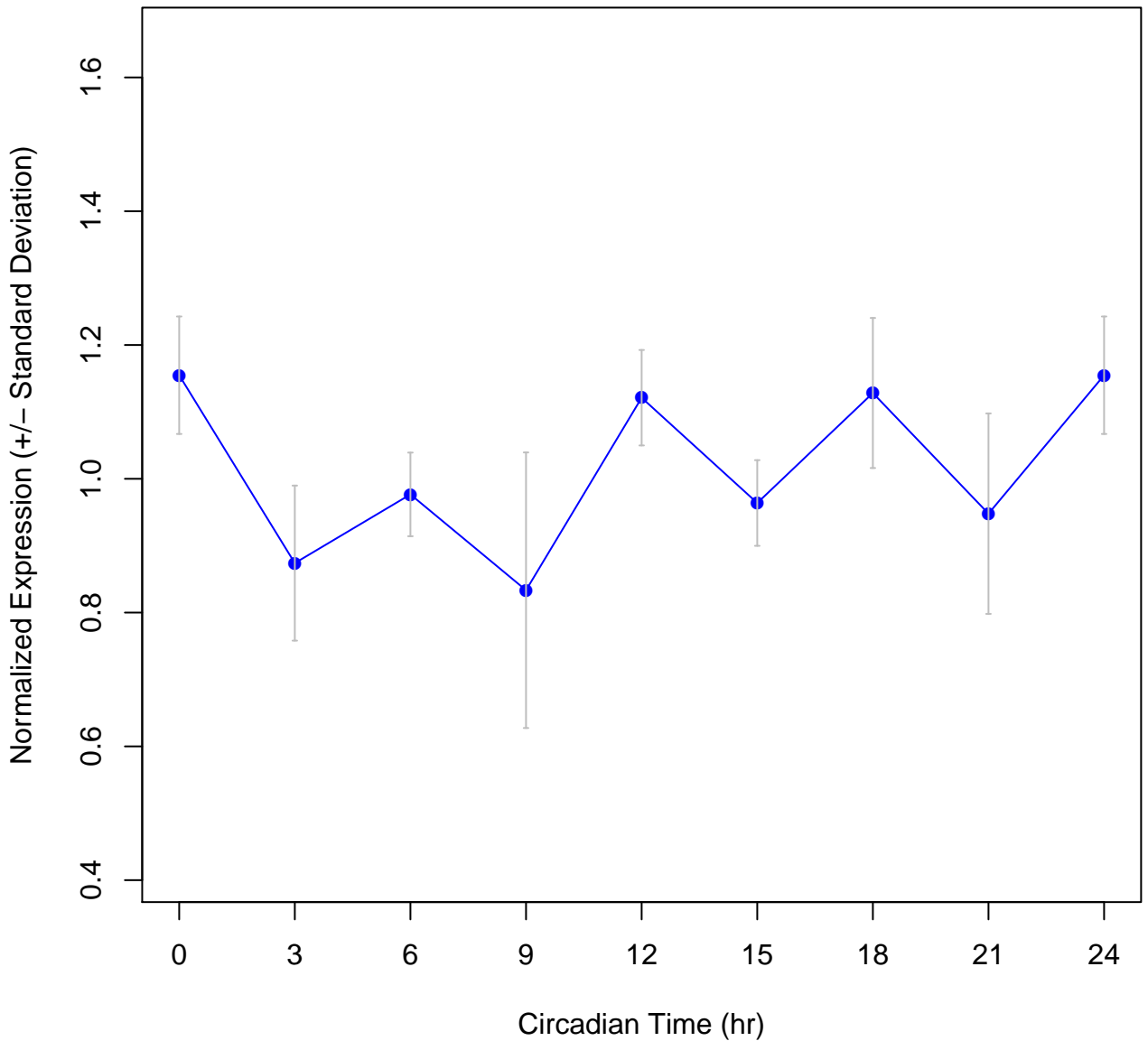
Supplement Figure 4 rps6ka2



**Supplement Figure 4 rps6kb1**

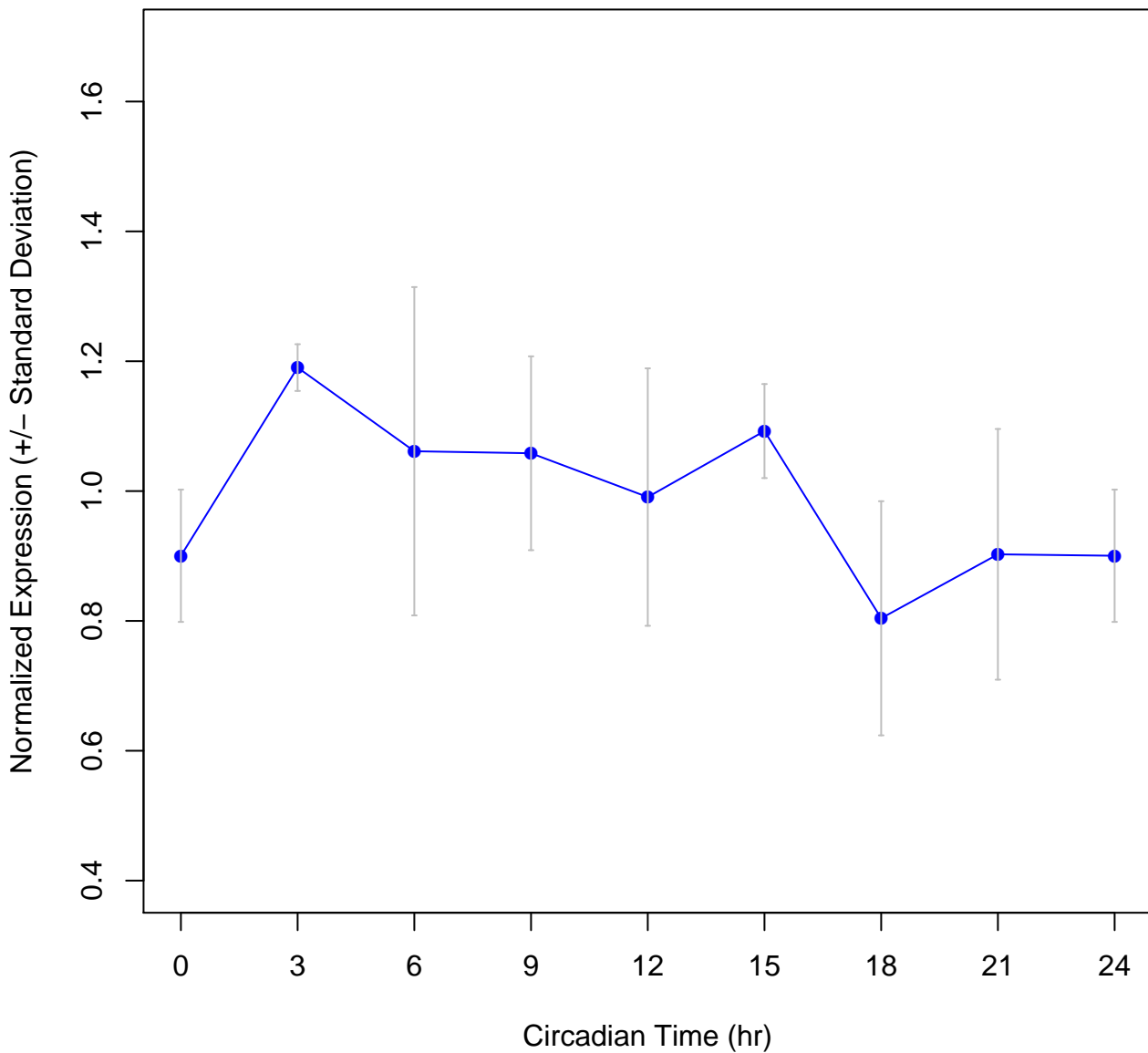


Supplement Figure 4 si\_ch211-114i13.12

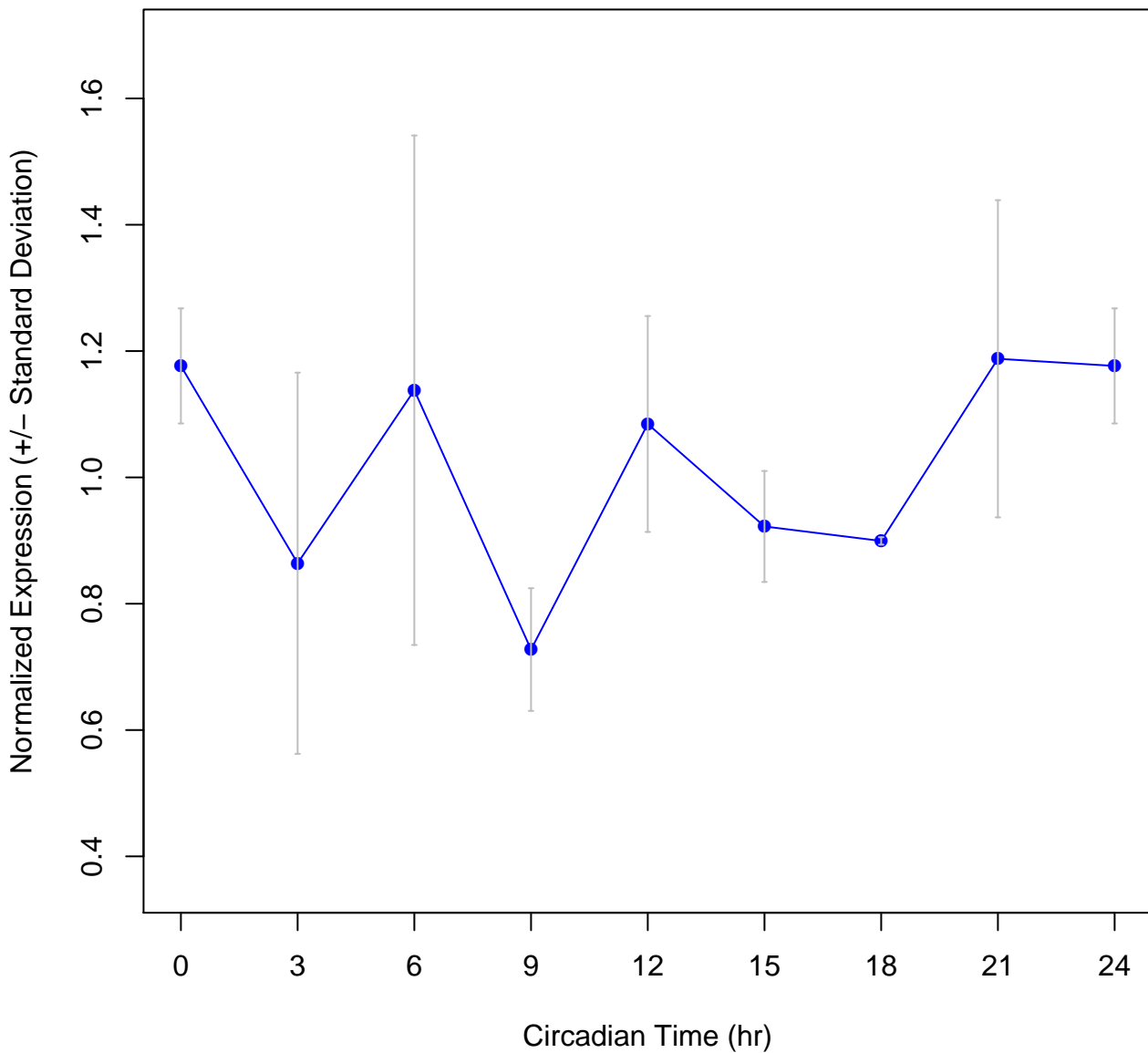




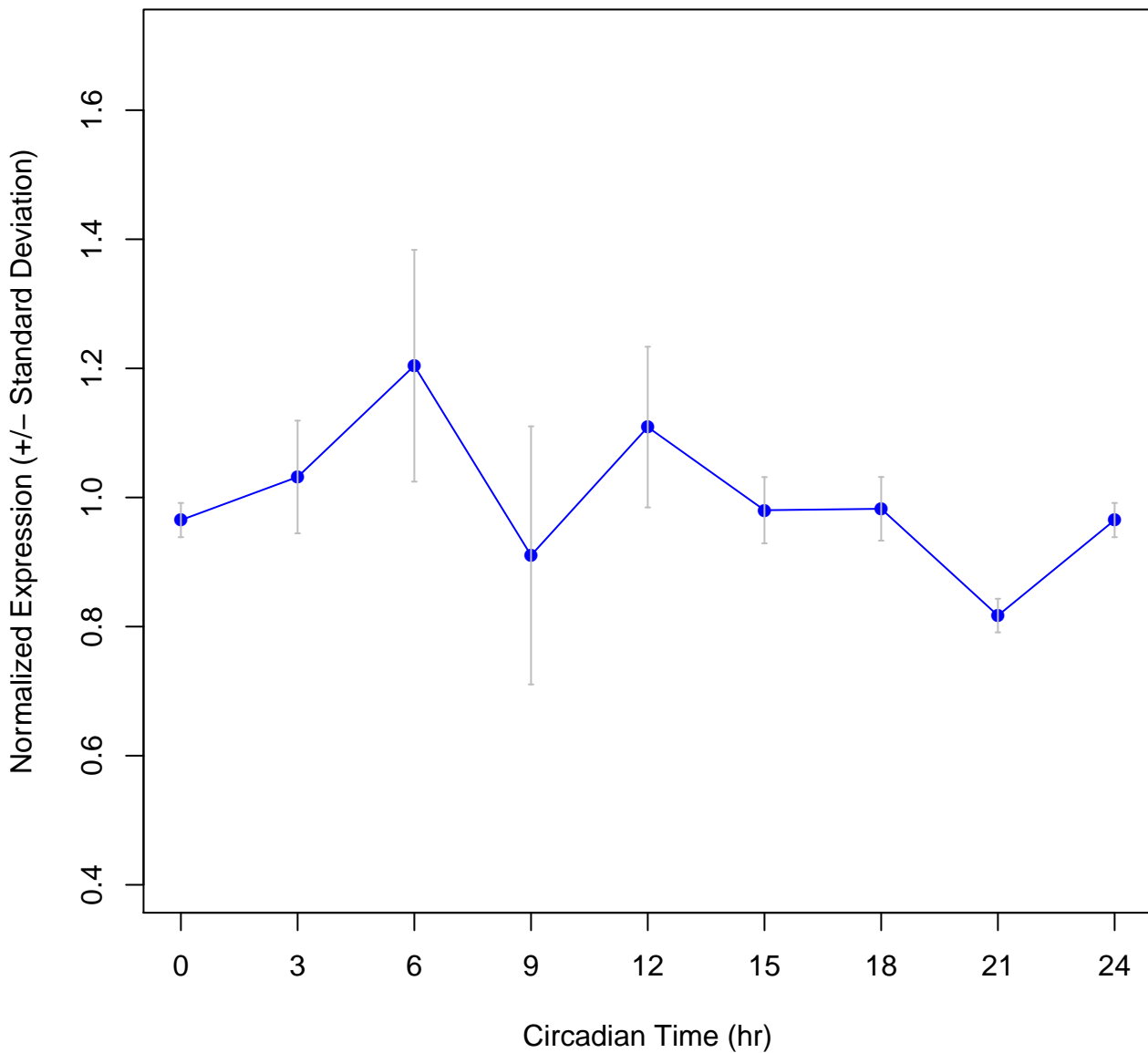
Supplement Figure 4 si\_ch211-199o1.2



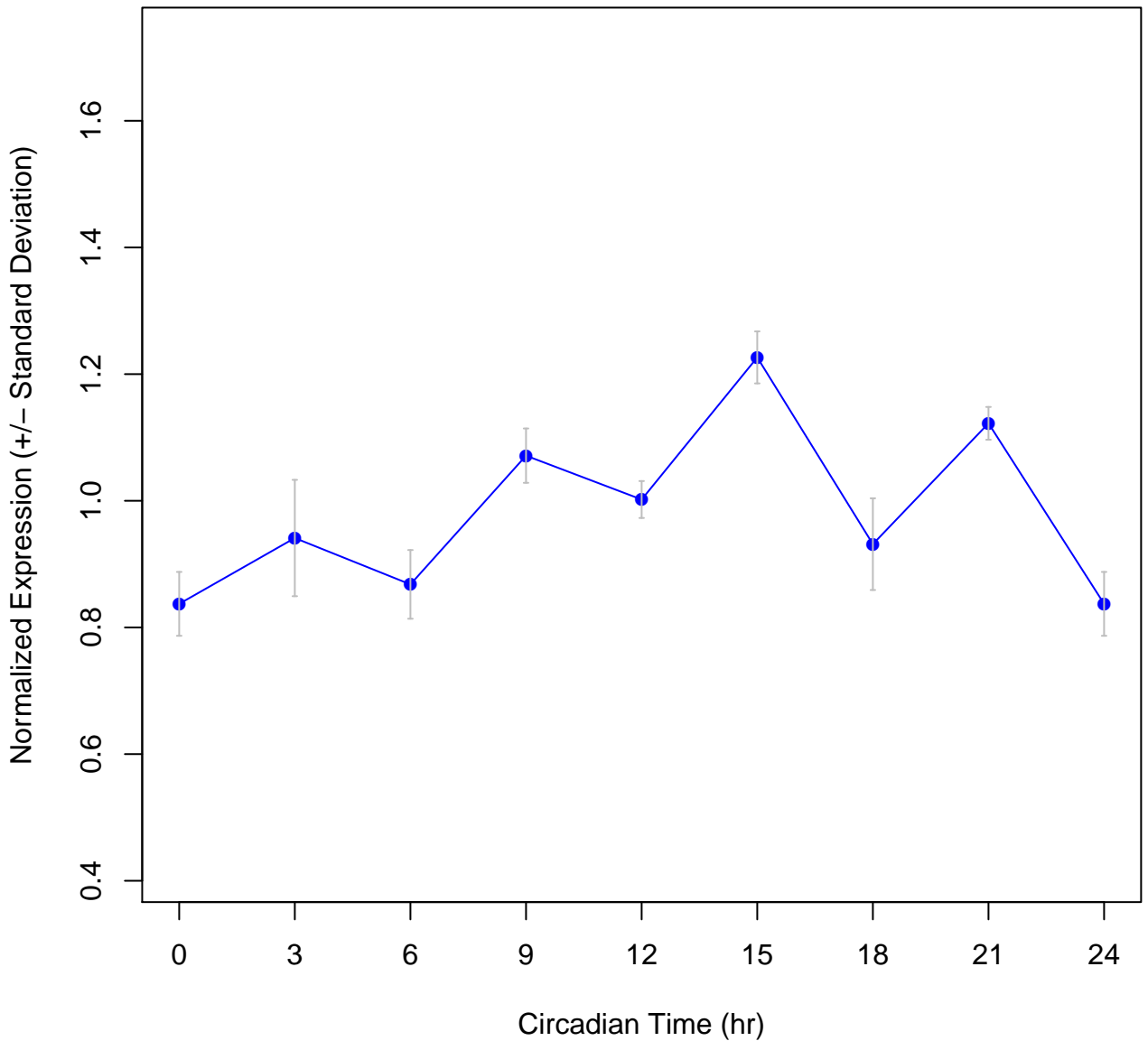
## Supplement Figure 4 sigirr



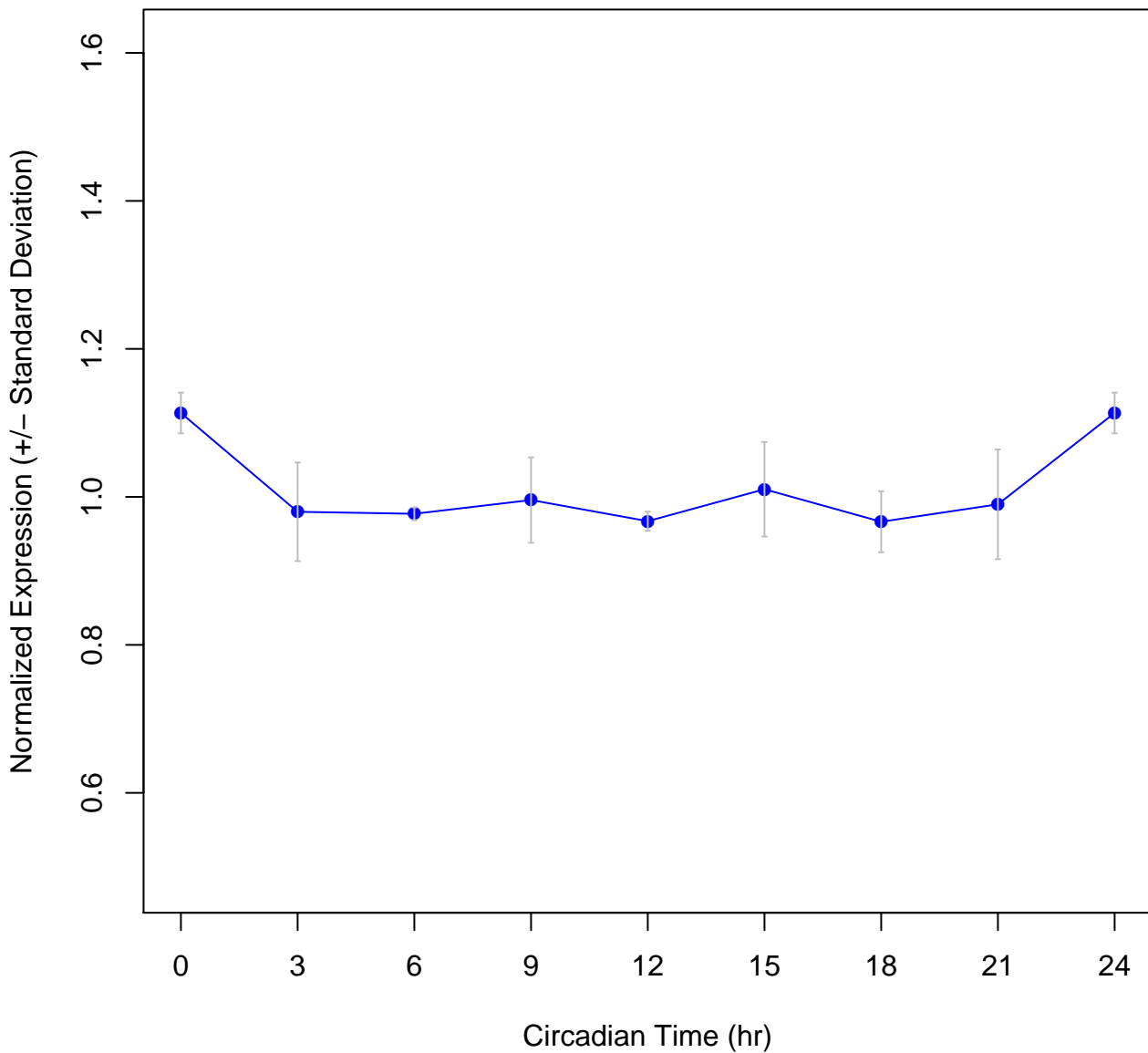
**Supplement Figure 4 sirt1**



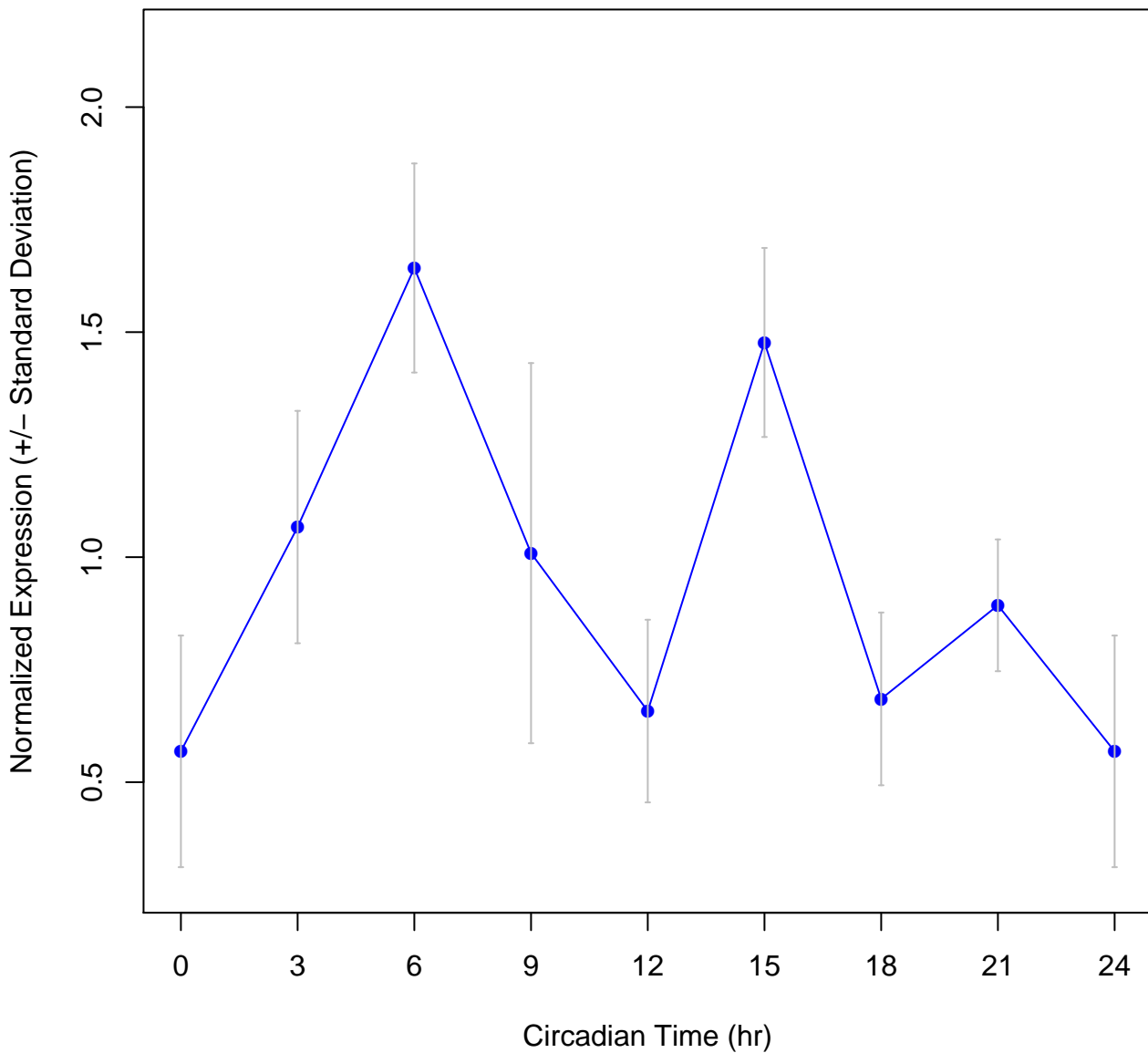
**Supplement Figure 4 six3**



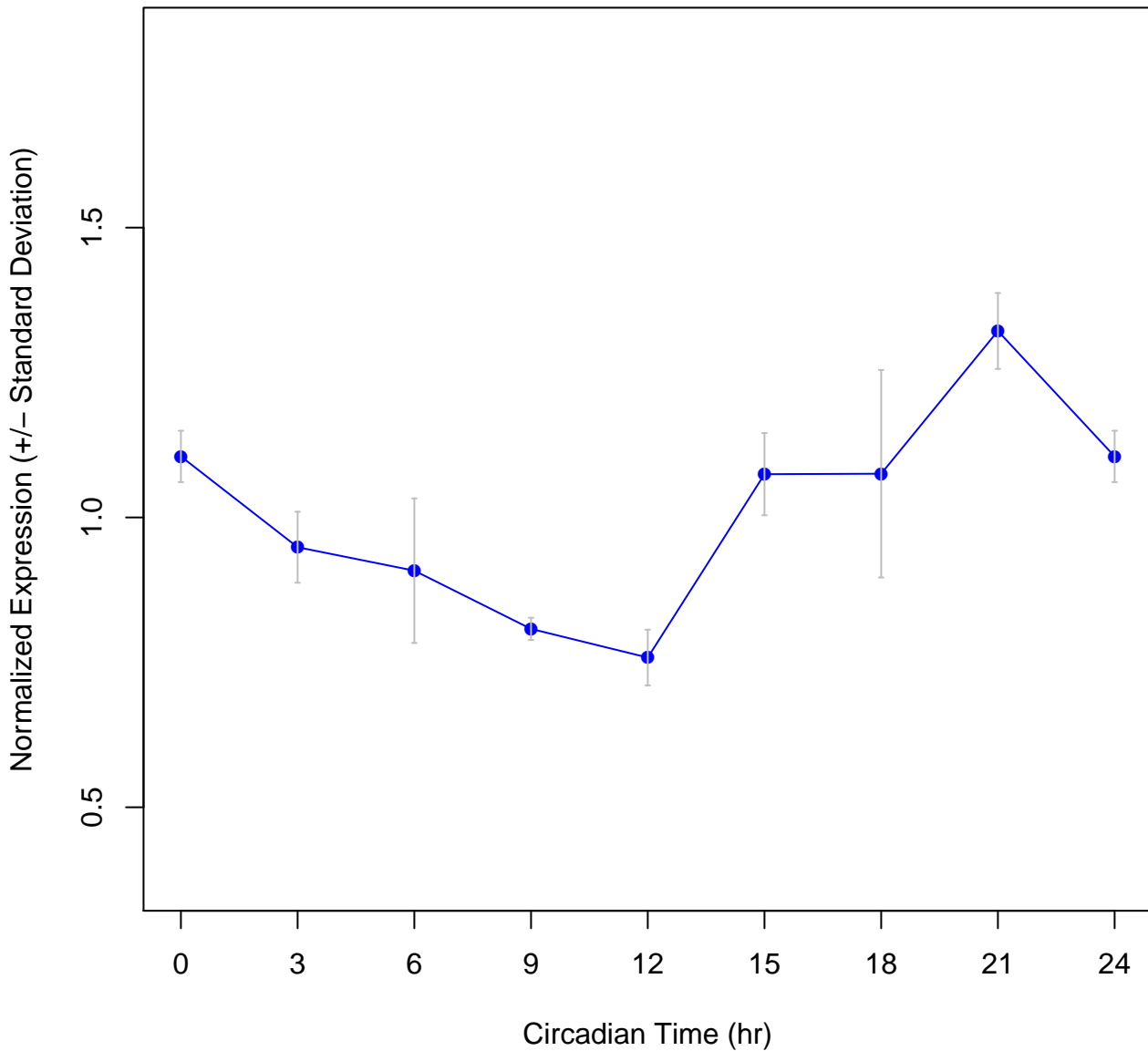
Supplement Figure 4 *skp1*



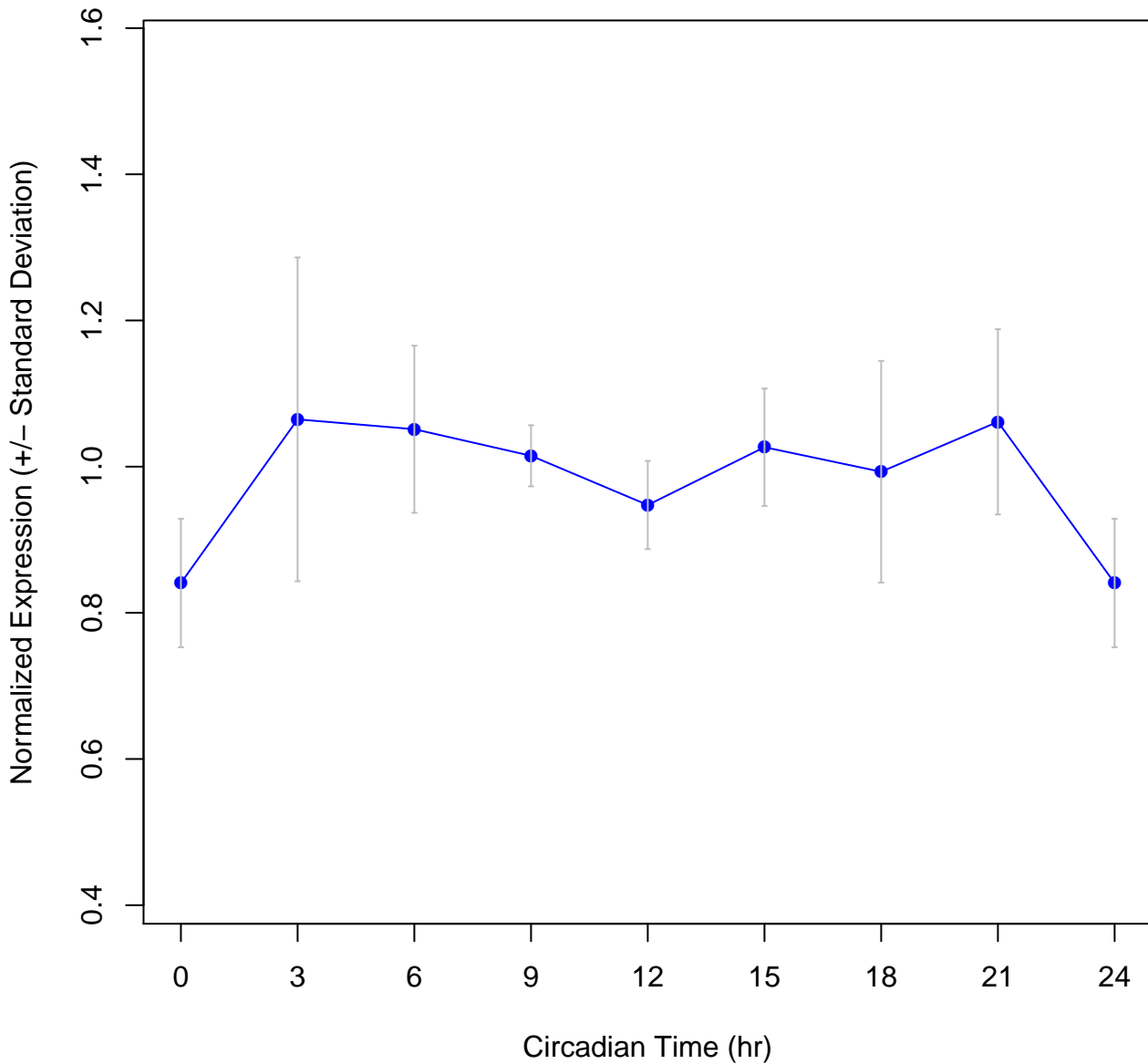
Supplement Figure 4 slc2a4



Supplement Figure 4 slc2a4rg

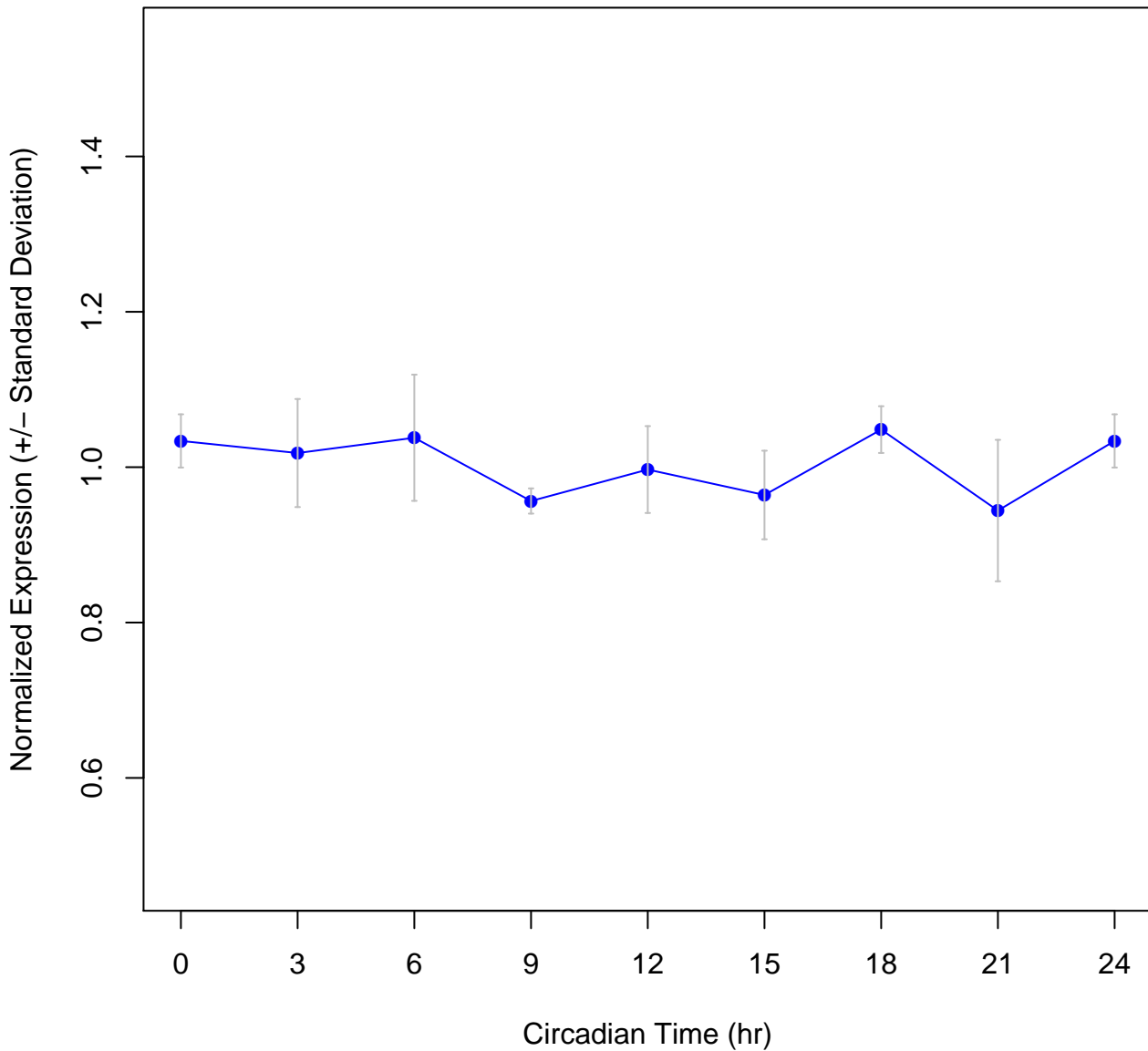


Supplement Figure 4 snca

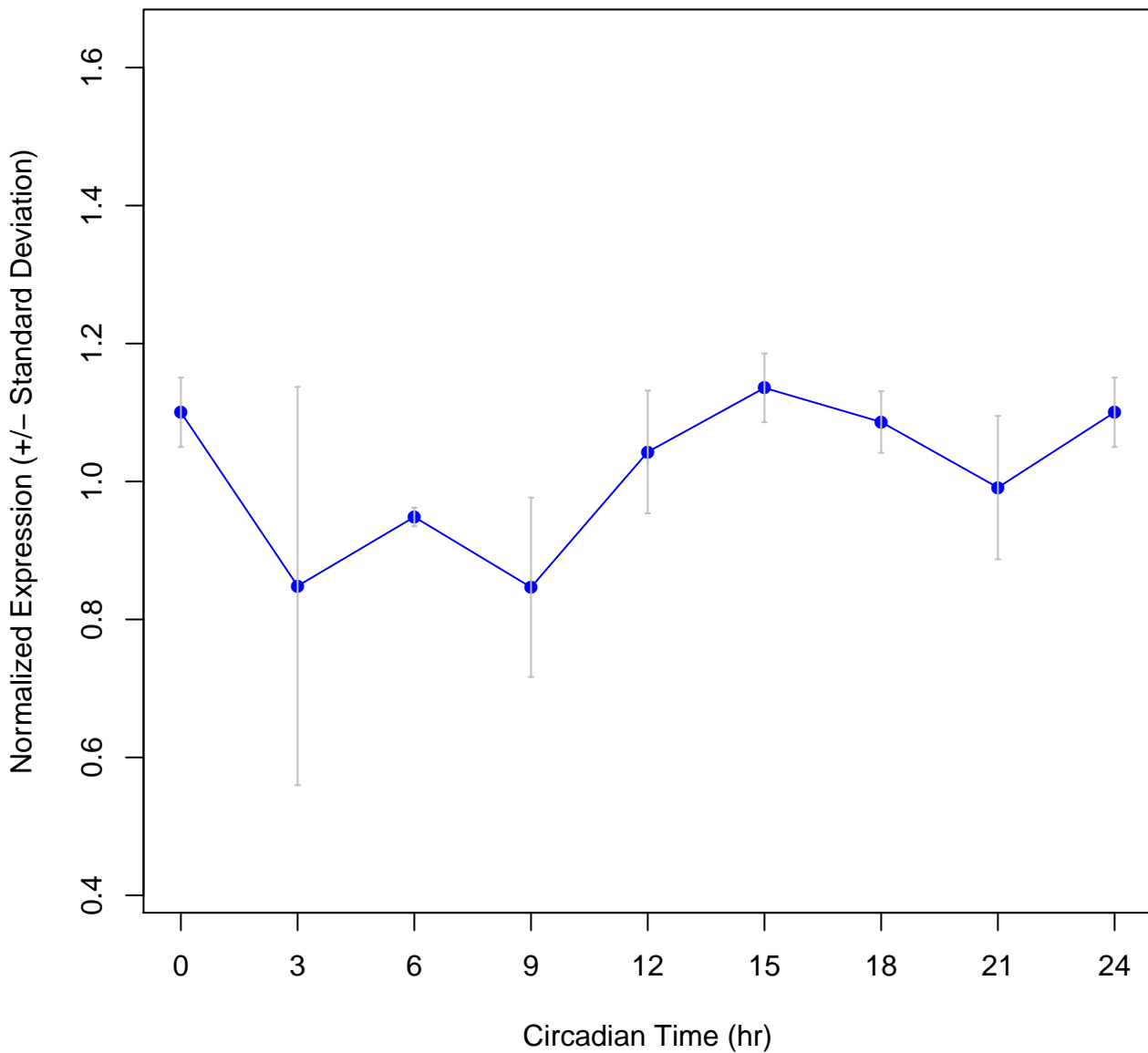




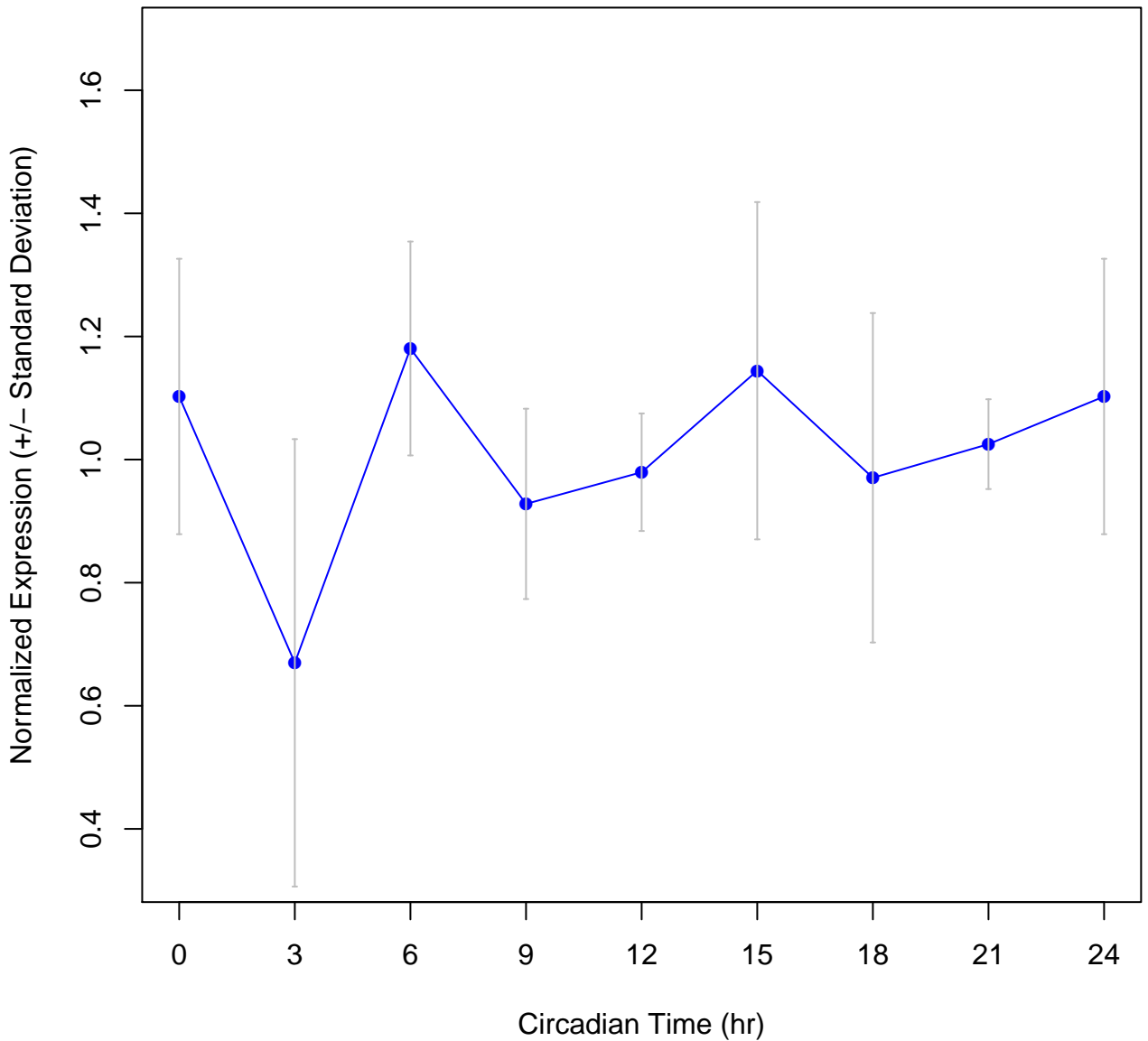
## Supplement Figure 4 sort1



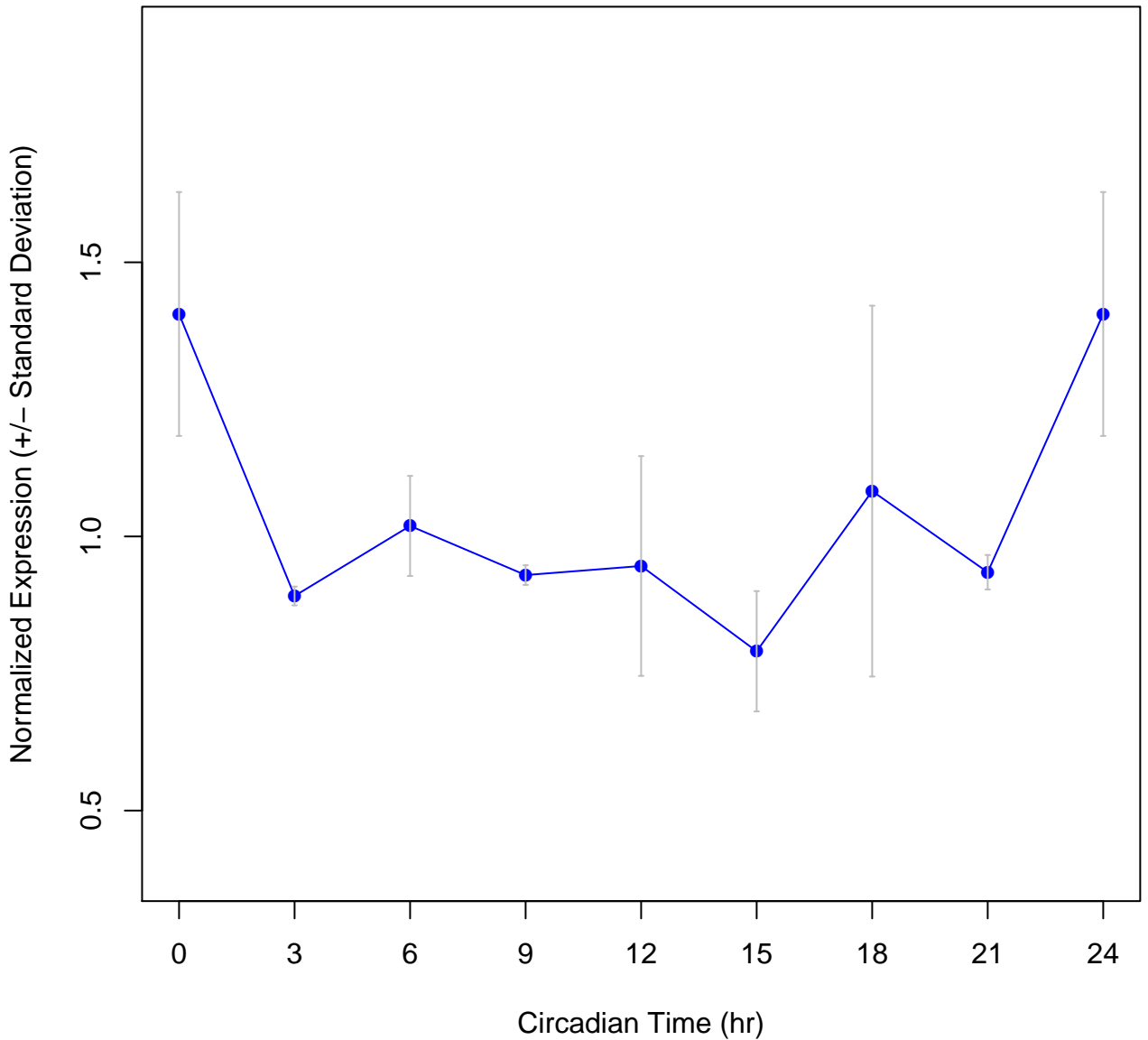
**Supplement Figure 4 sox10**



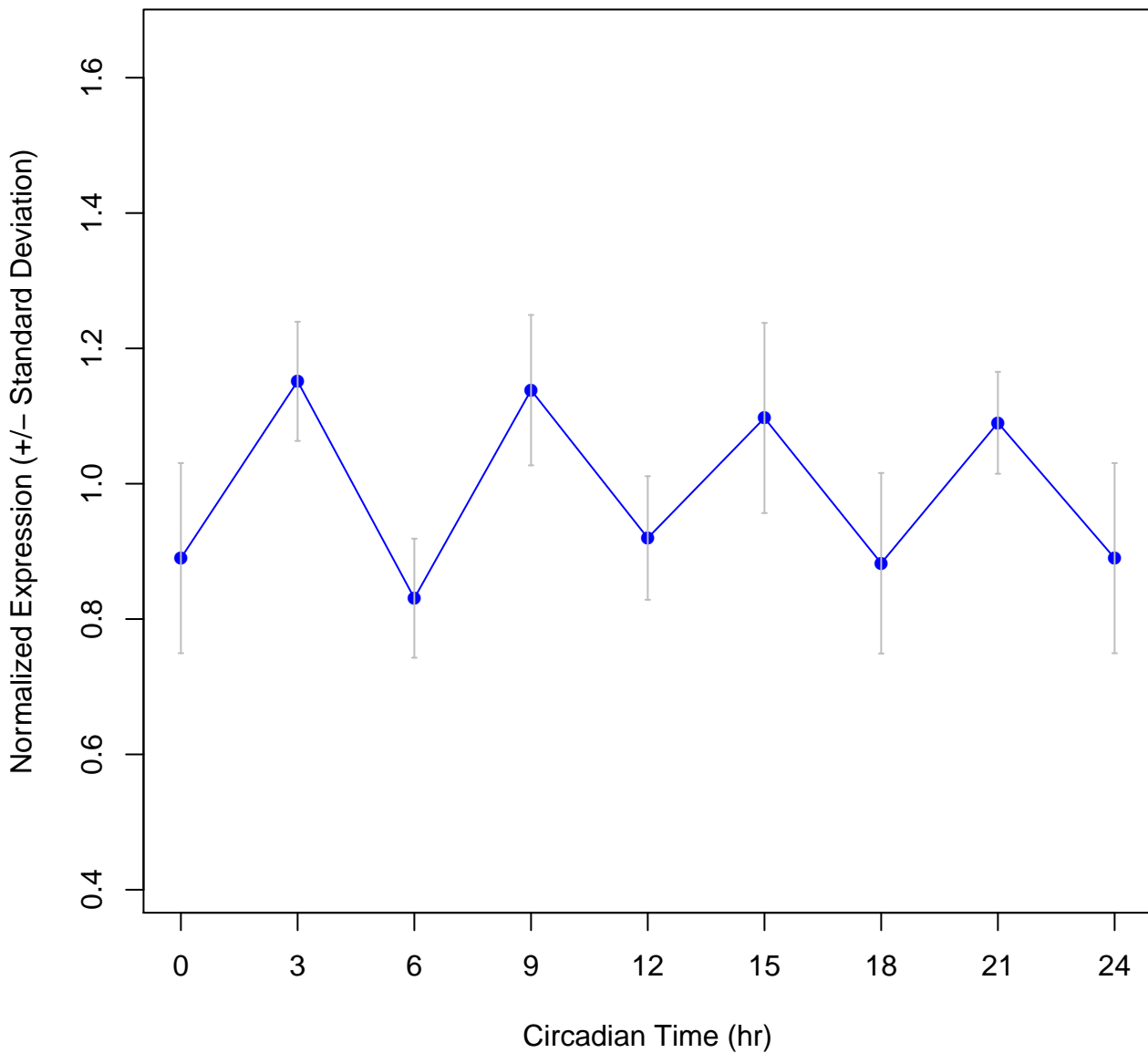
**Supplement Figure 4 sox8**



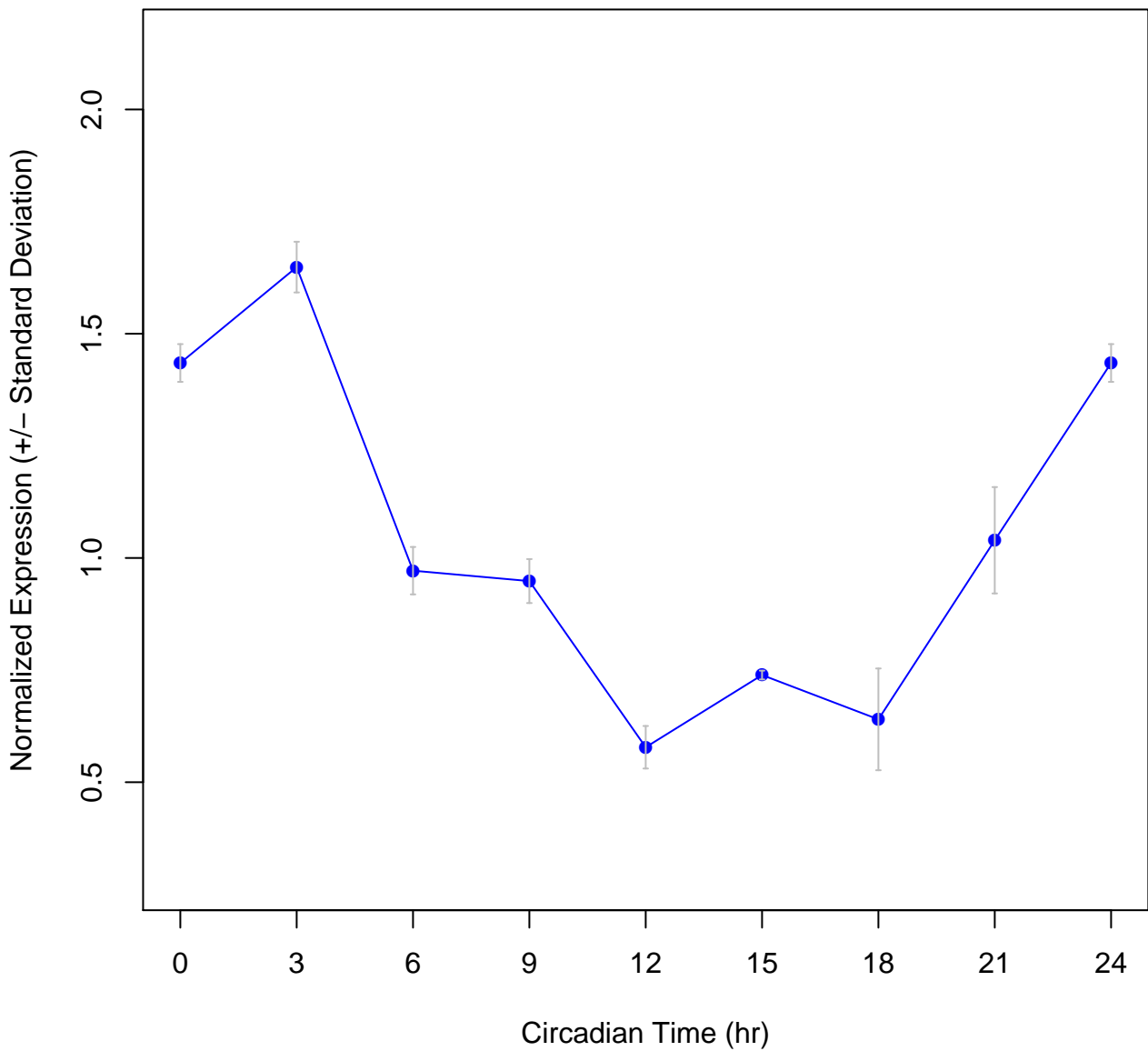
Supplement Figure 4 spc25



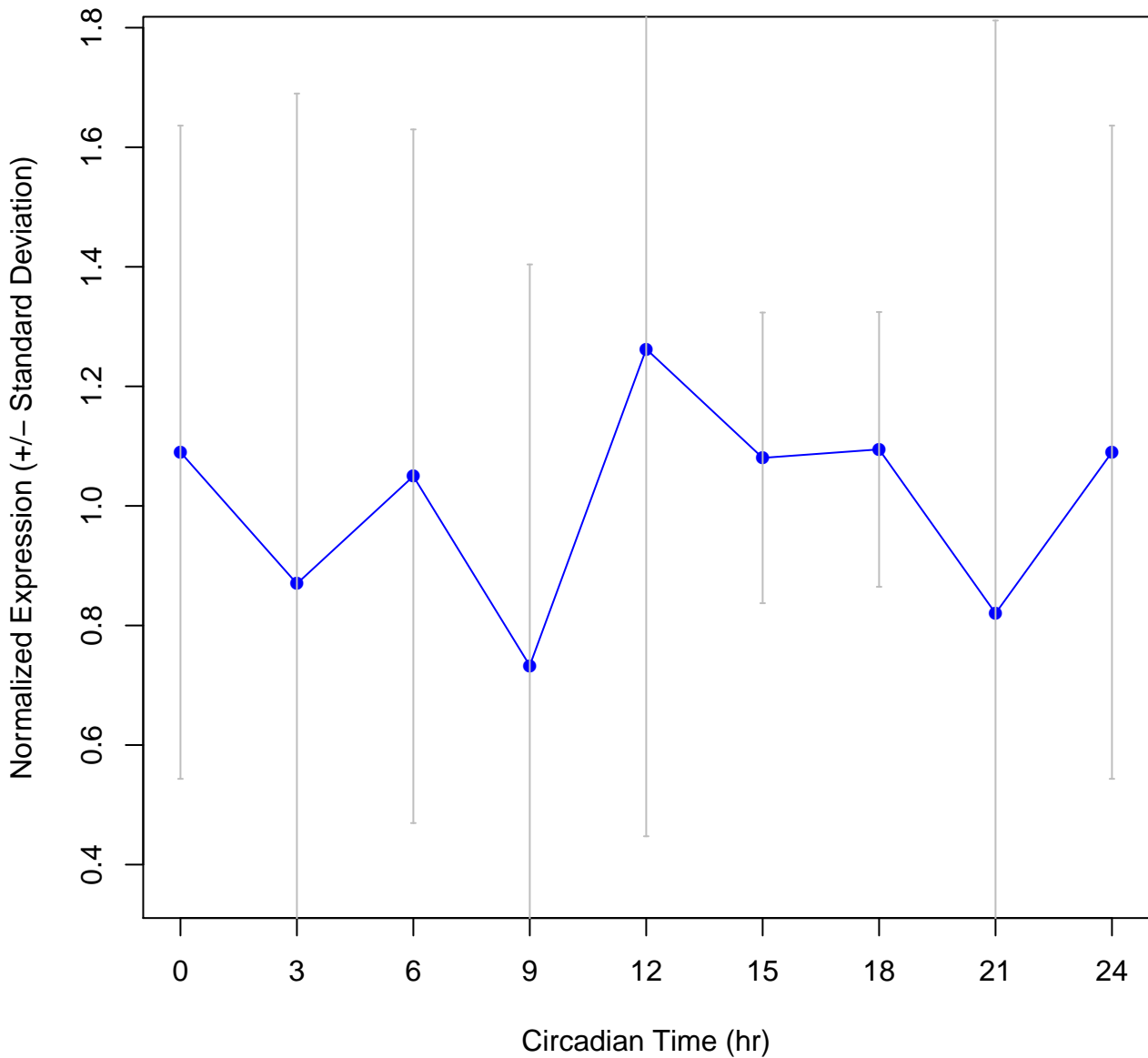
**Supplement Figure 4 sreb1**



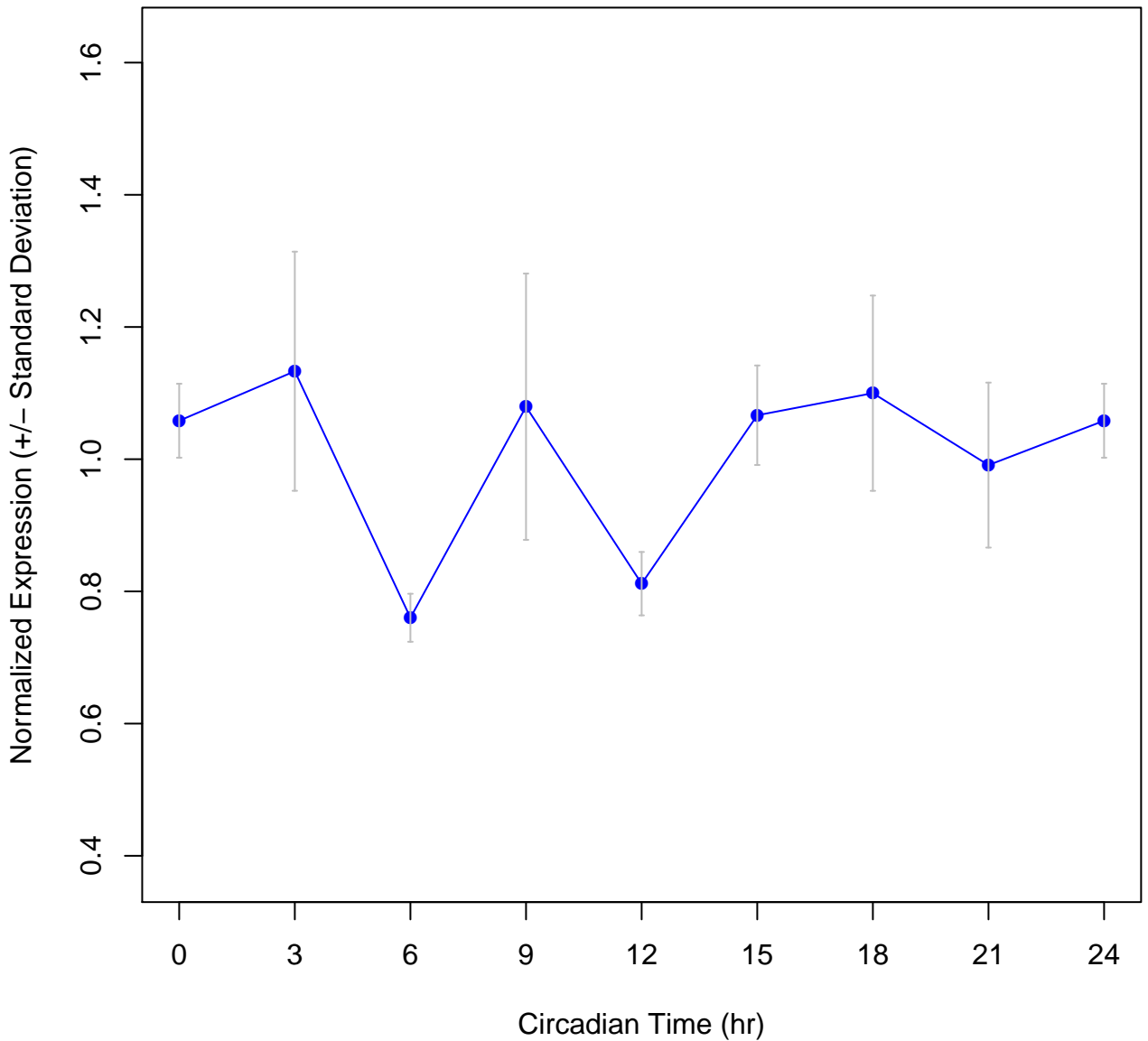
Supplement Figure 4 sybu



### Supplement Figure 4 tgm8

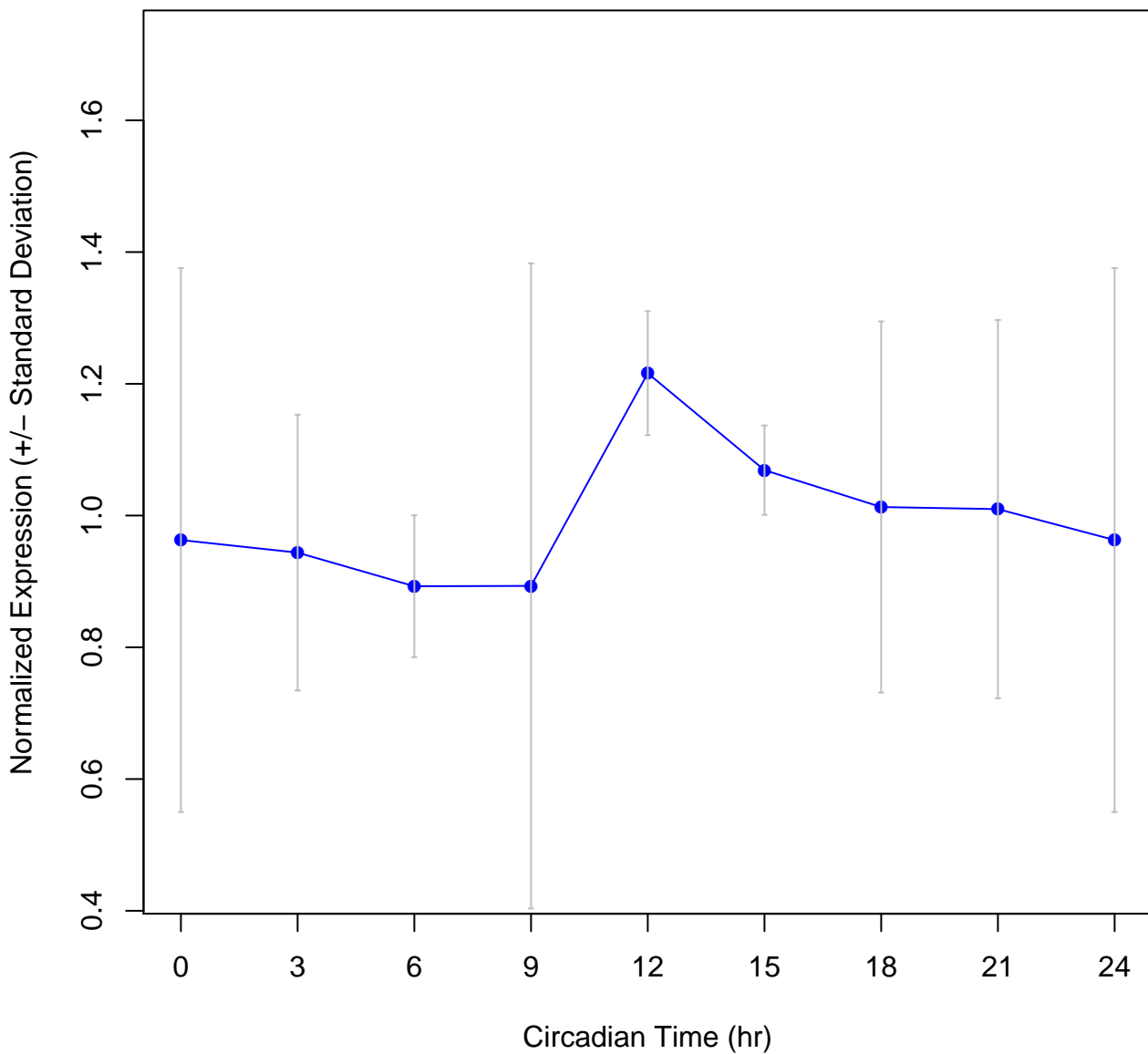


Supplement Figure 4 thbs1

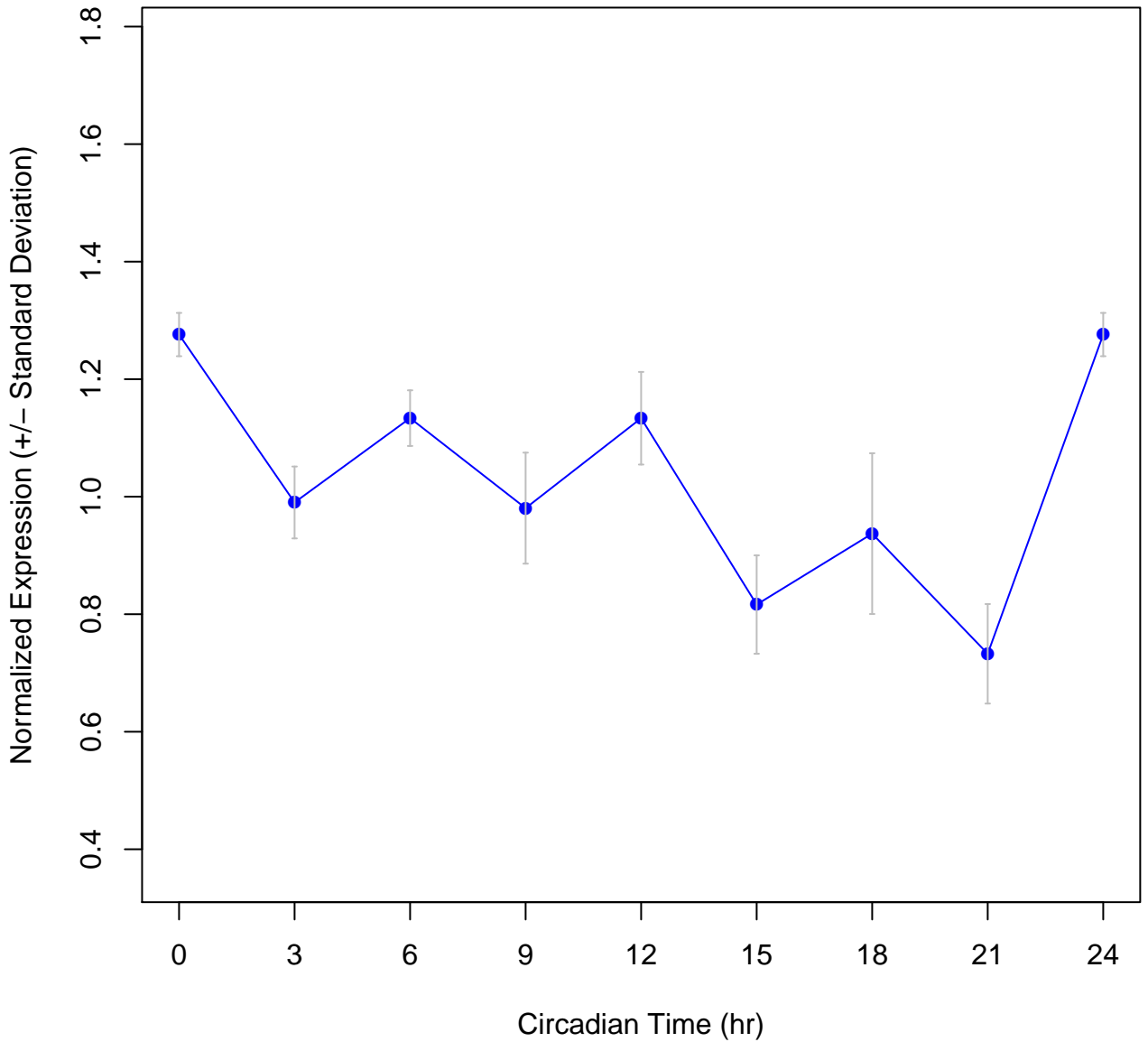




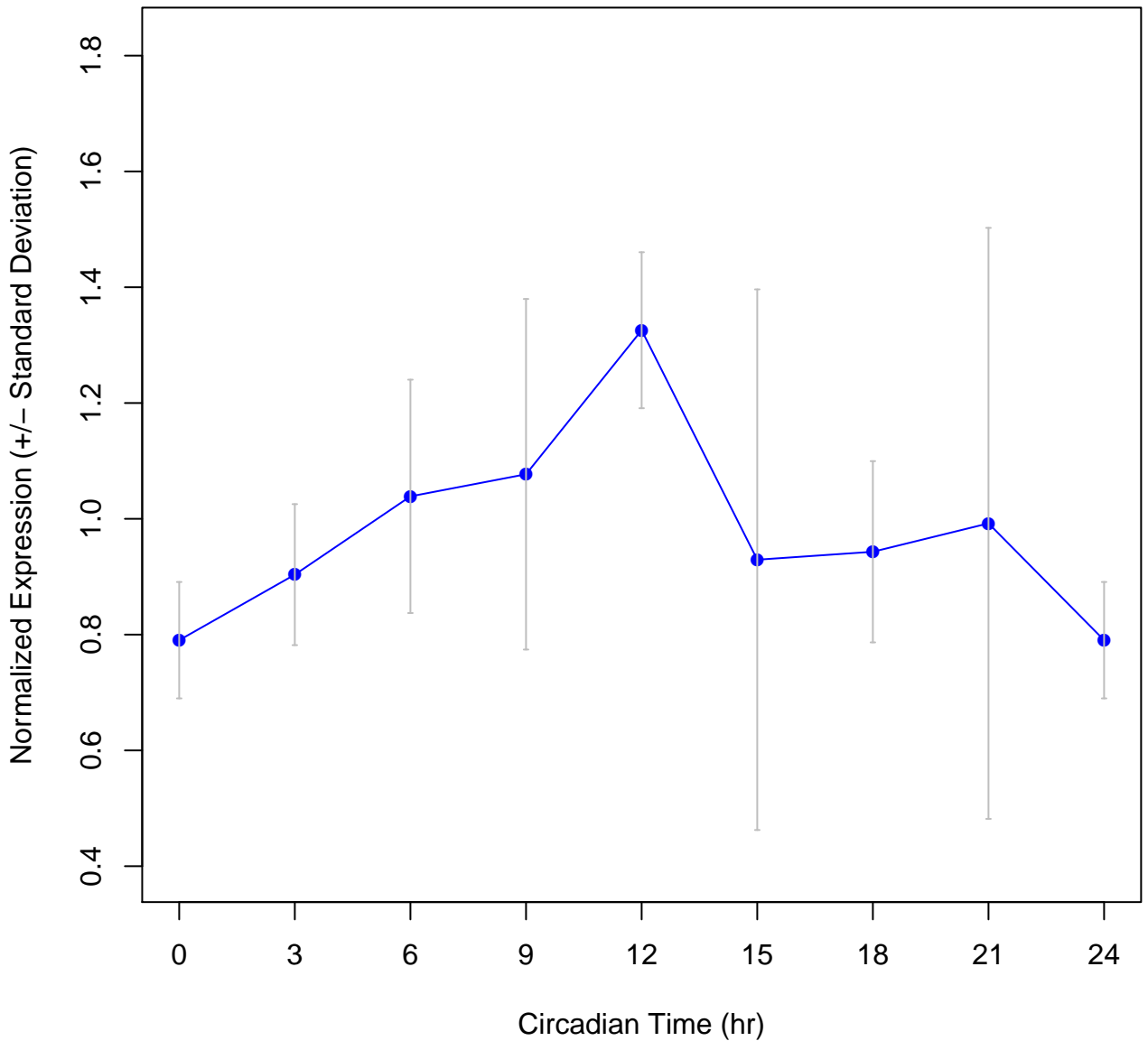
Supplement Figure 4 tim1



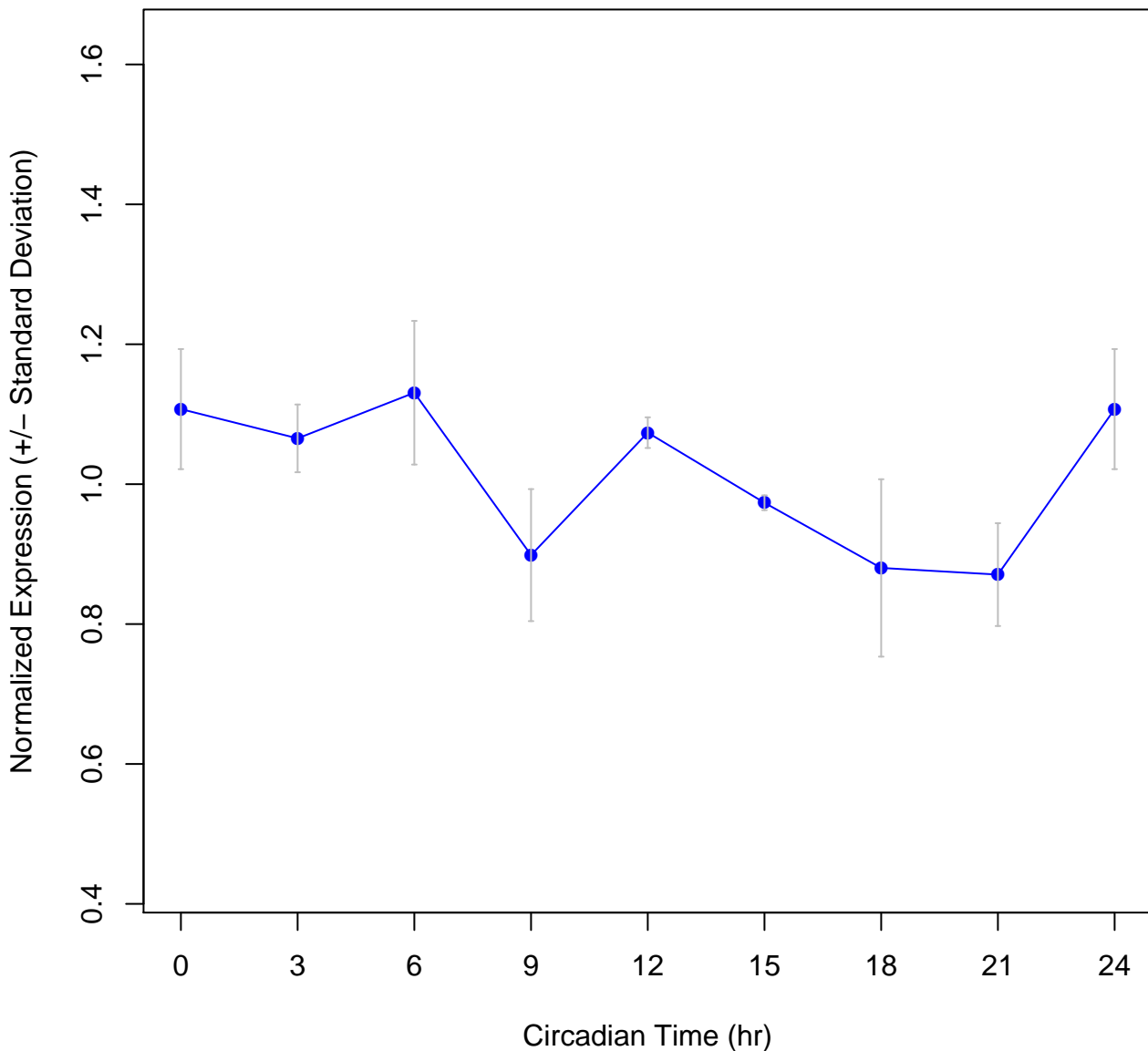
**Supplement Figure 4 tmem204**



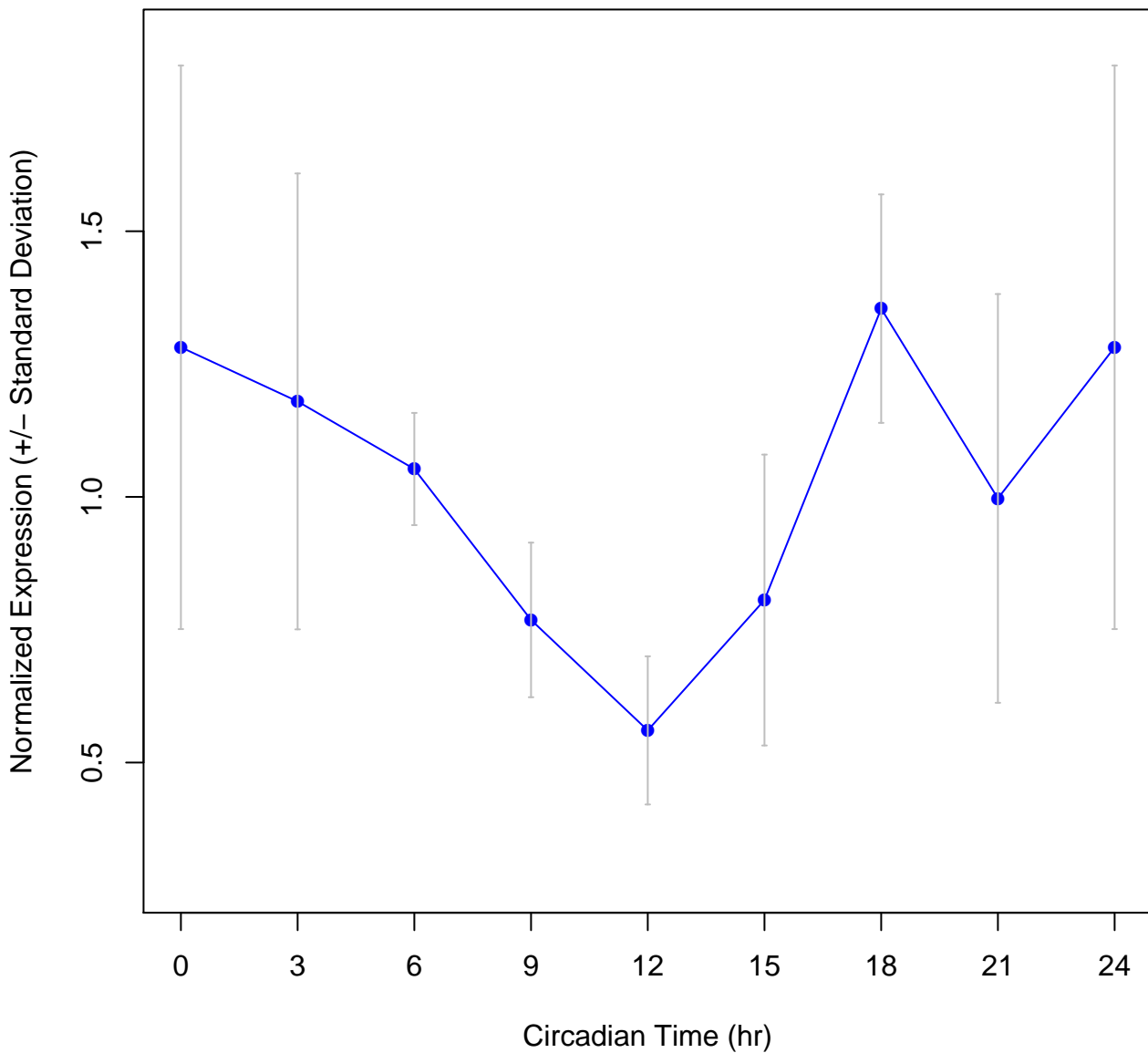
Supplement Figure 4 top2a



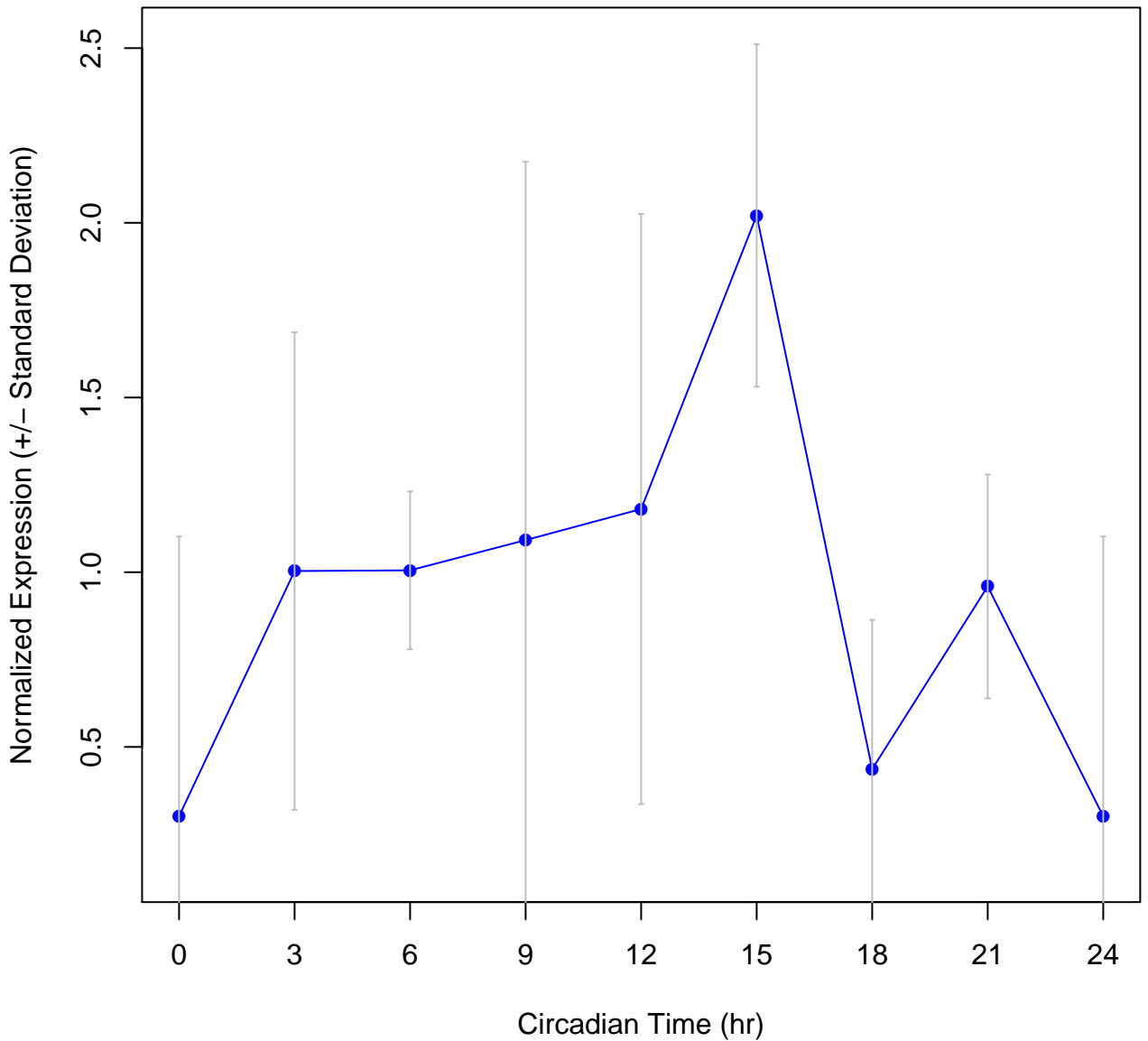
### Supplement Figure 4 tpm4



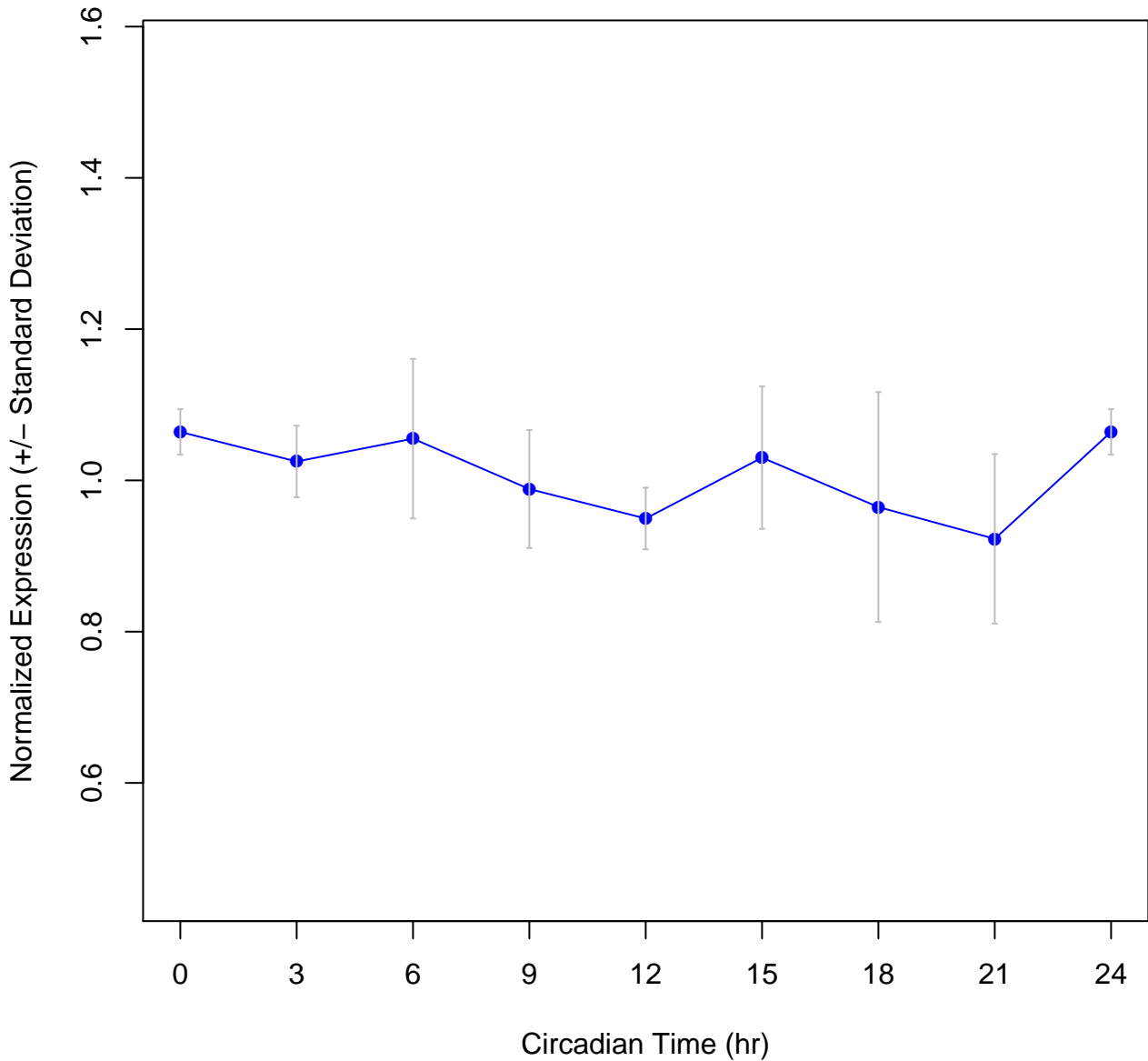
Supplement Figure 4 tyr



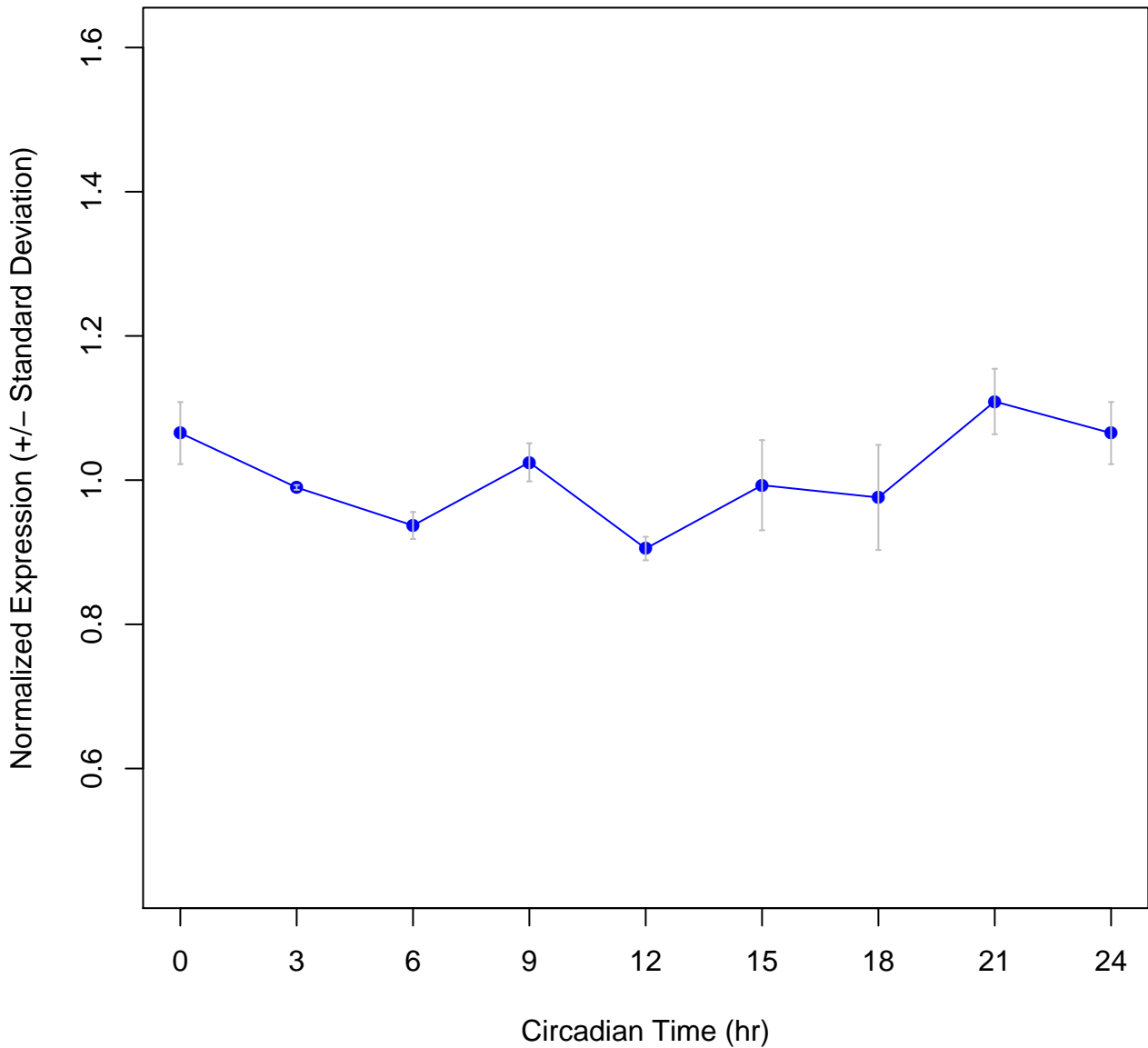
Supplement Figure 4 tyrp1



Supplement Figure 4 *vipr1*

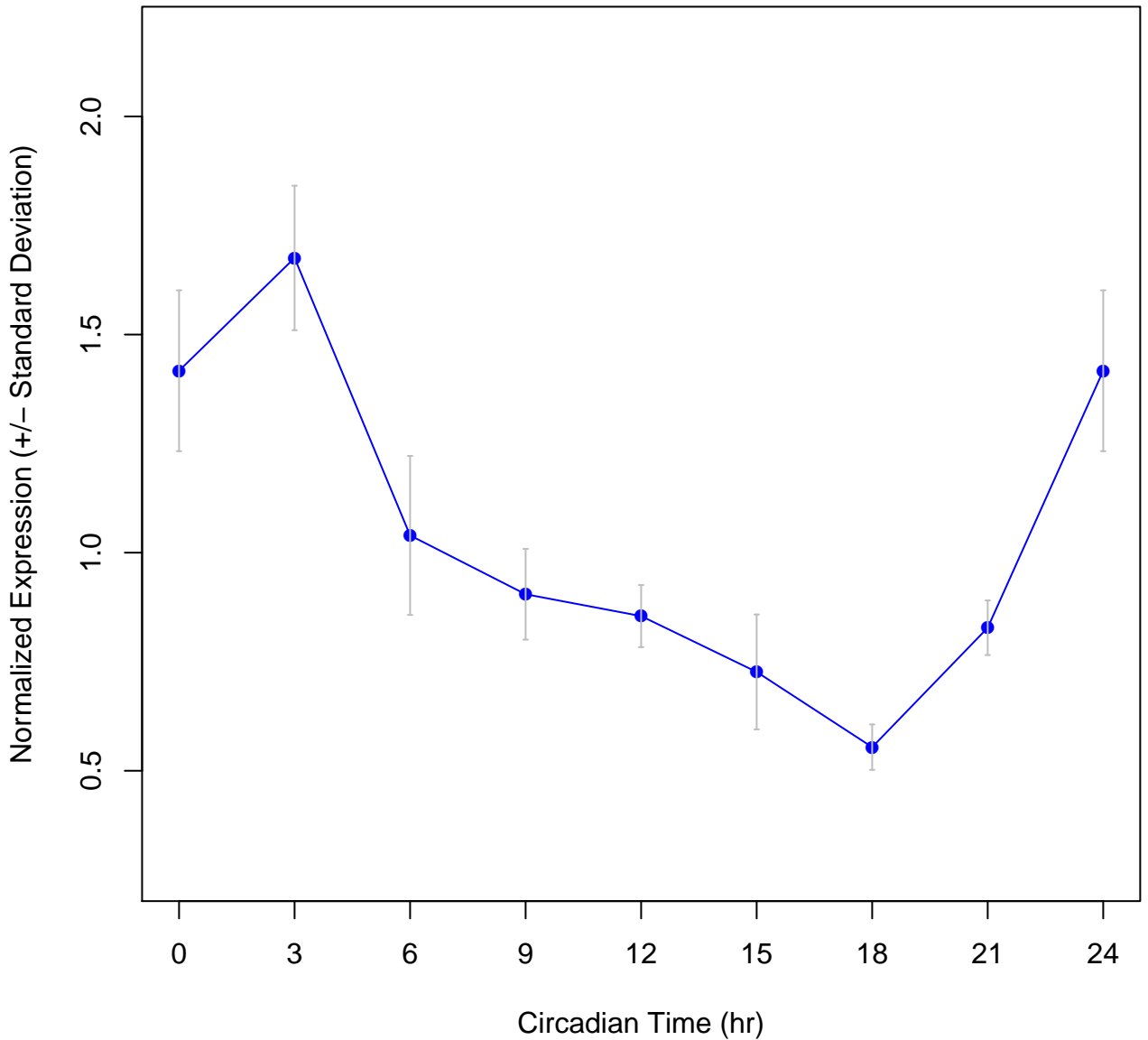


Supplement Figure 4 wdr37

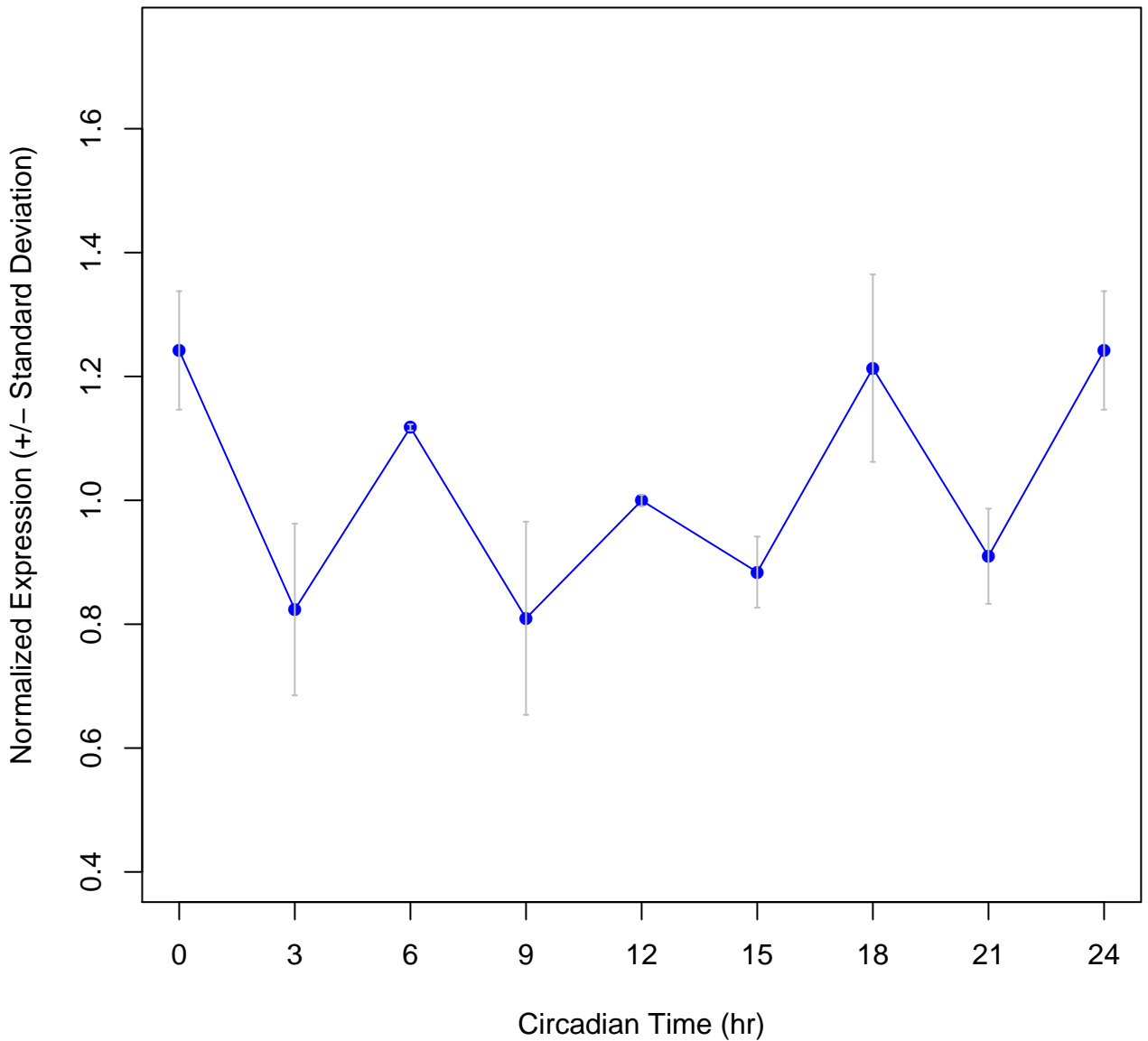




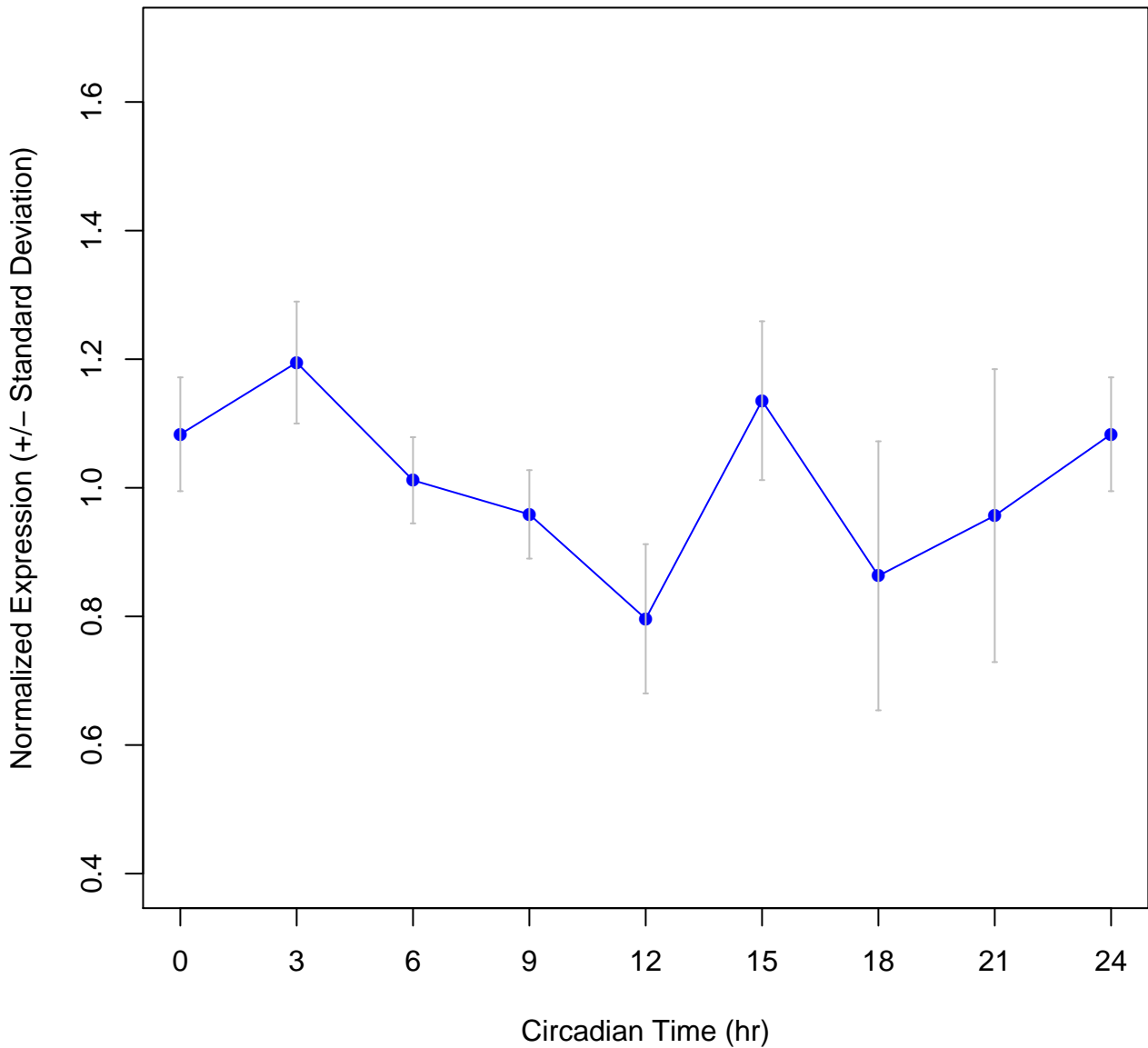
Supplement Figure 4 wdr76



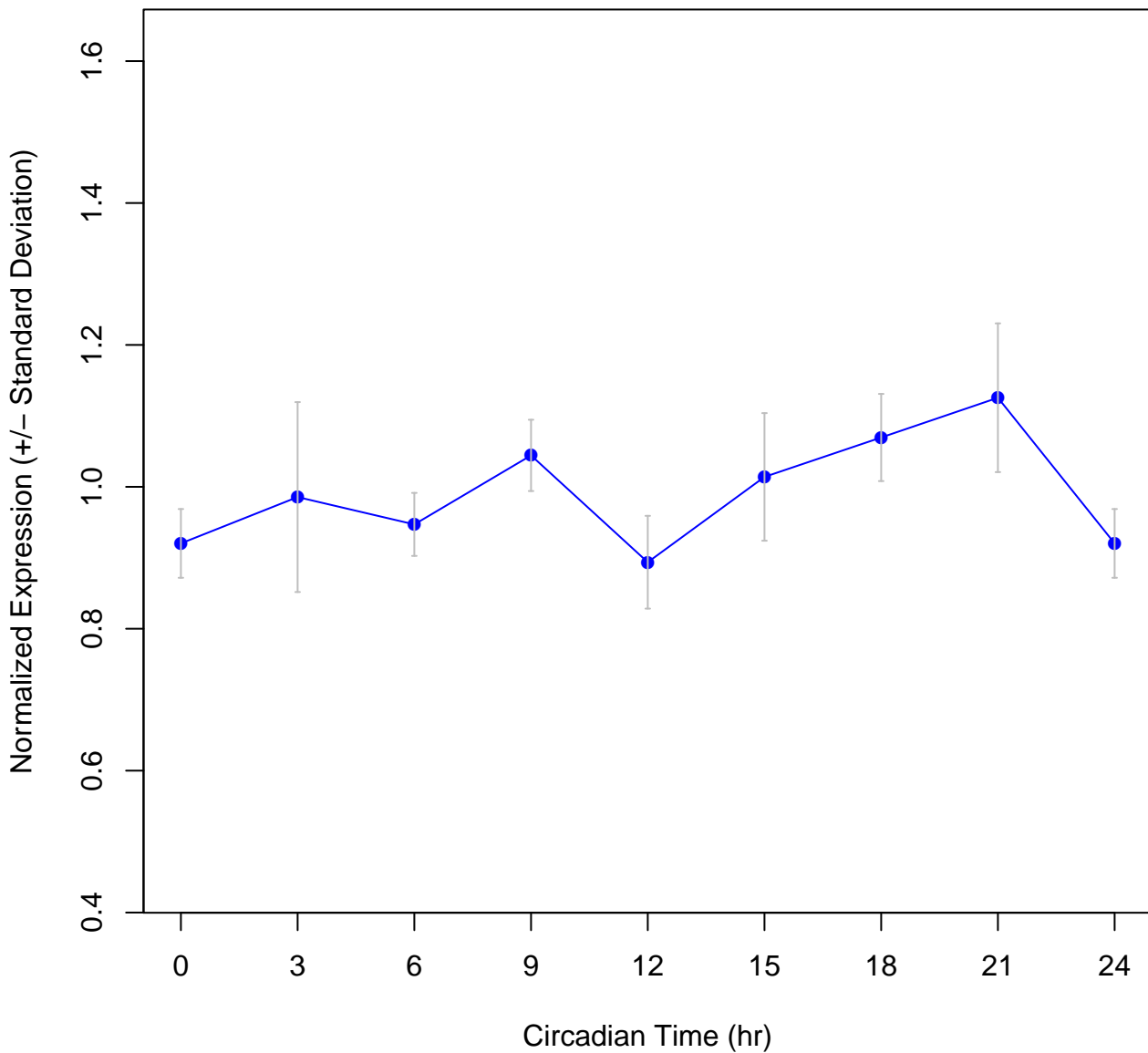
Supplement Figure 4 *wnt10b*



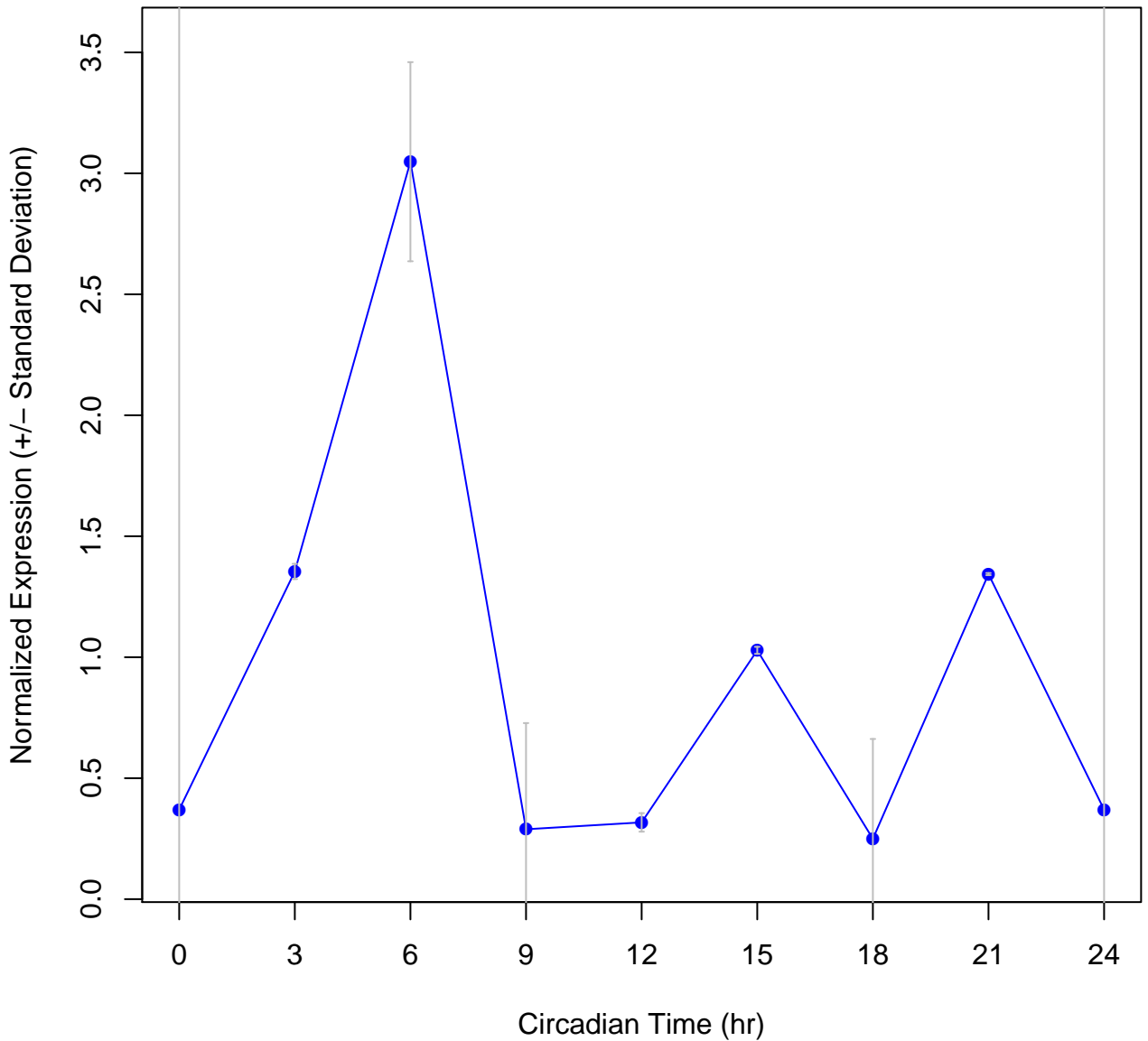
Supplement Figure 4 wnt2b



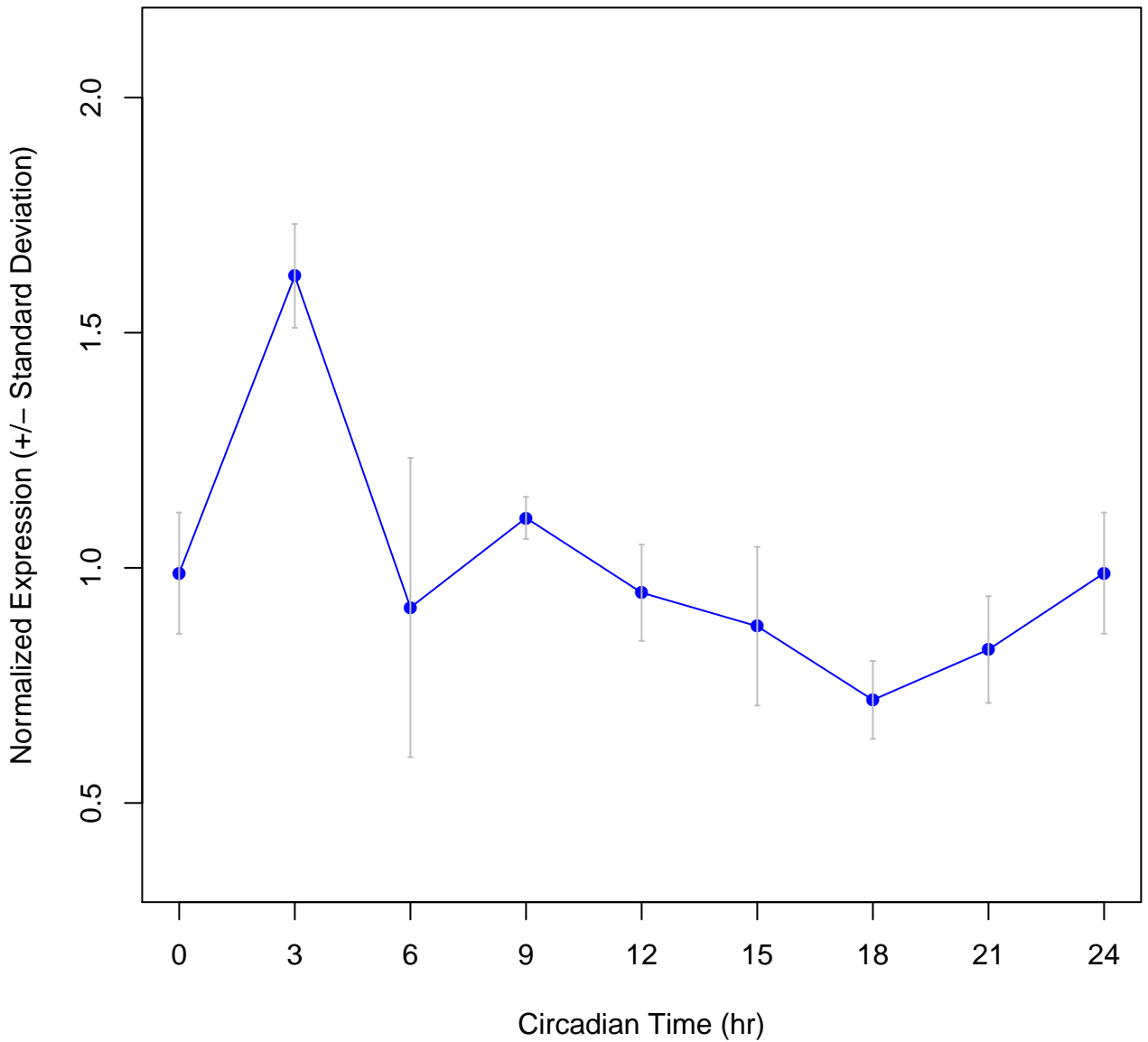
Supplement Figure 4 *wnt5a*



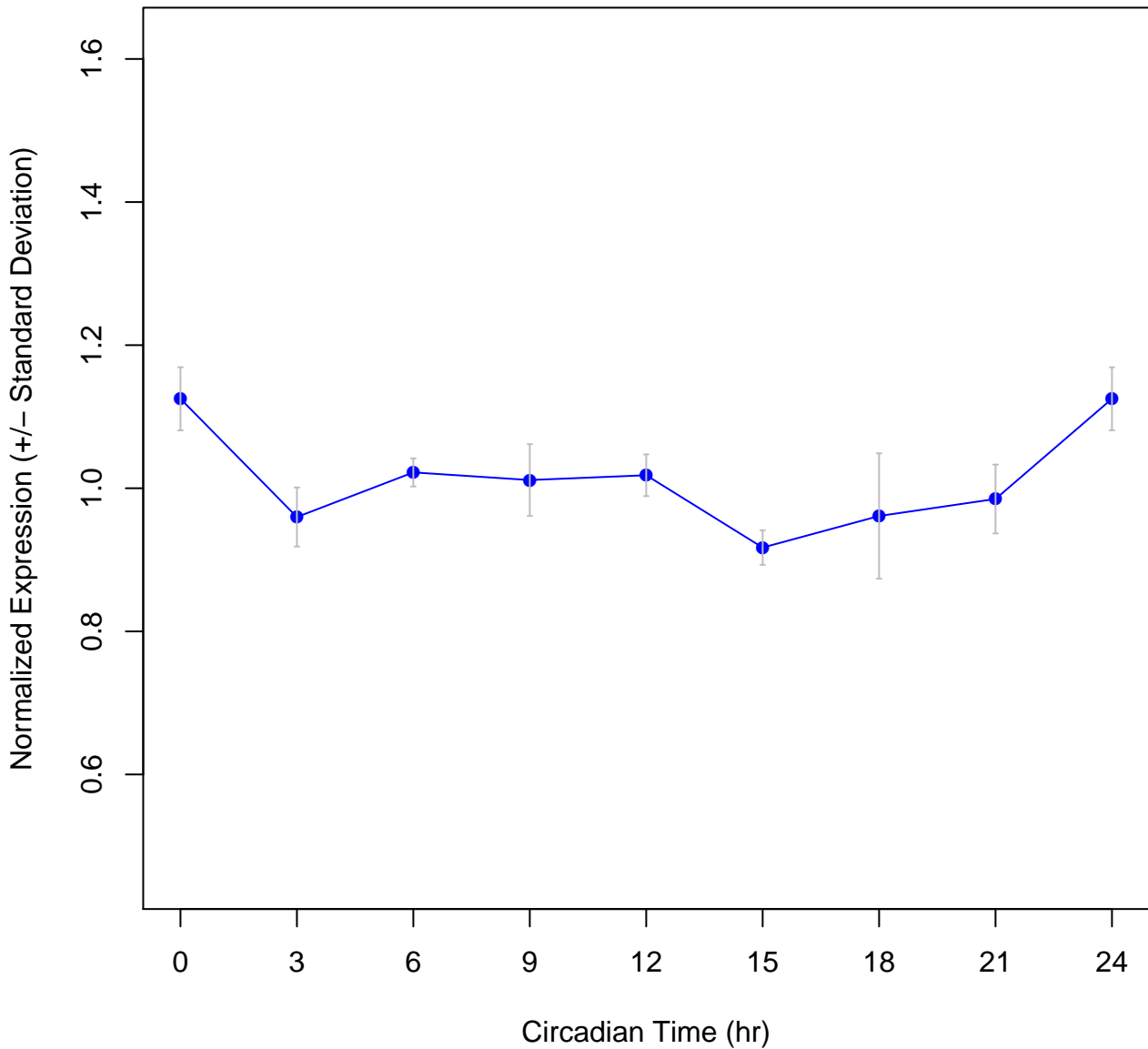
Supplement Figure 4 wt1



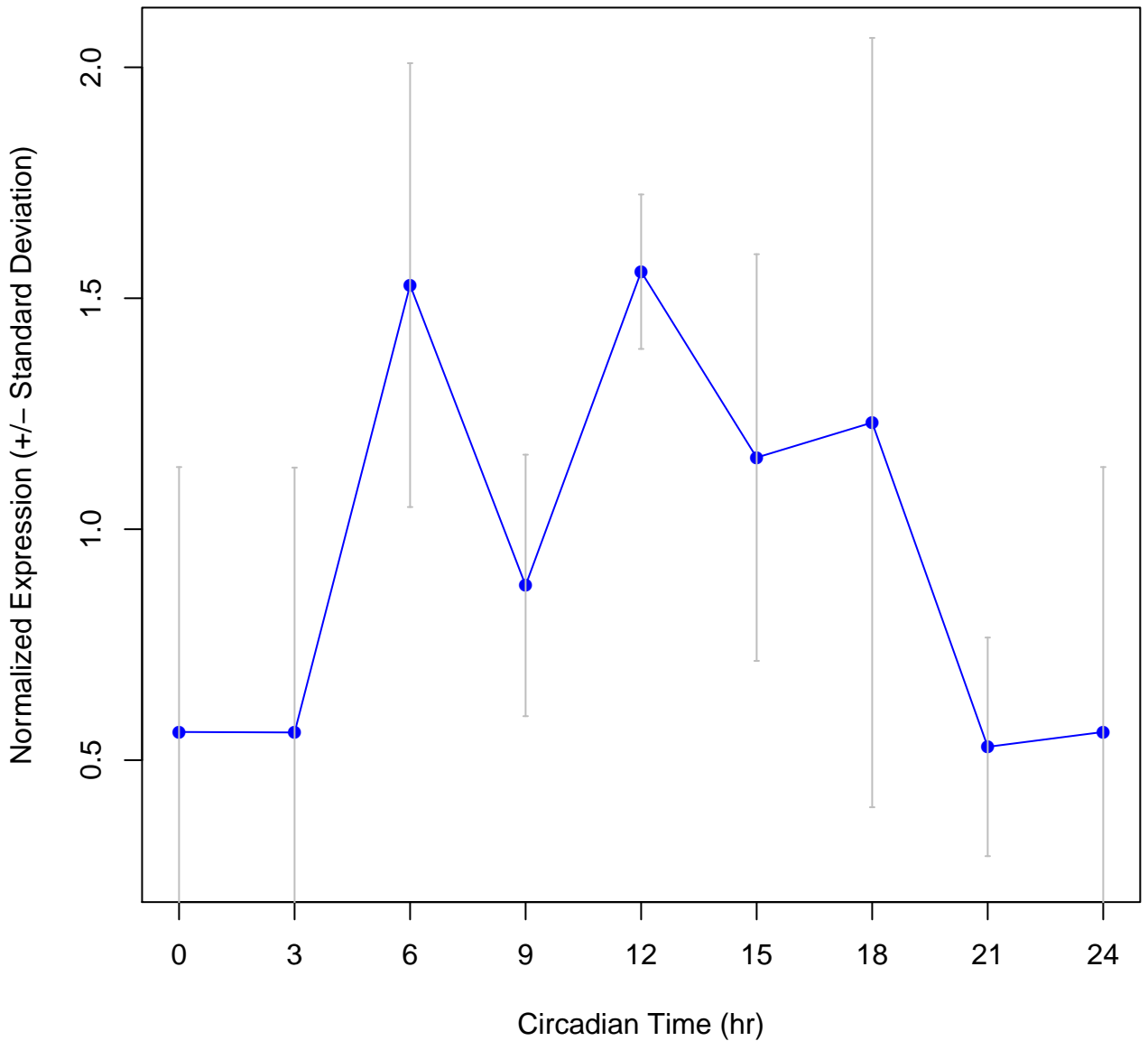
Supplement Figure 4 xpc



## Supplement Figure 4 xrcc1

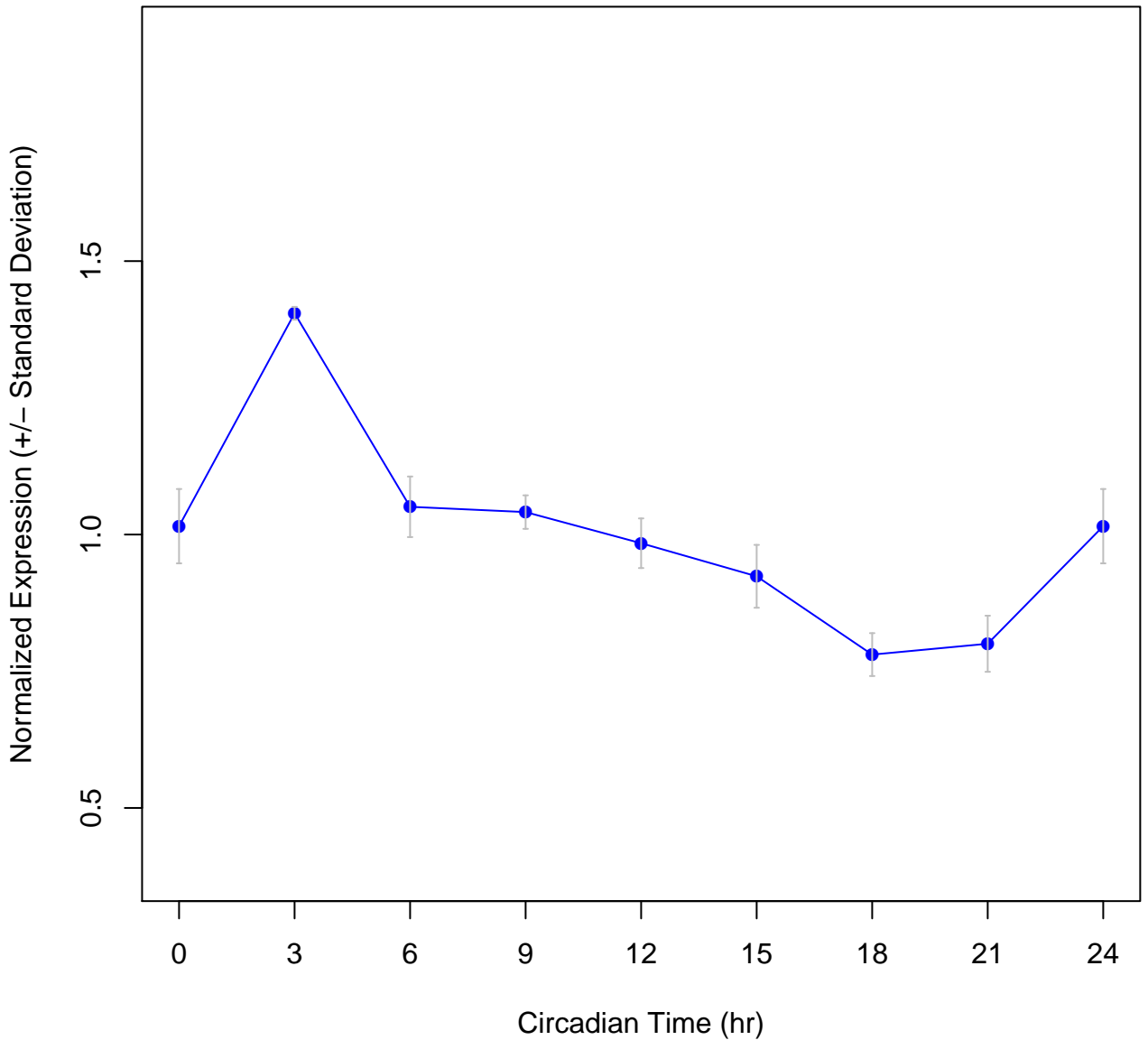


**Supplement Figure 4 ybx2**

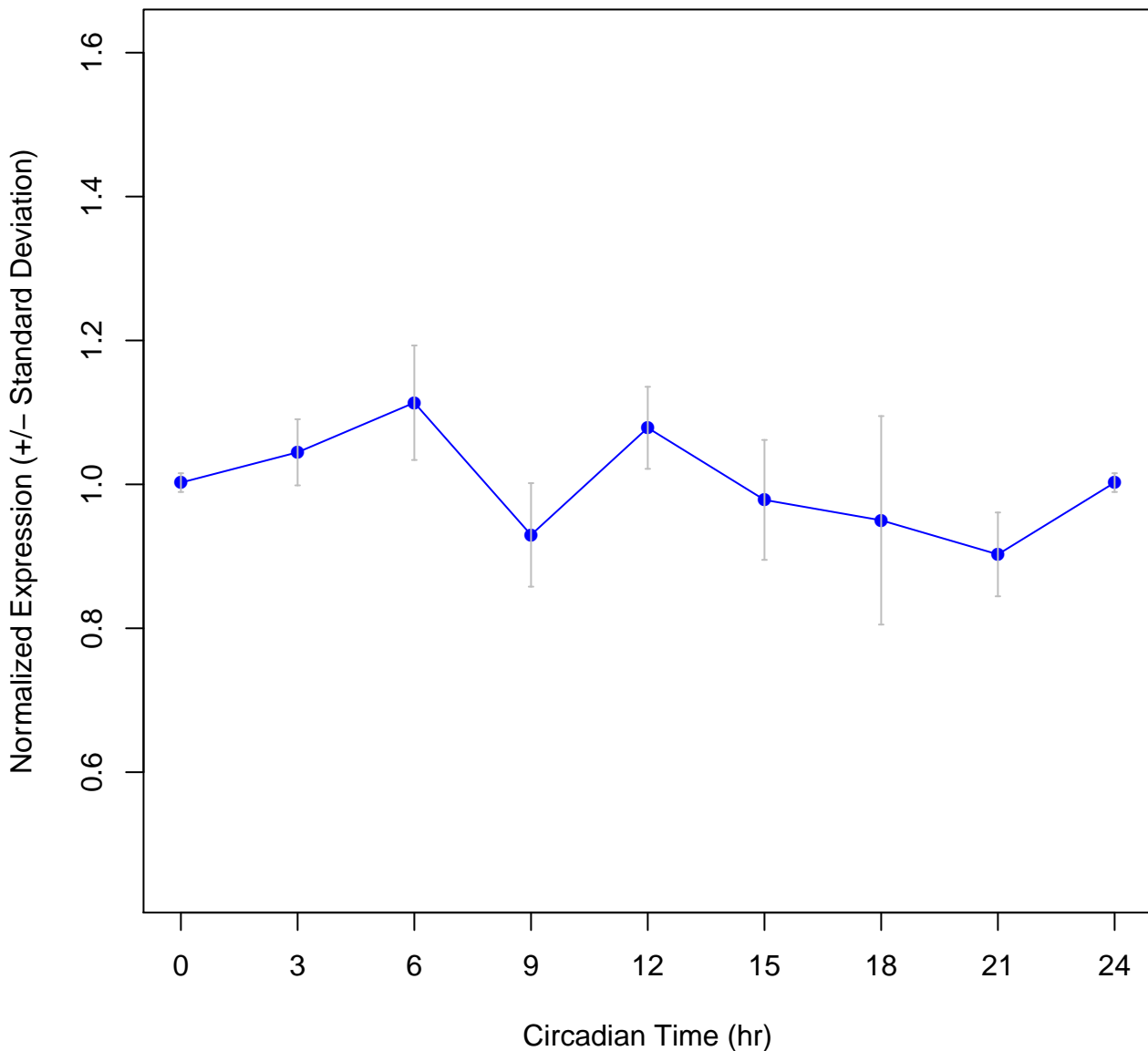




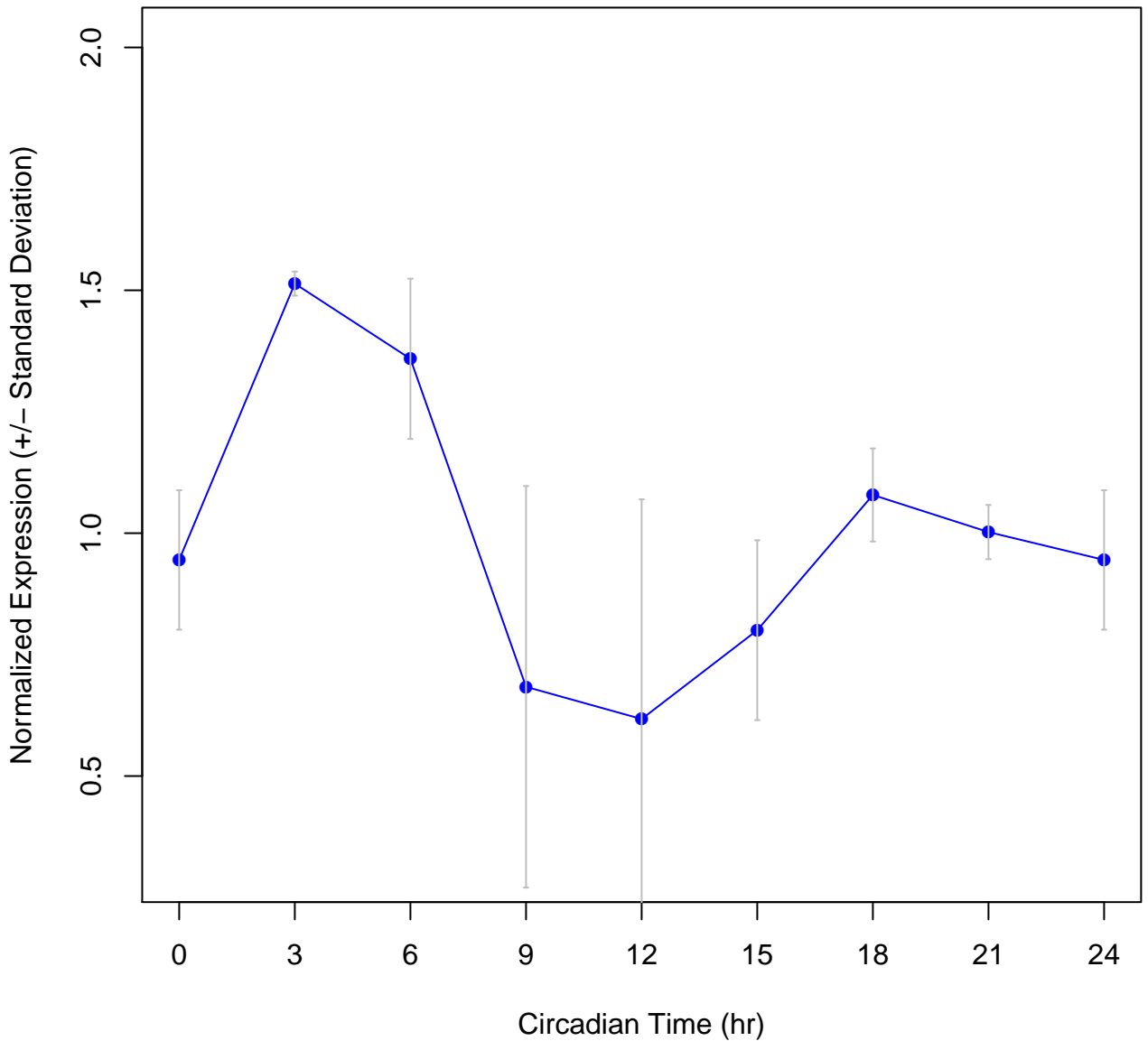
## Supplement Figure 4 yme1



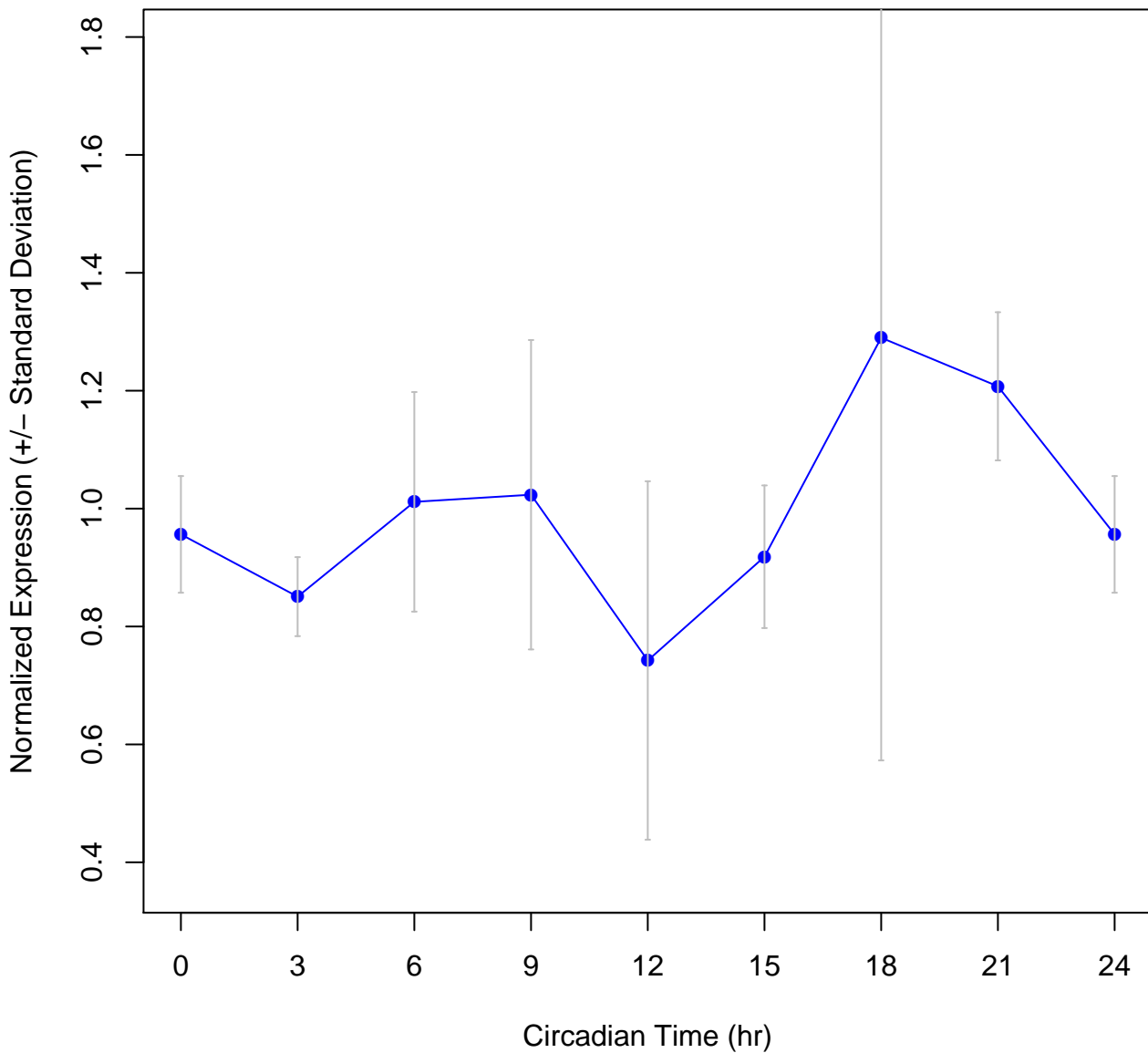
## Supplement Figure 4 ywhaQ



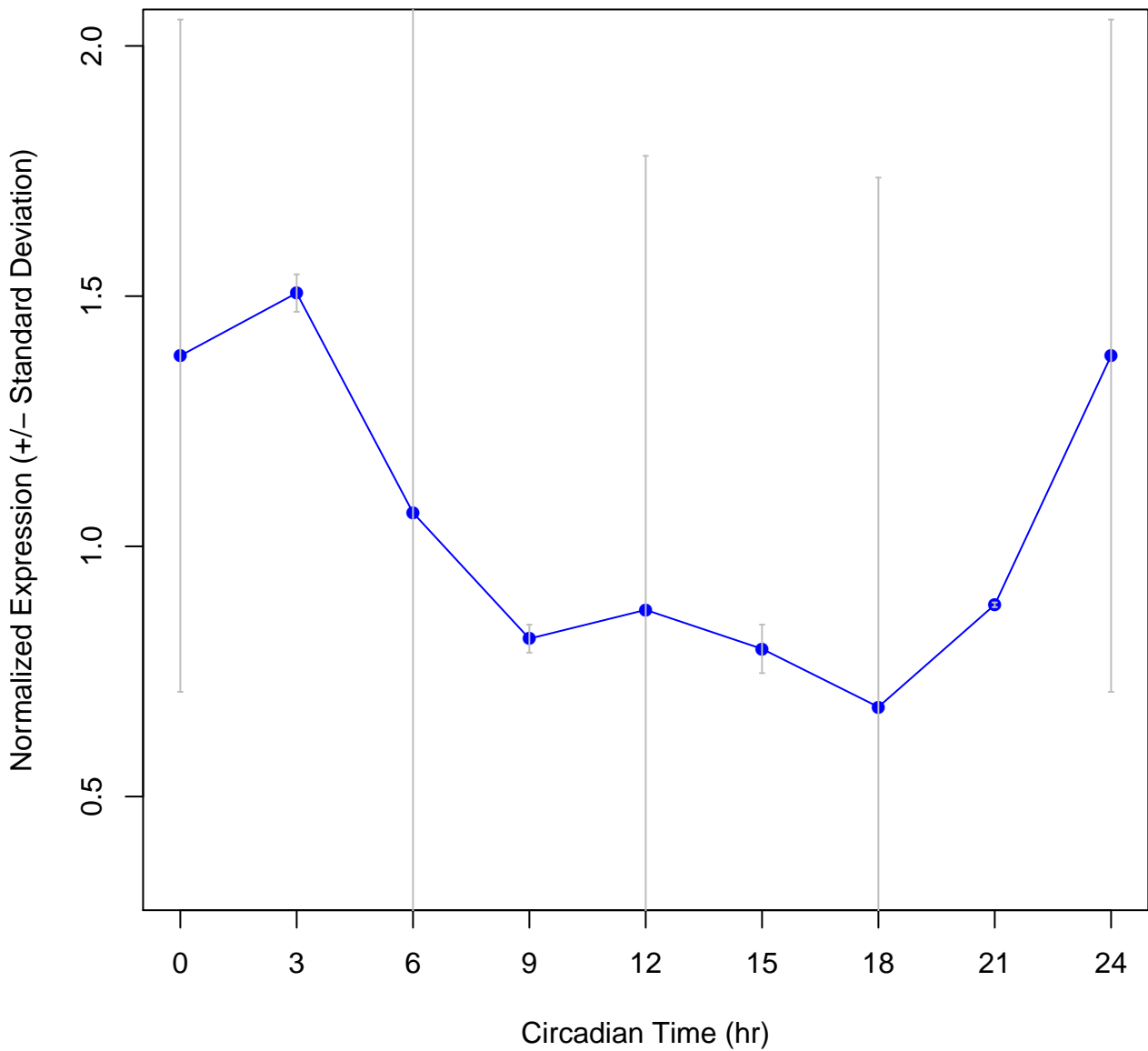
## Supplement Figure 5 6-4 photolyase



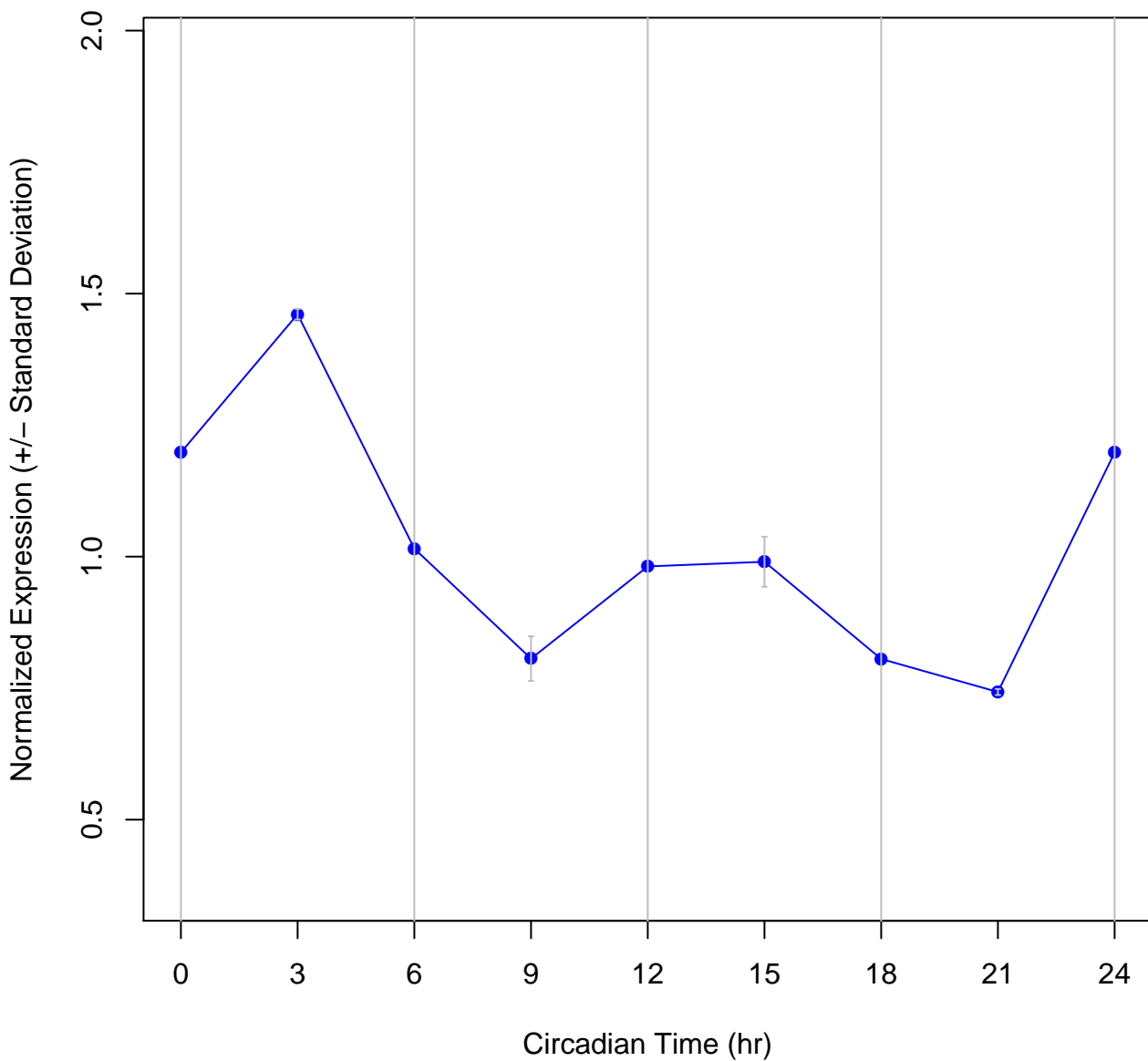
Supplement Figure 5 a2ml1



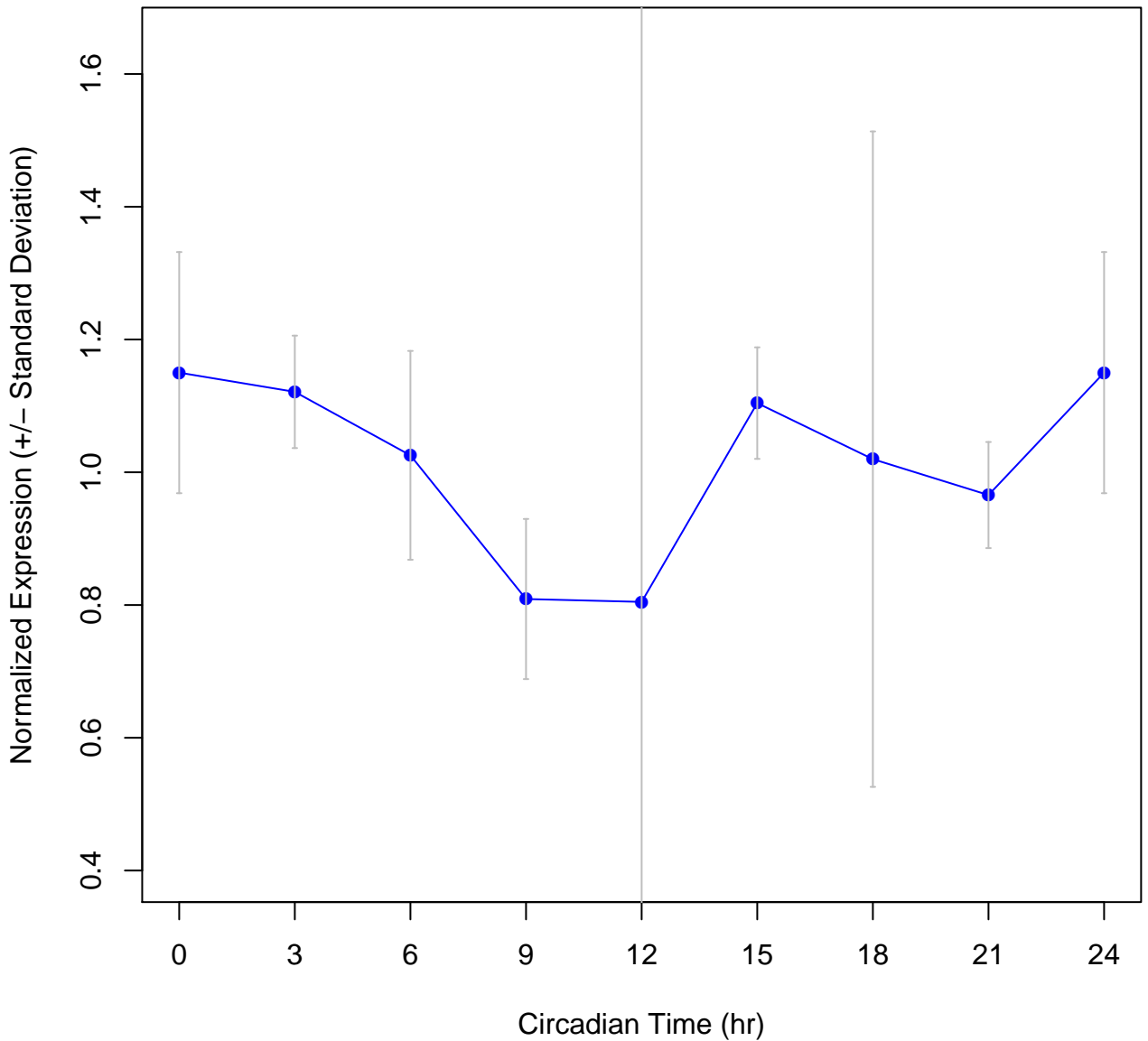
**Supplement Figure 5 adamts2**



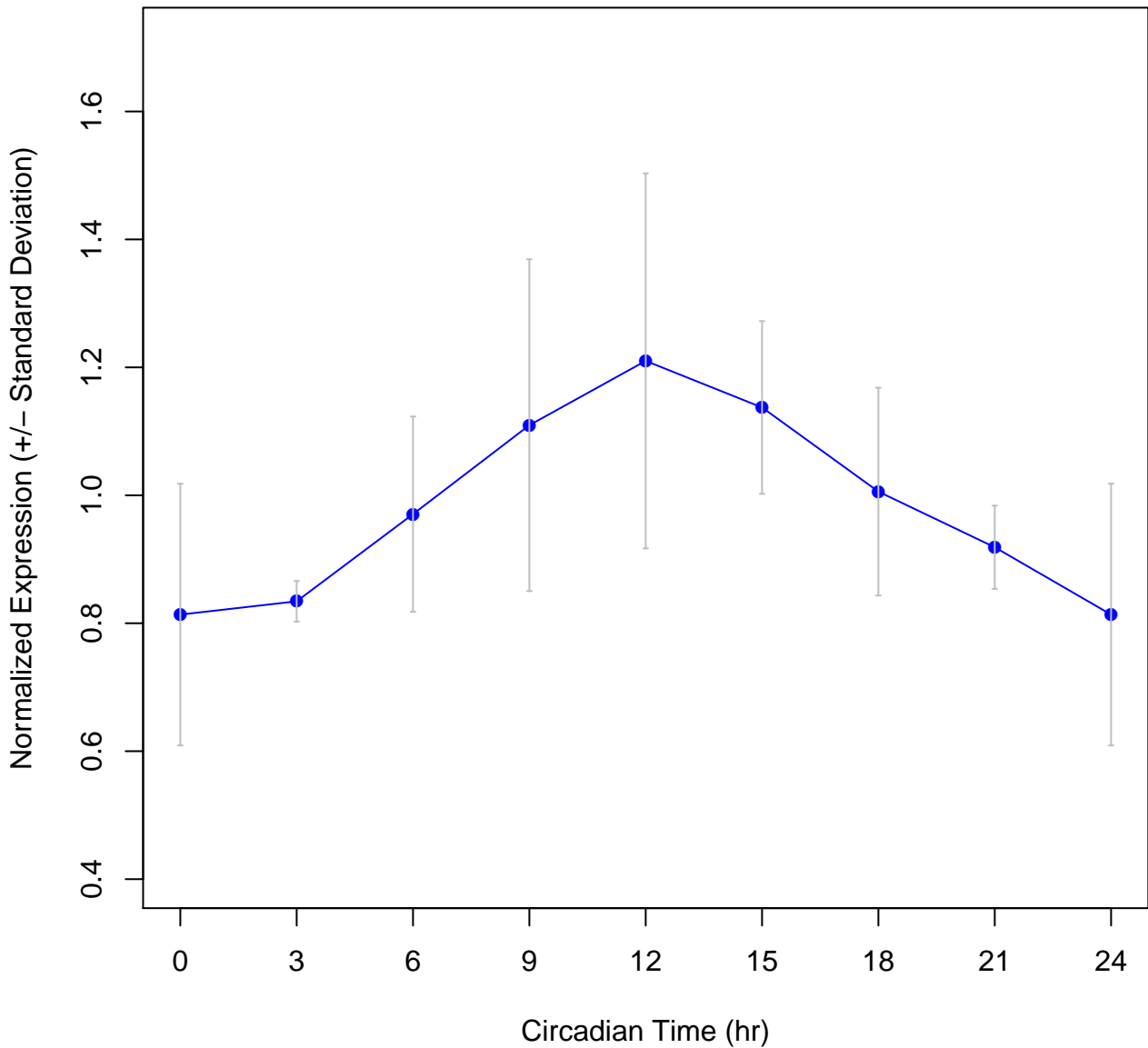
Supplement Figure 5 adcy2



Supplement Figure 5 adrb2

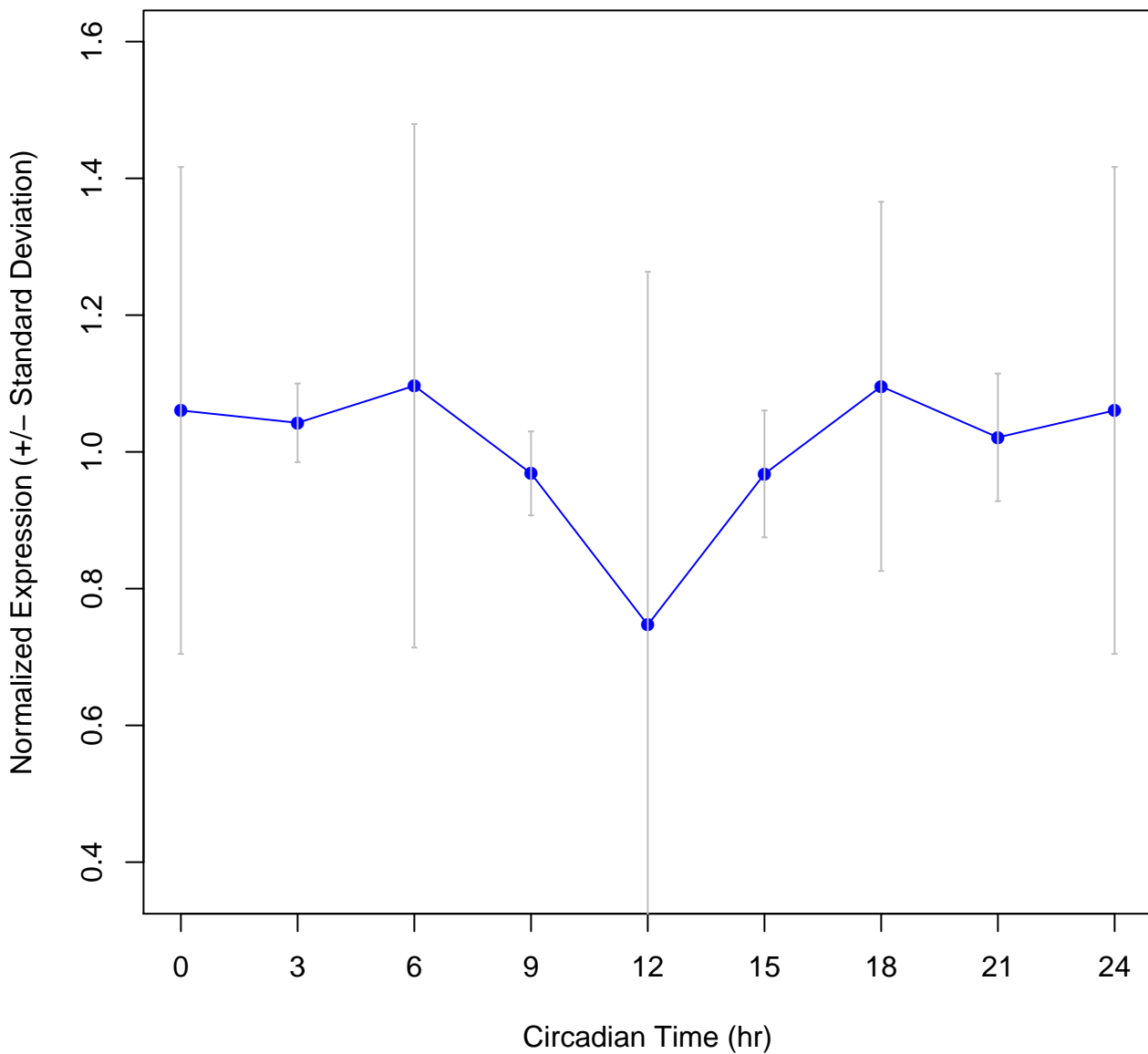


Supplement Figure 5 akt1

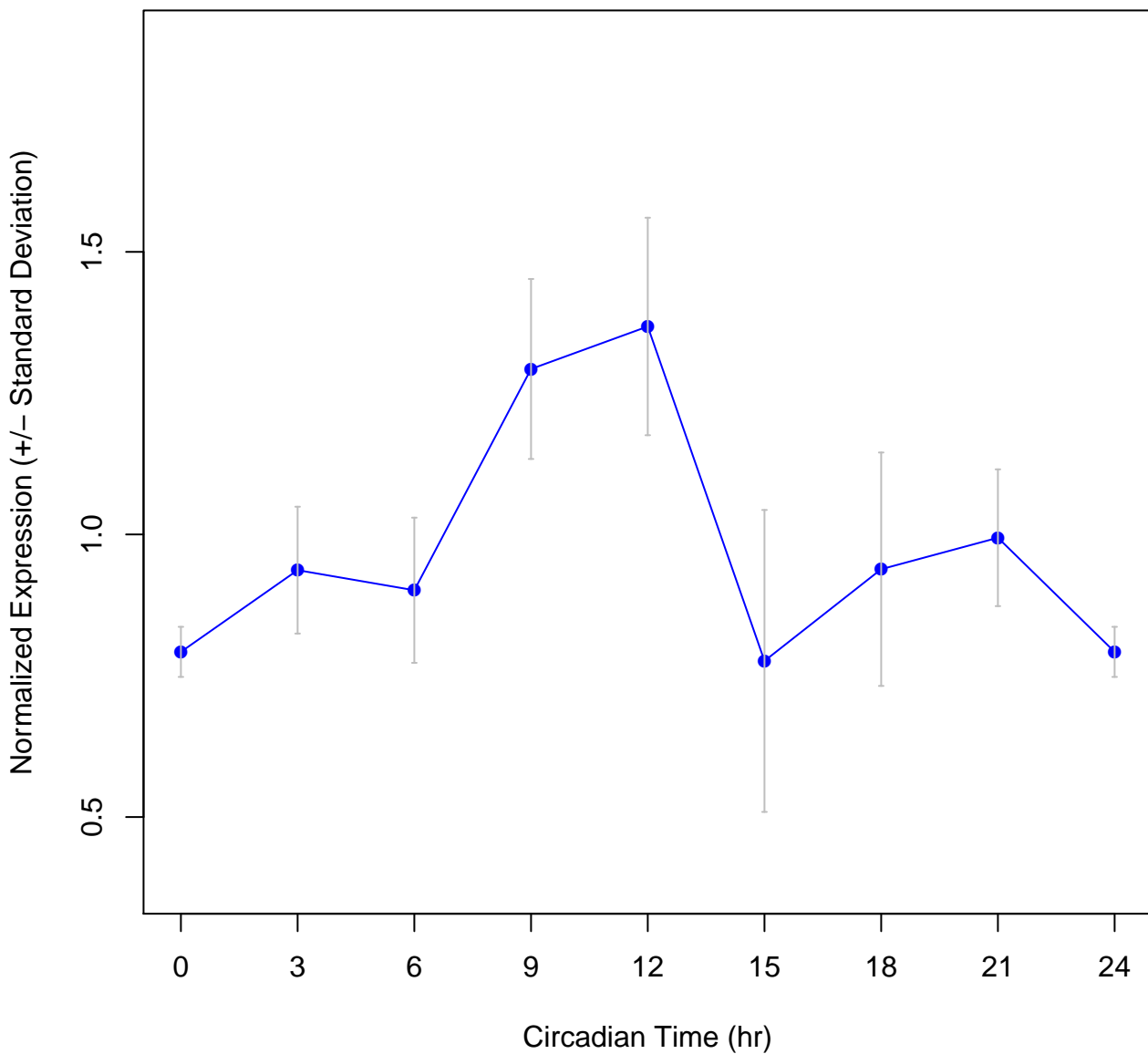




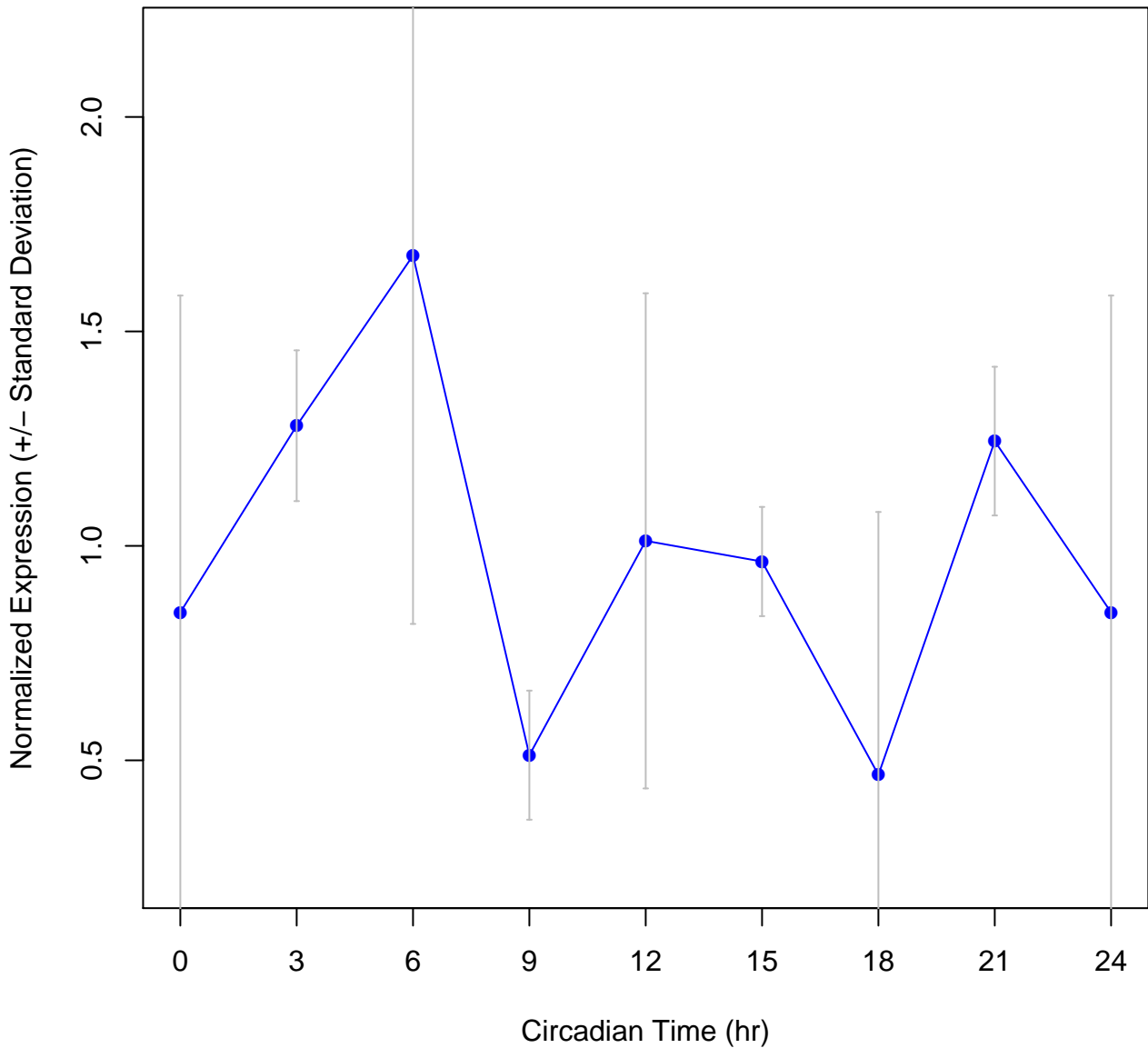
Supplement Figure 5 akt2



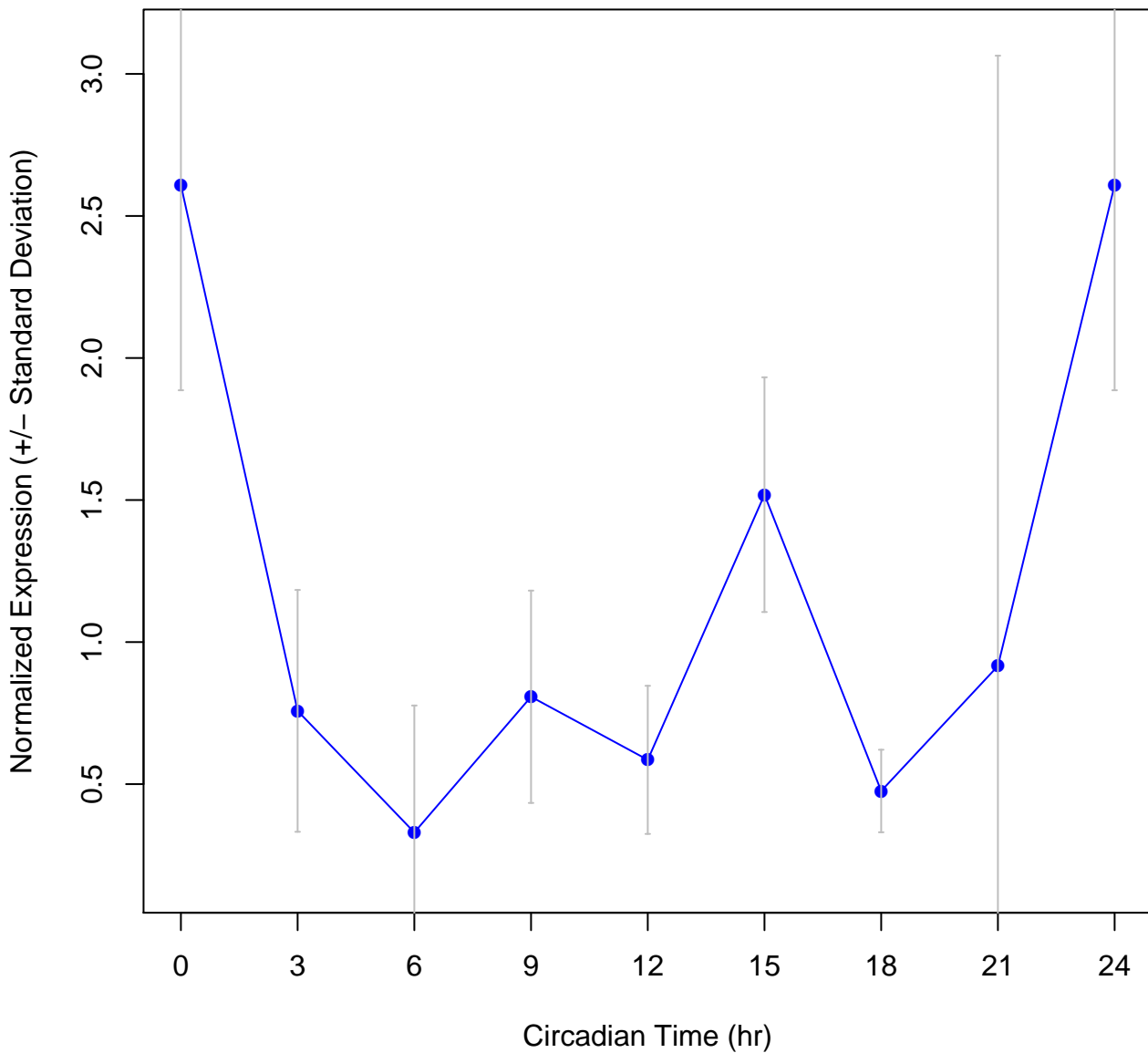
**Supplement Figure 5 akt3**



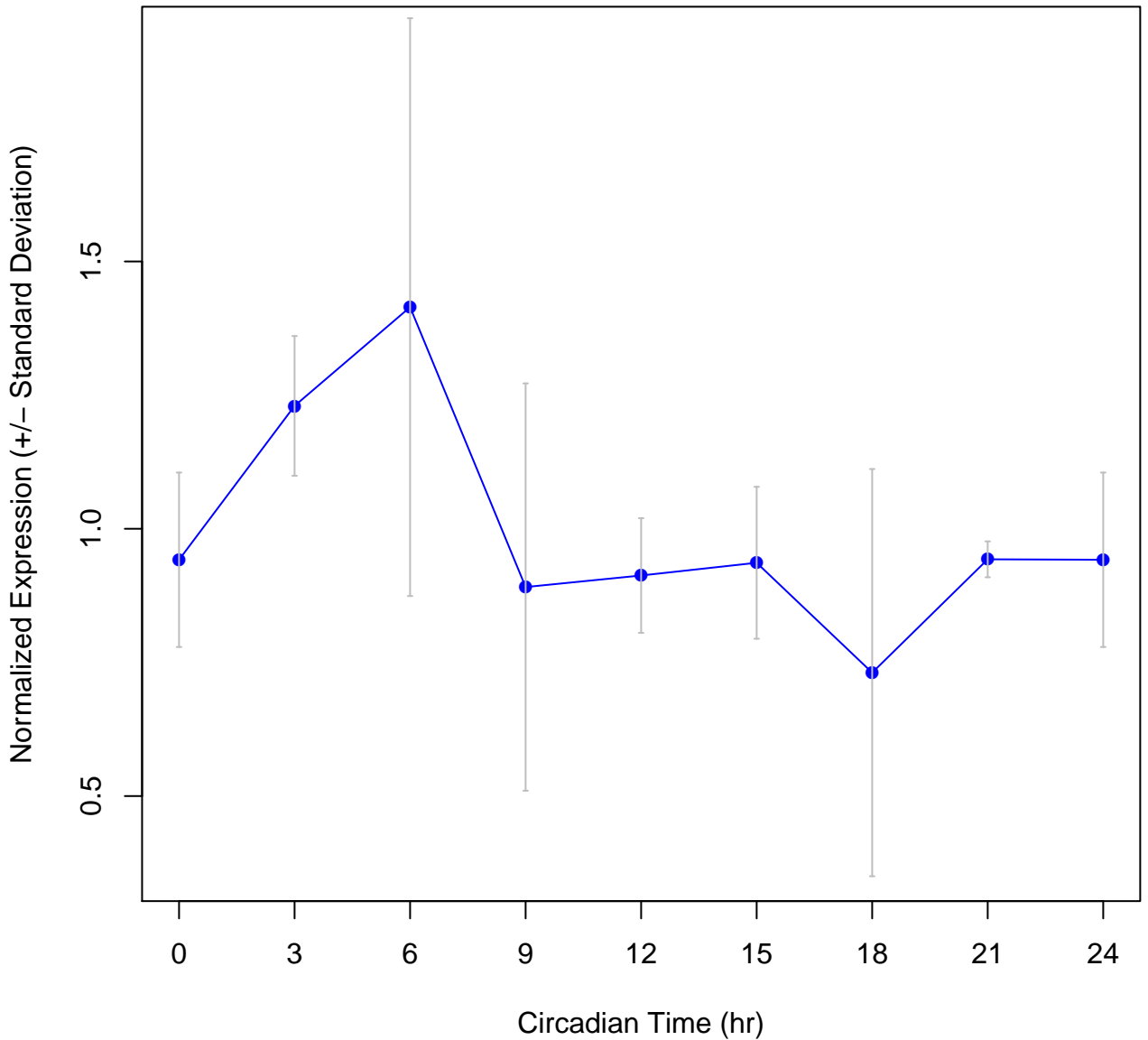
Supplement Figure 5 apex2



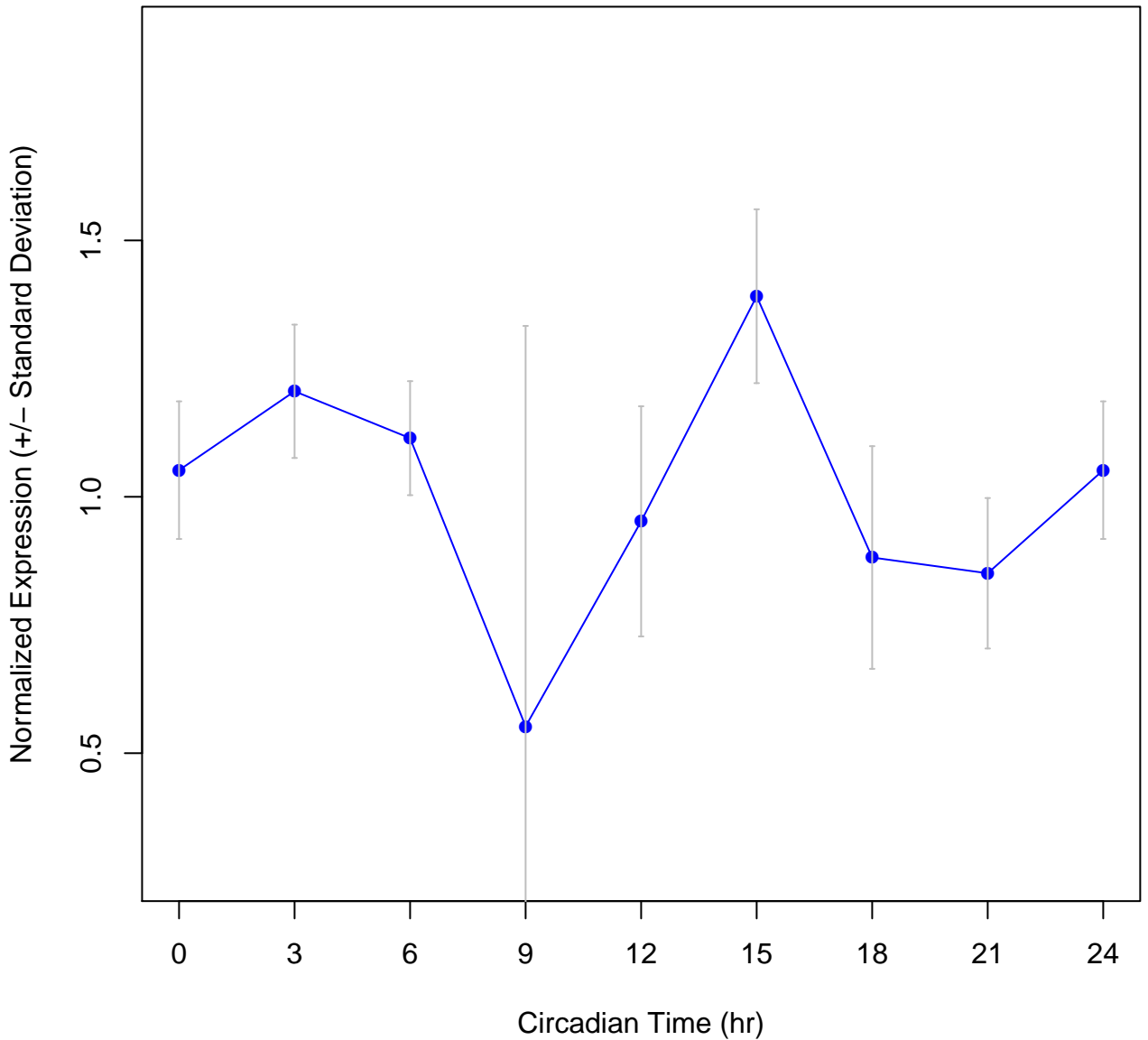
Supplement Figure 5 arhgap19



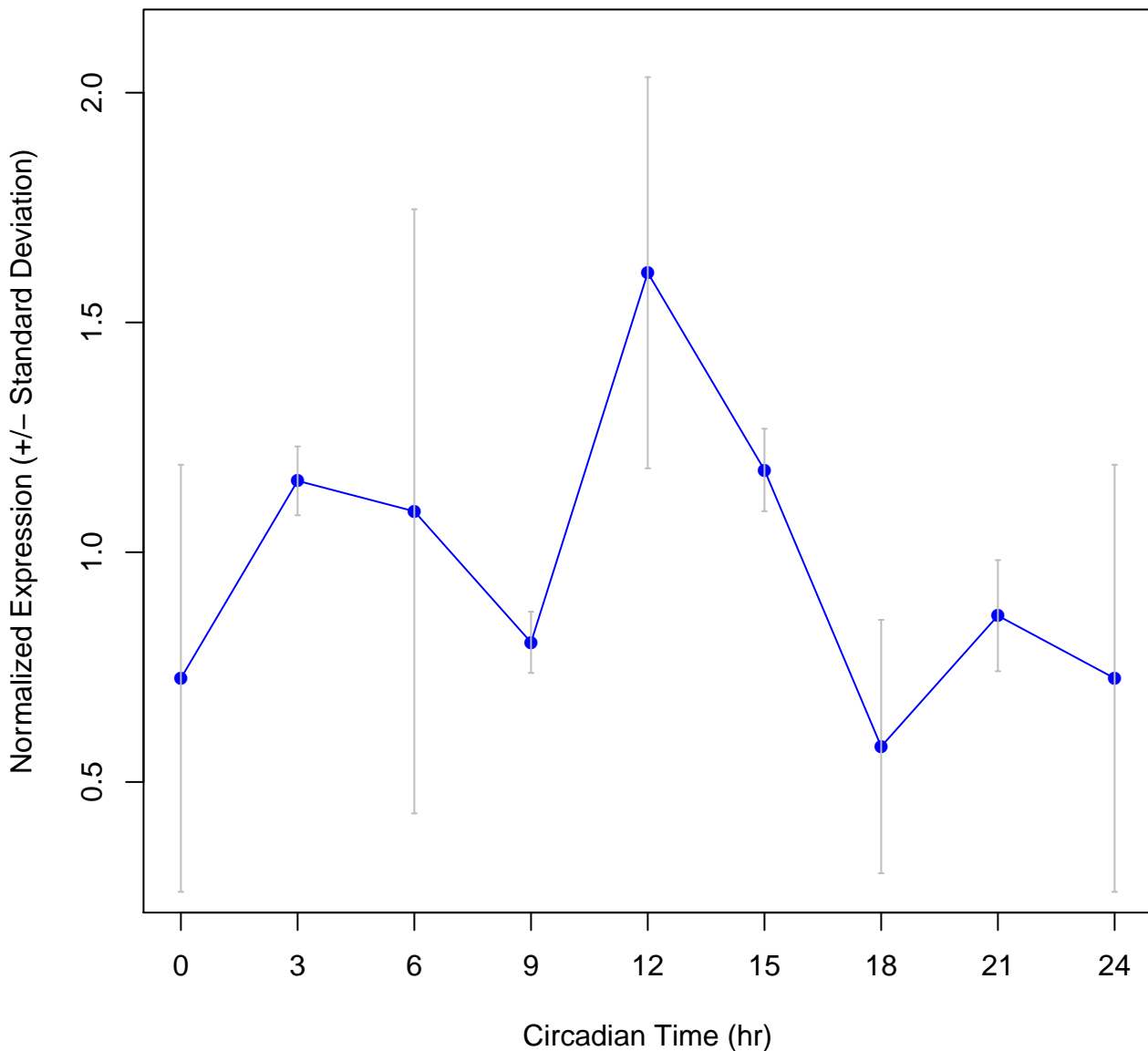
Supplement Figure 5 arid1a



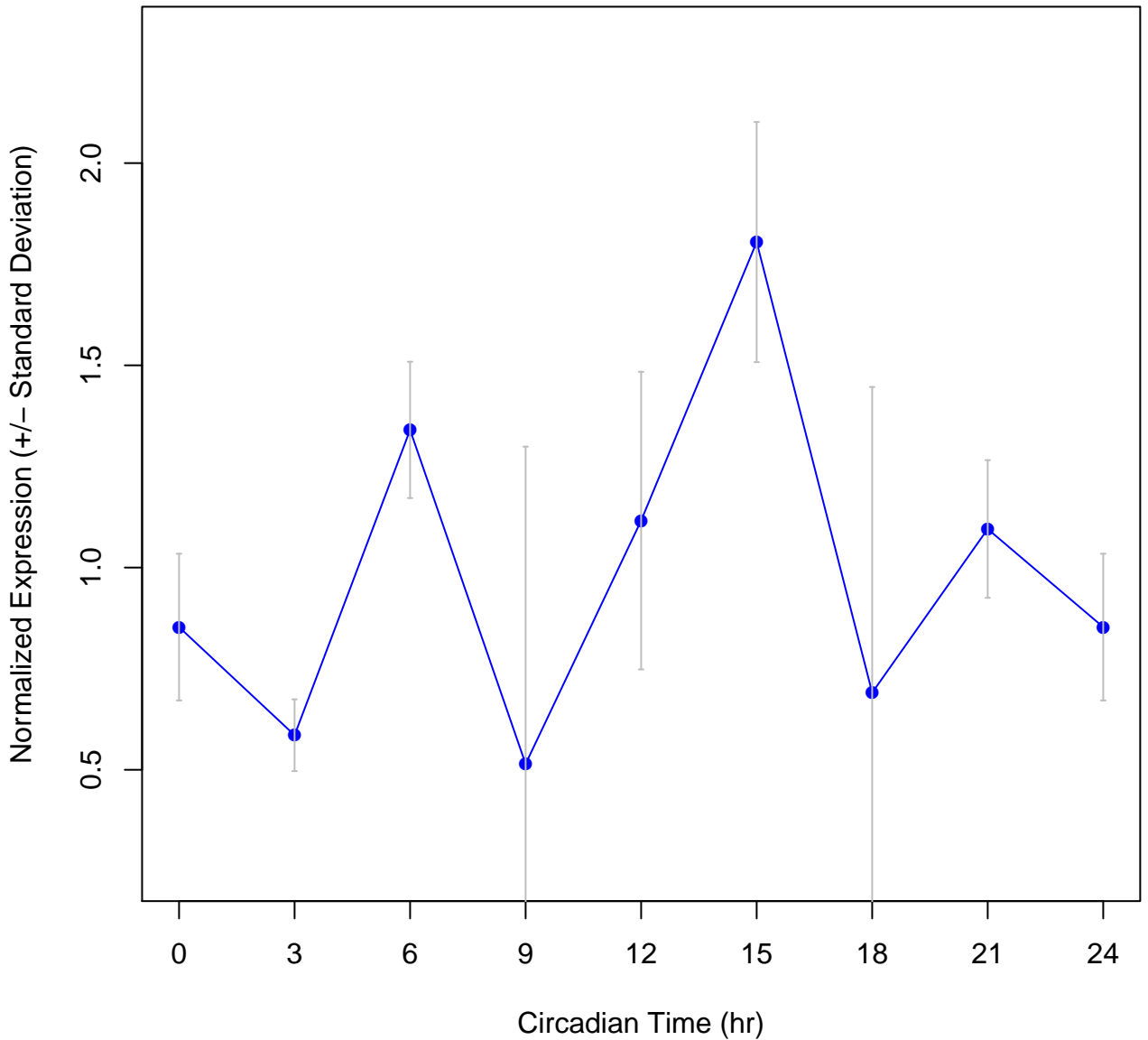
Supplement Figure 5 ash2l



**Supplement Figure 5 asic1**

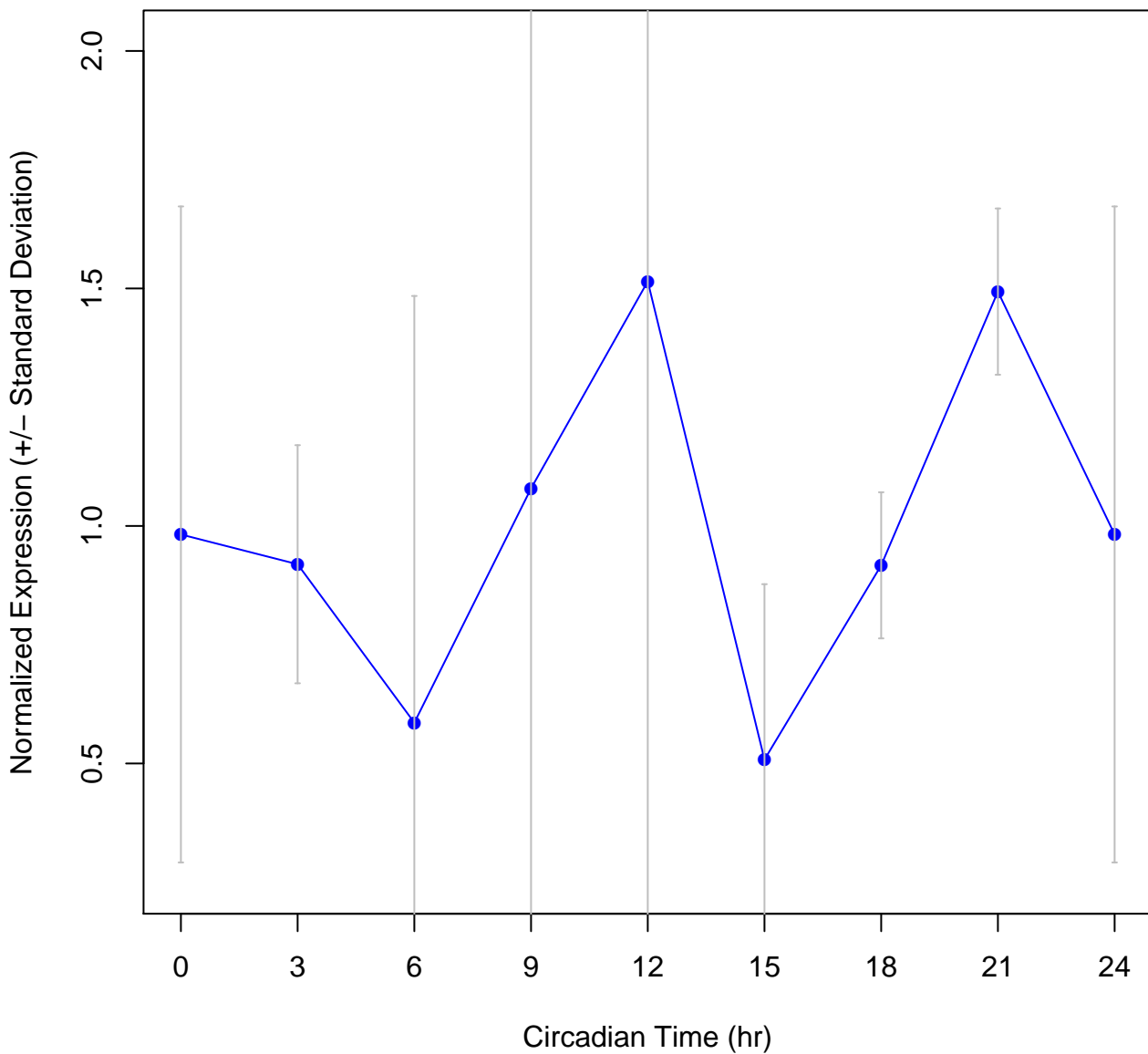


Supplement Figure 5 atm

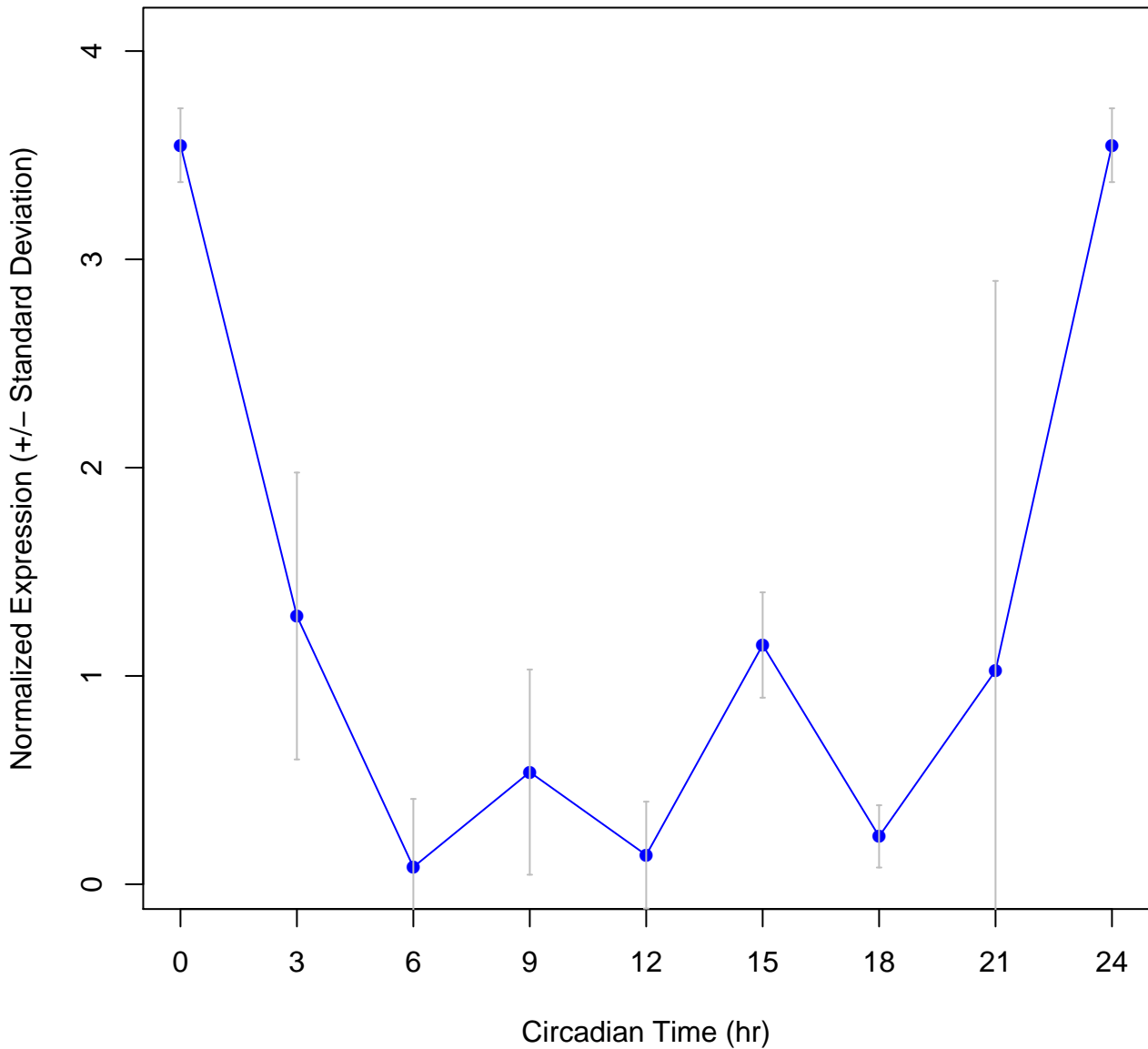




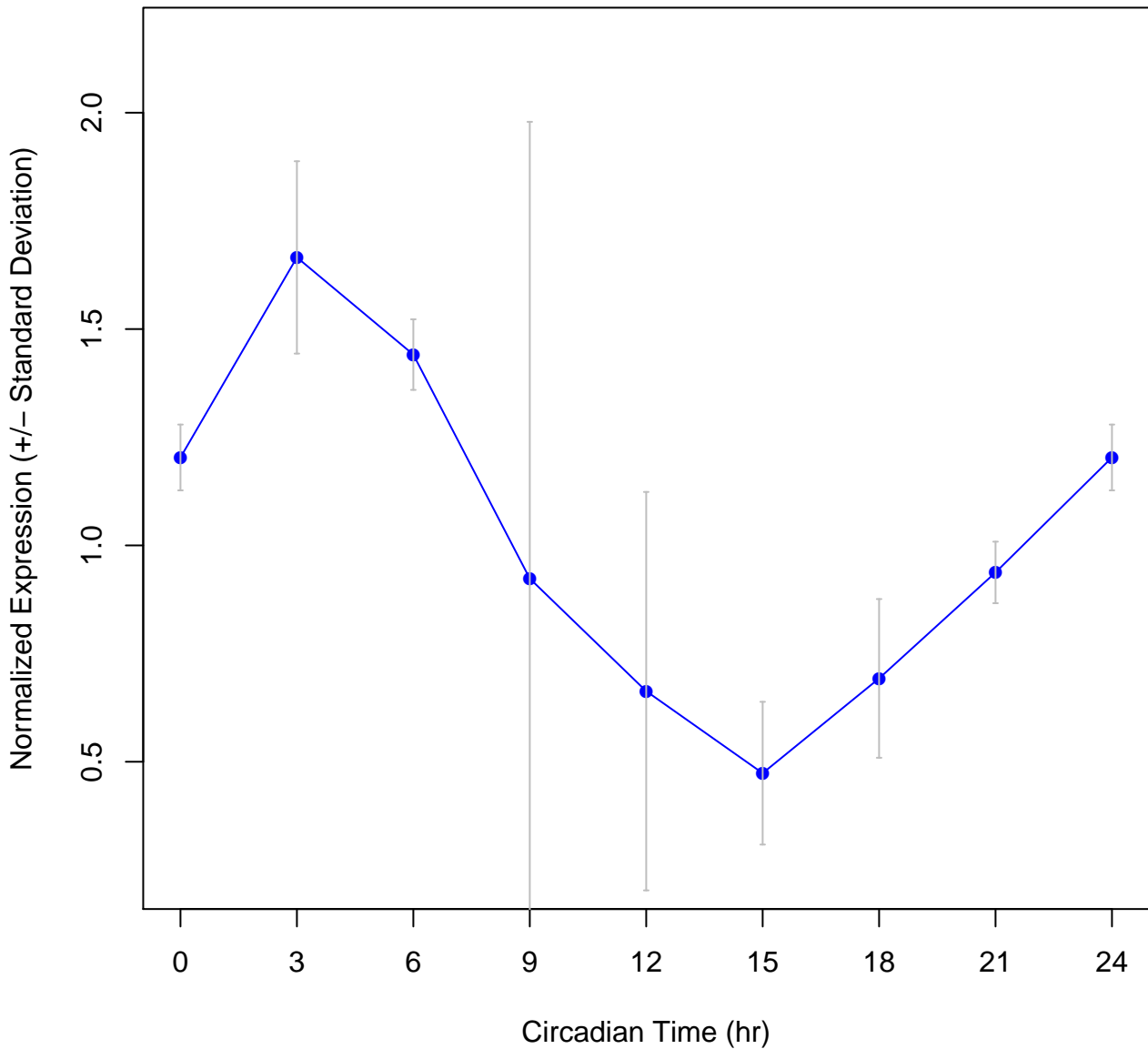
Supplement Figure 5 *atp2a1*



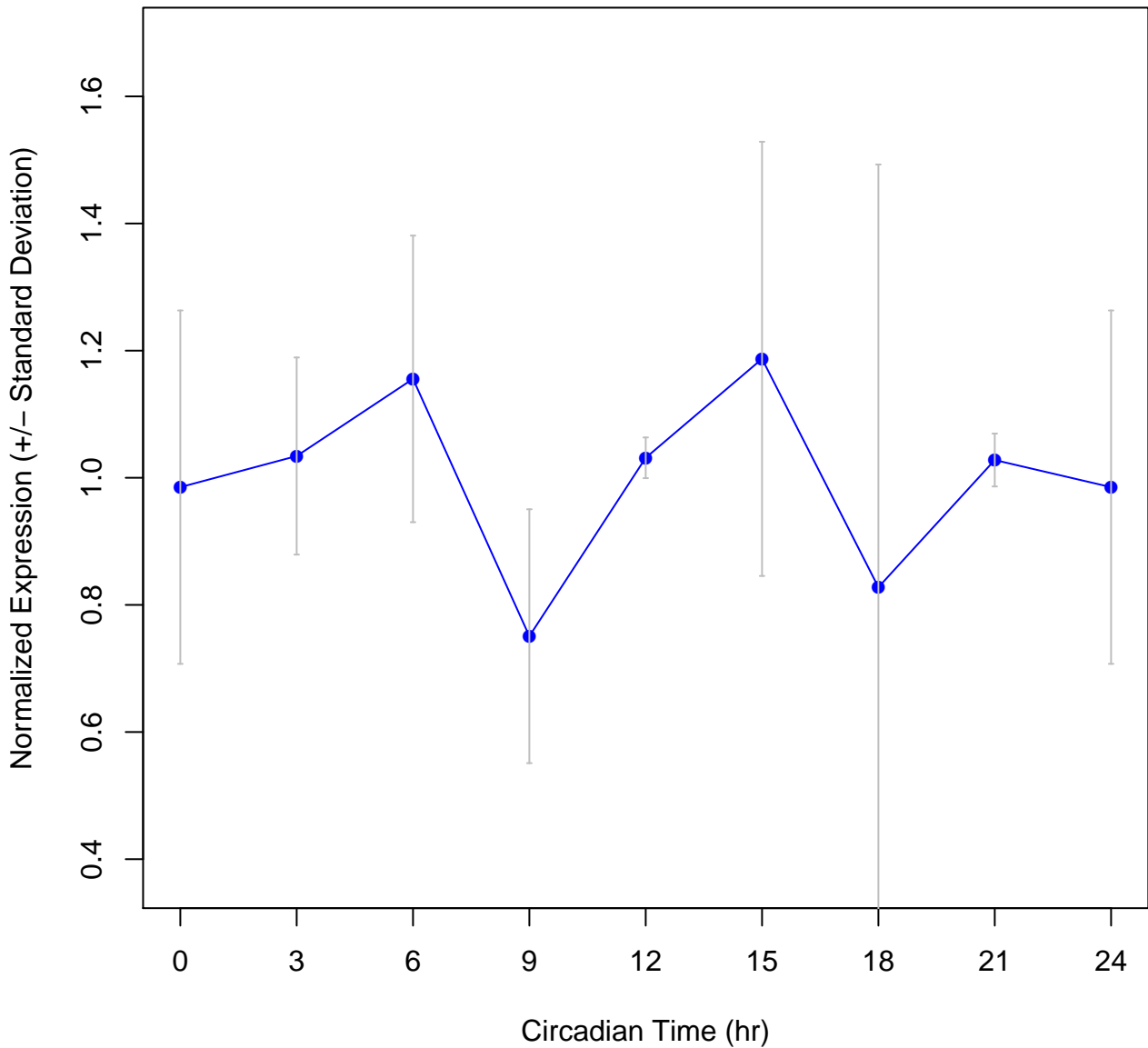
**Supplement Figure 5 aurka**



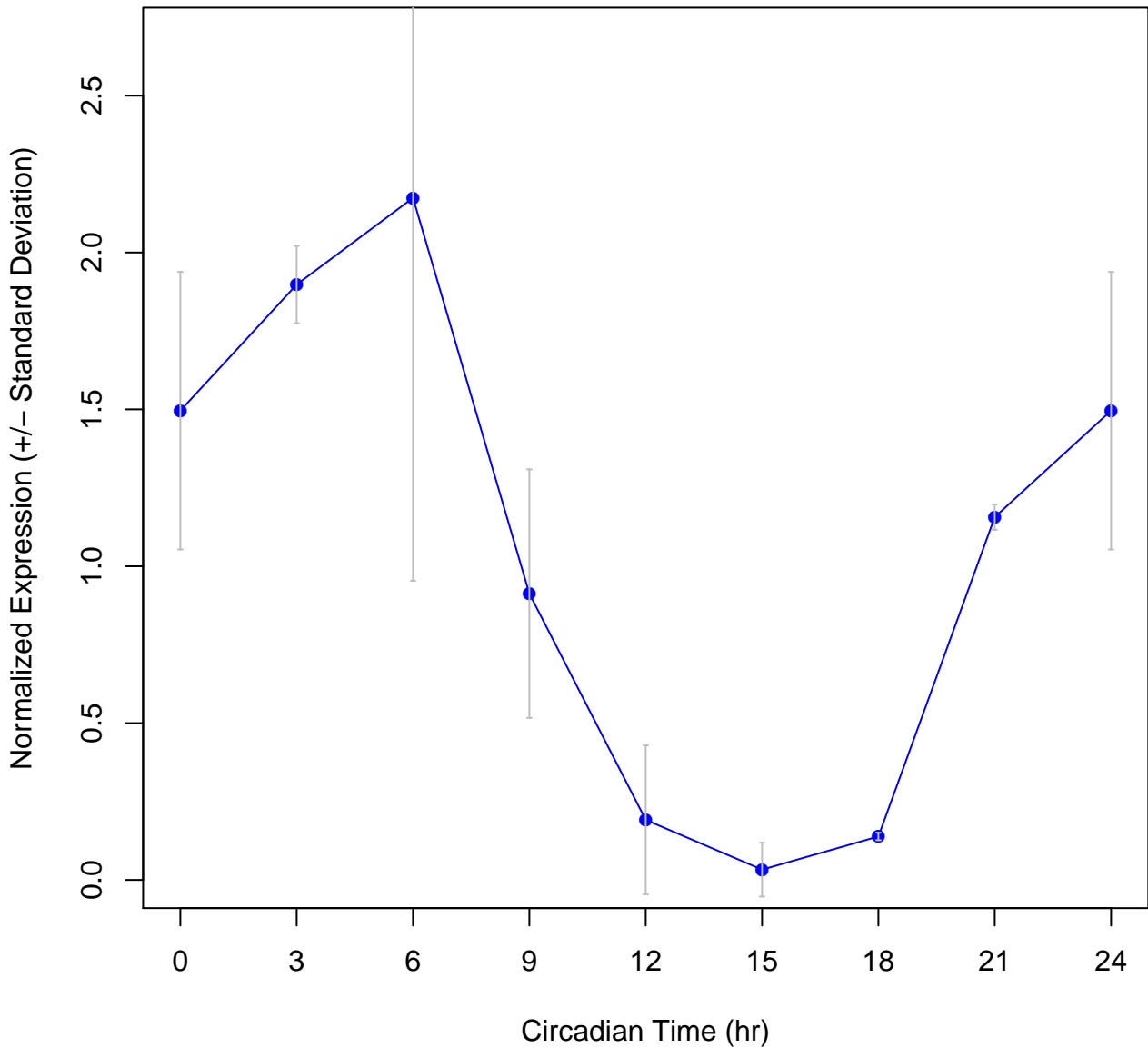
Supplement Figure 5 bcl1



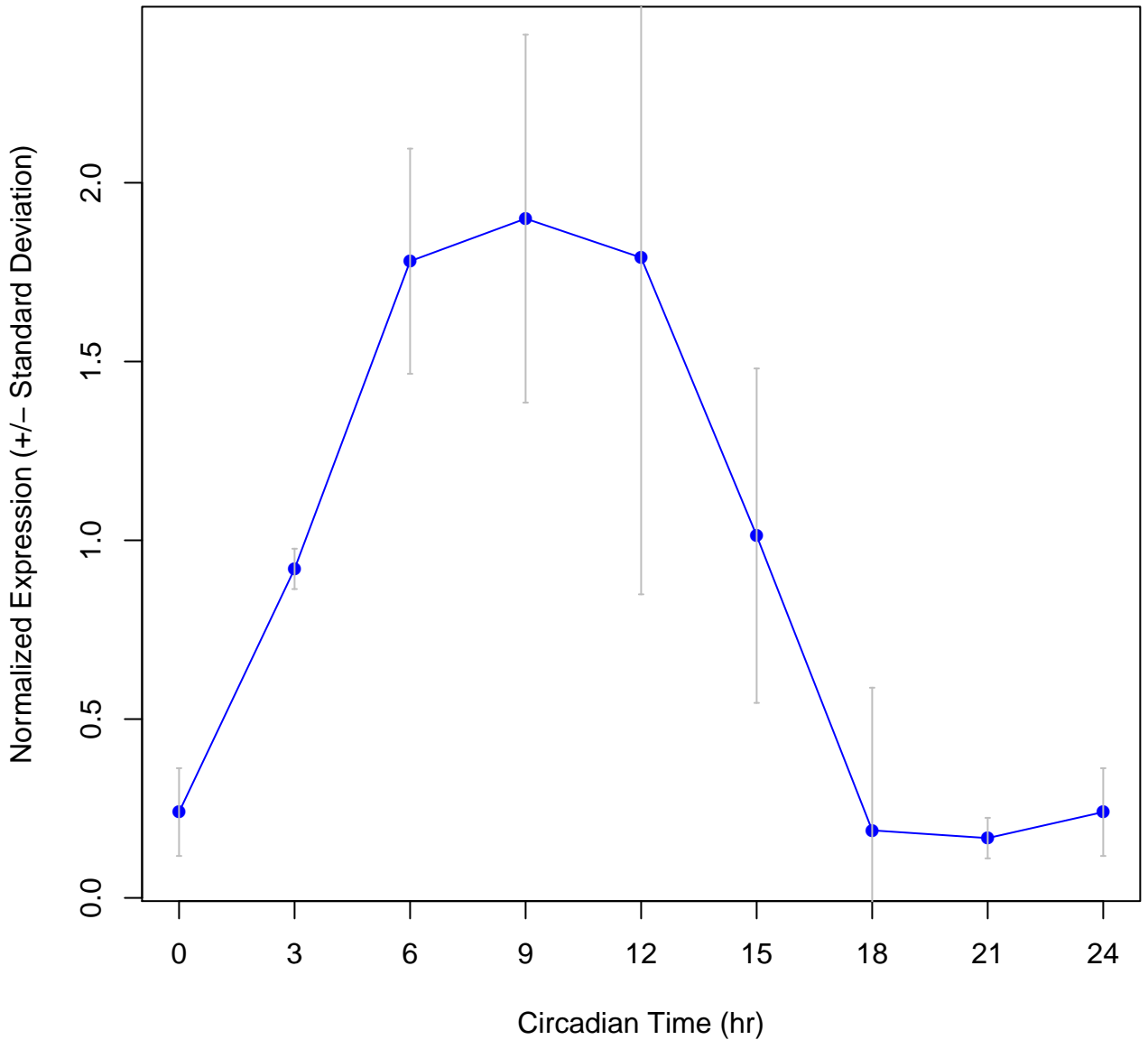
Supplement Figure 5 *bcl2*



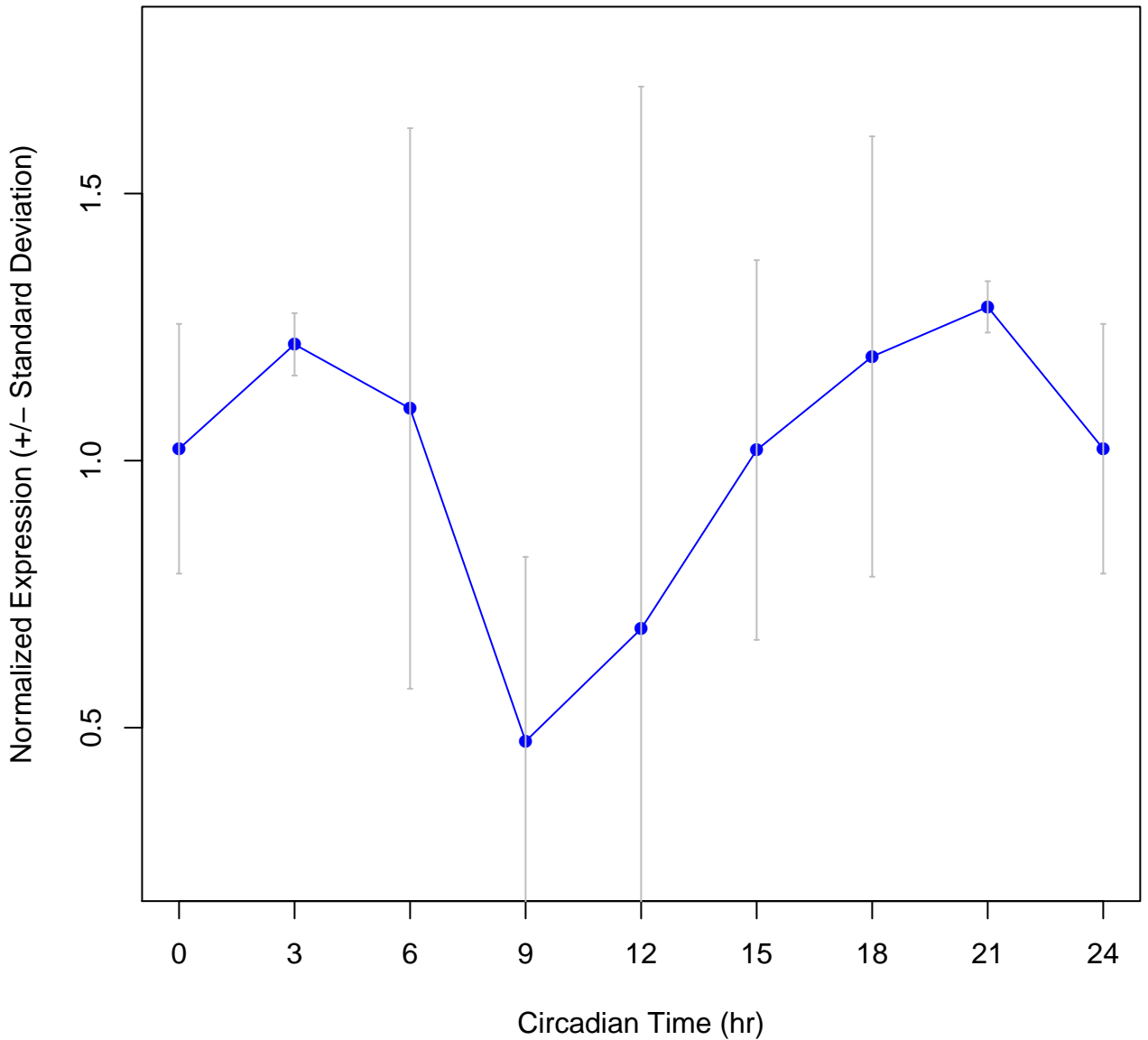
Supplement Figure 5 bhlhe40



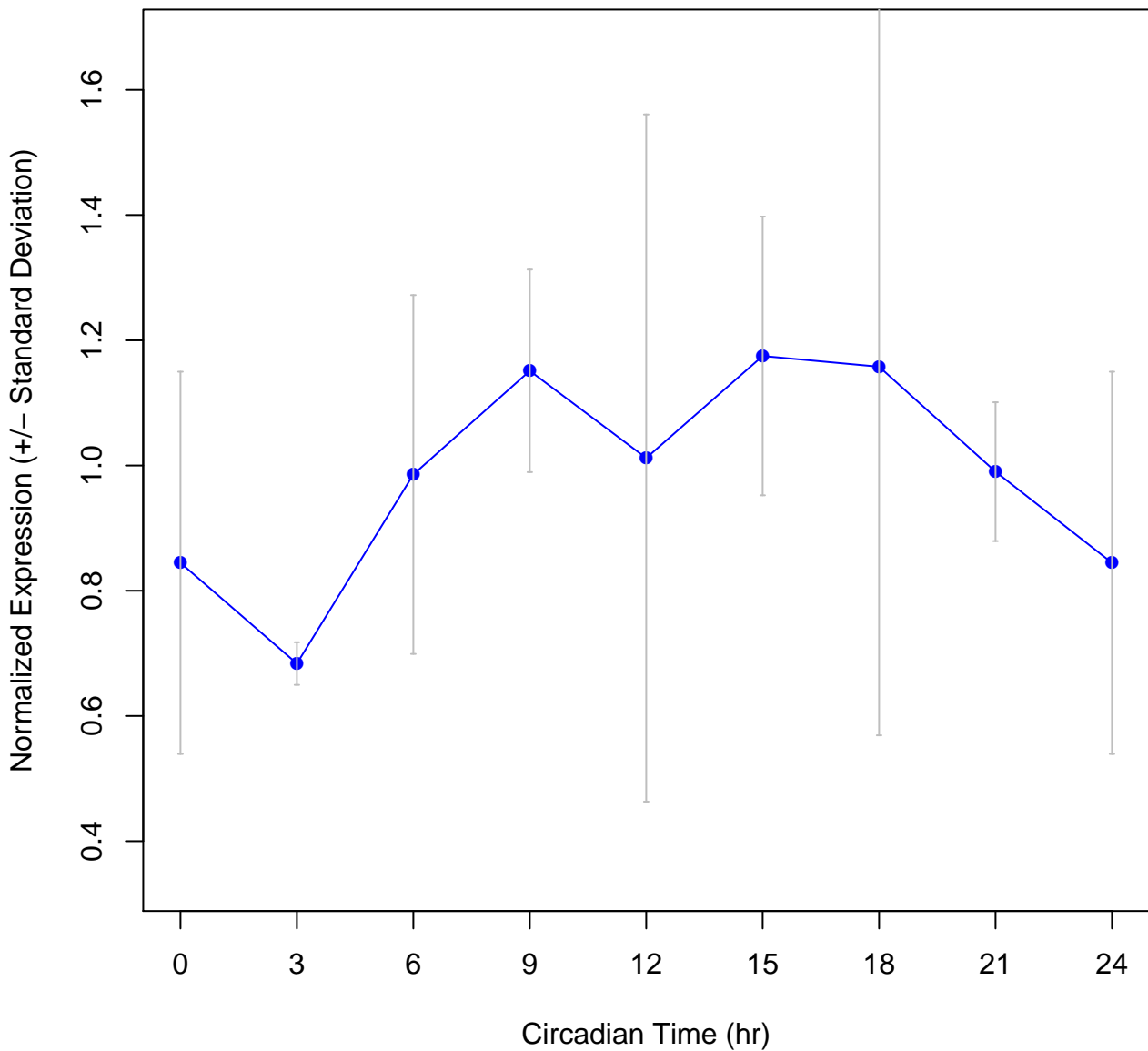
Supplement Figure 5 bmal1



**Supplement Figure 5 bmp7**

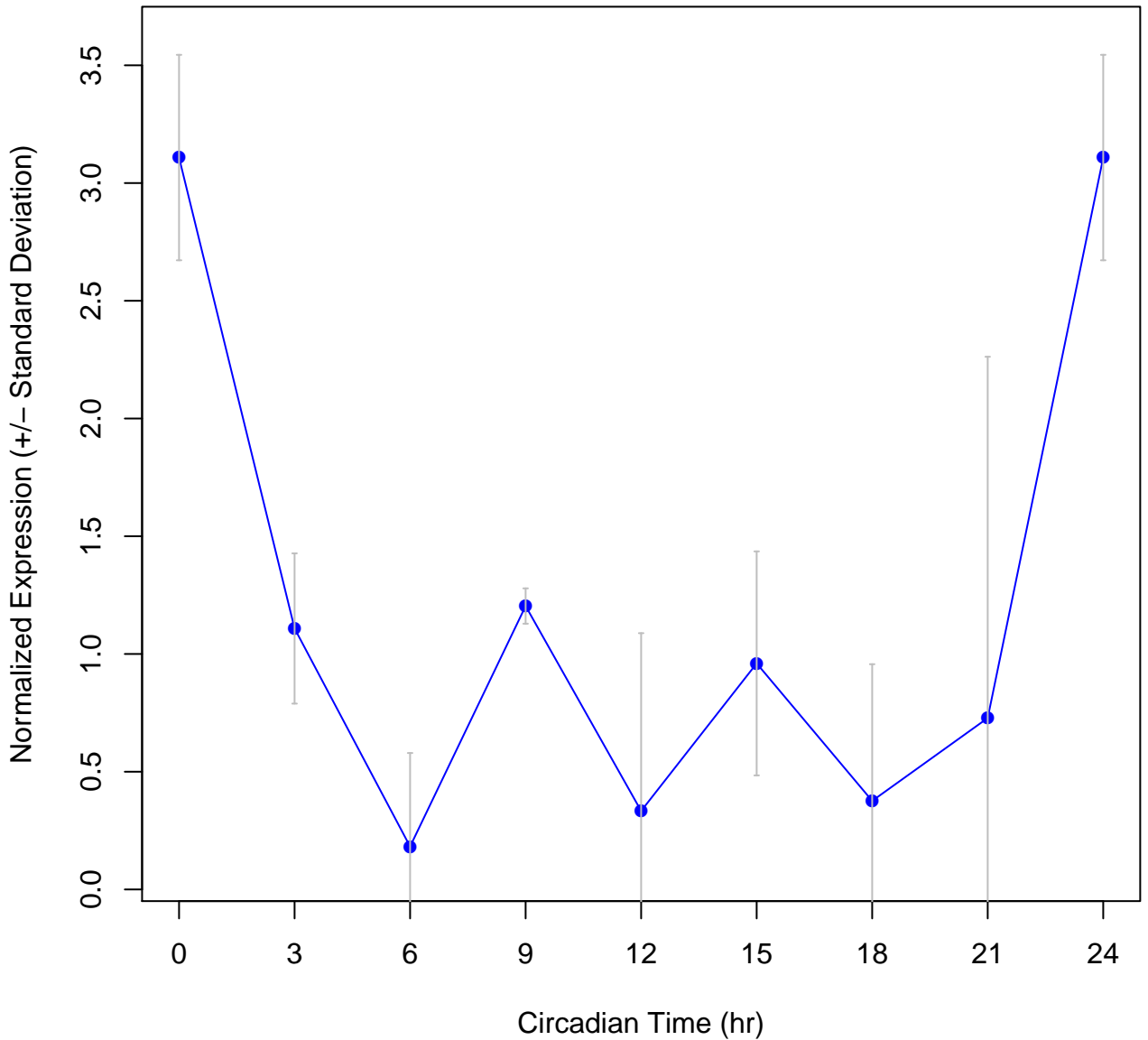


Supplement Figure 5 bmpr1b

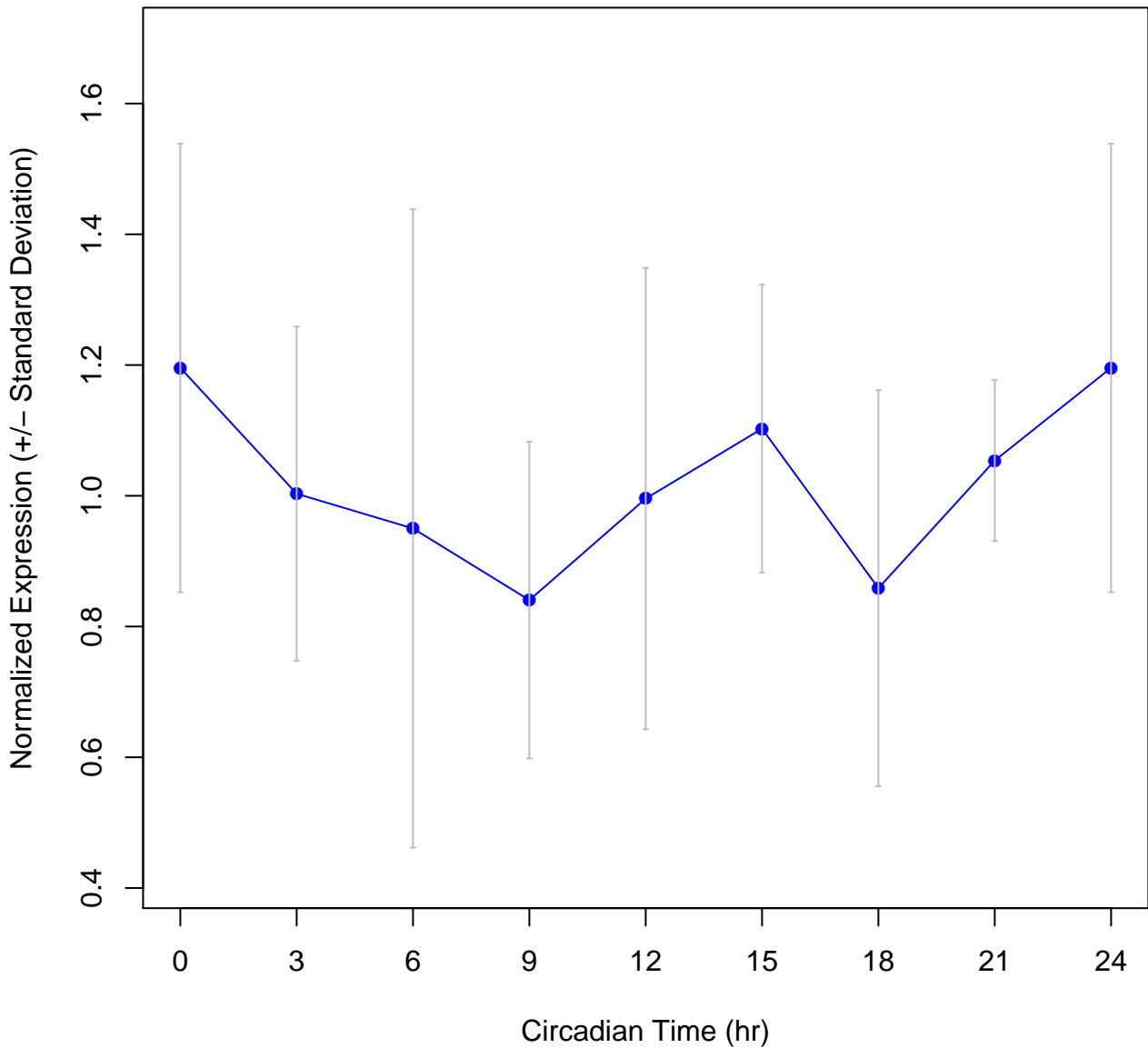




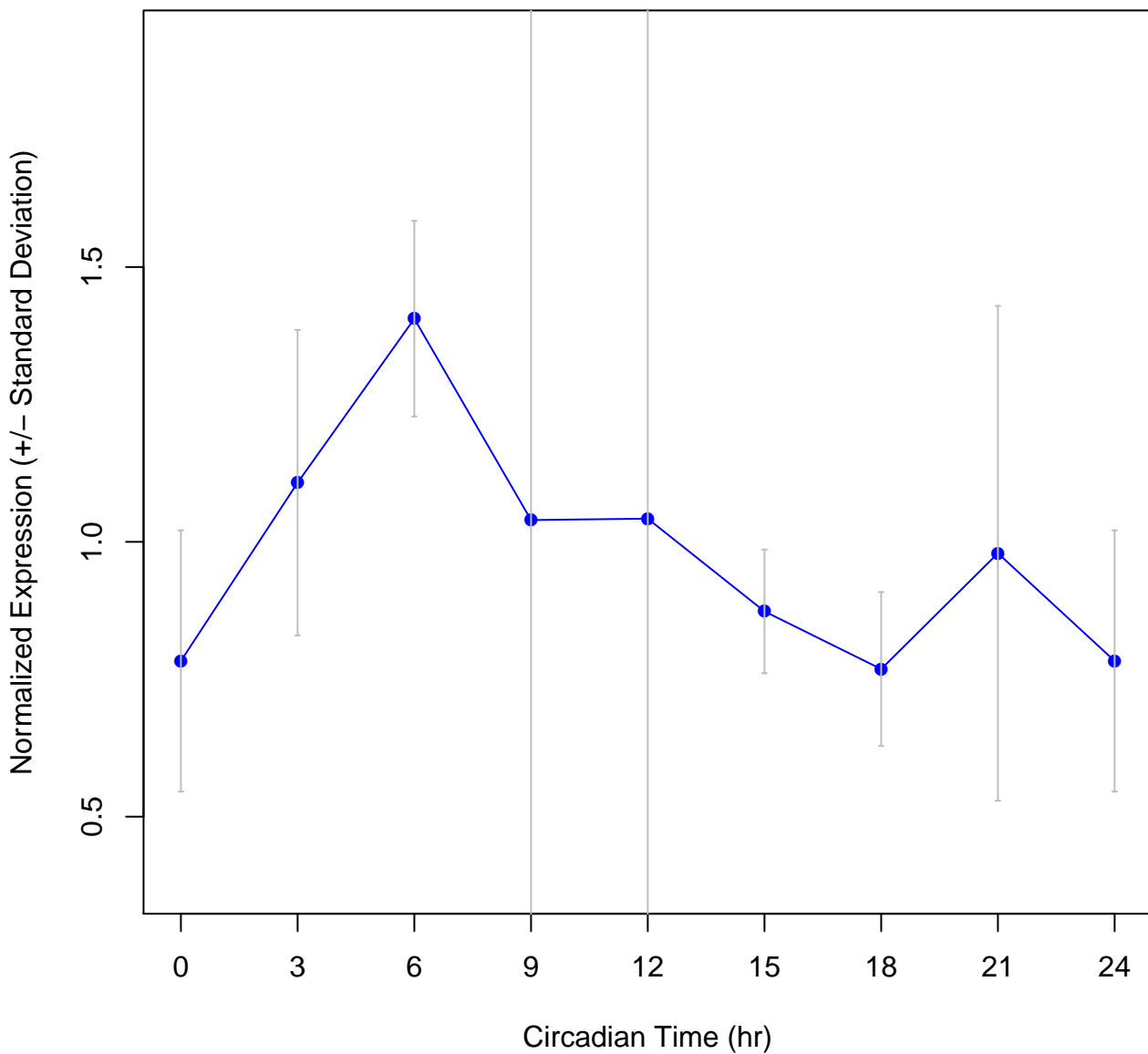
## Supplement Figure 5 bora



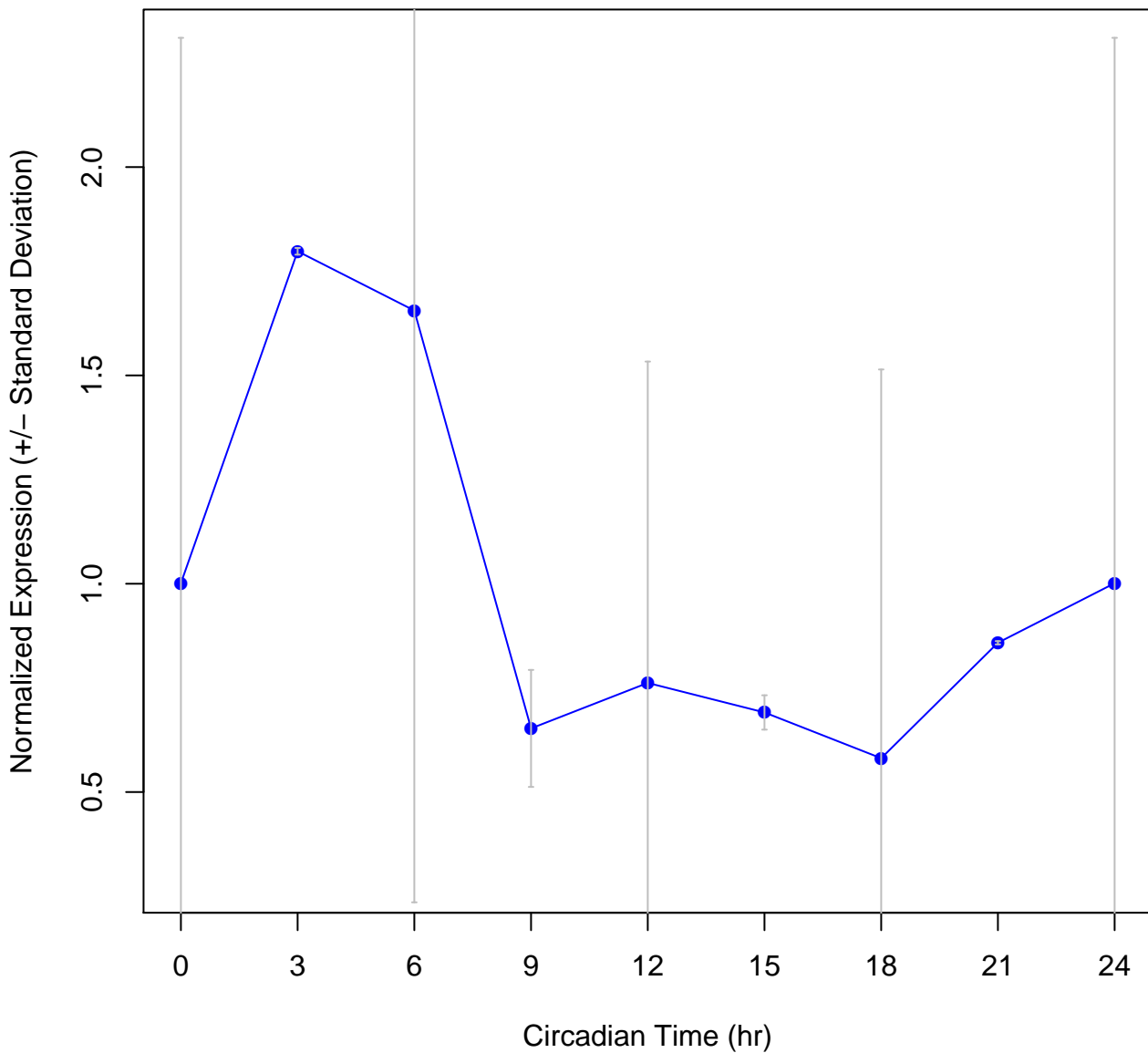
Supplement Figure 5 brca2



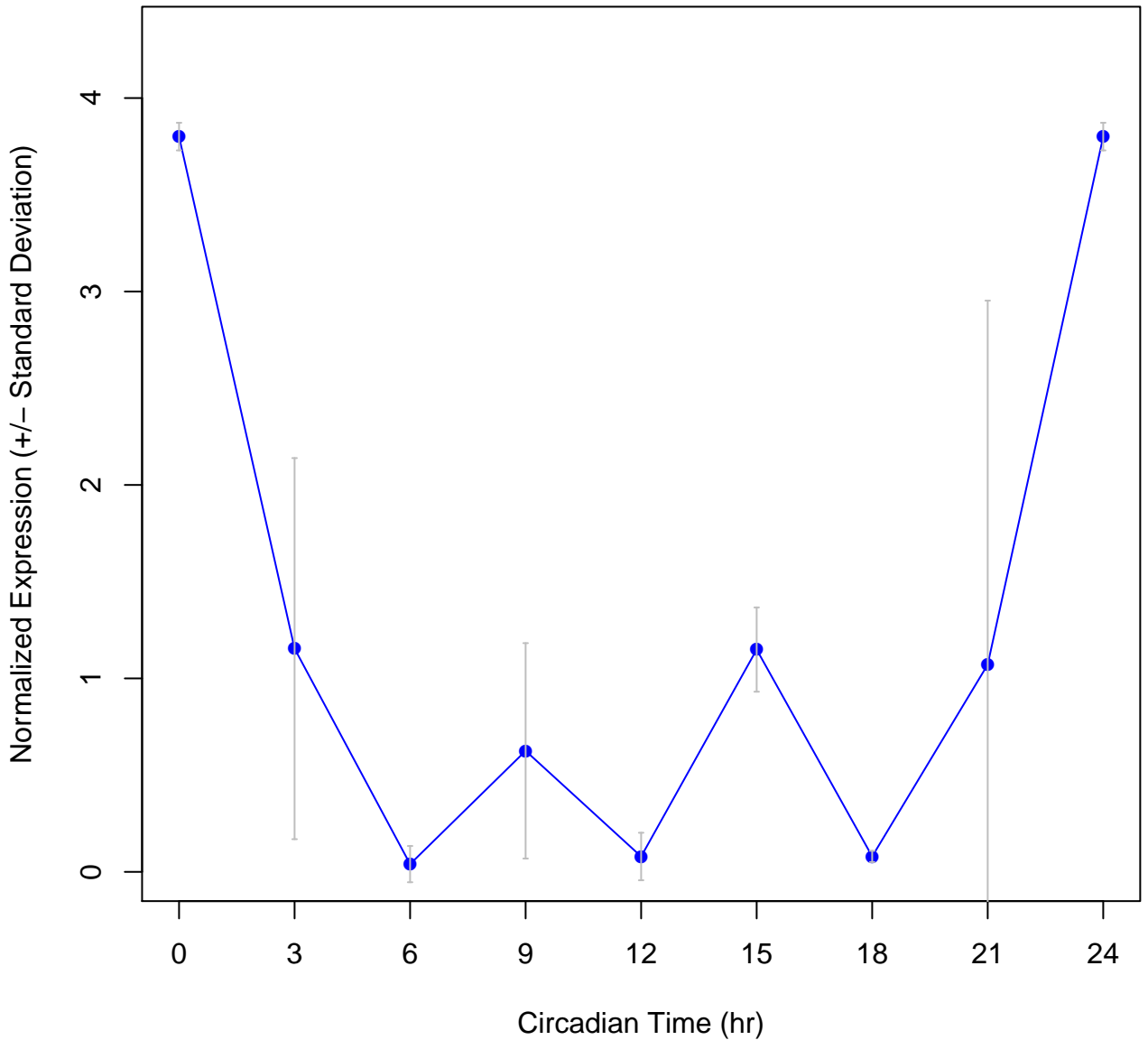
Supplement Figure 5 camk1g



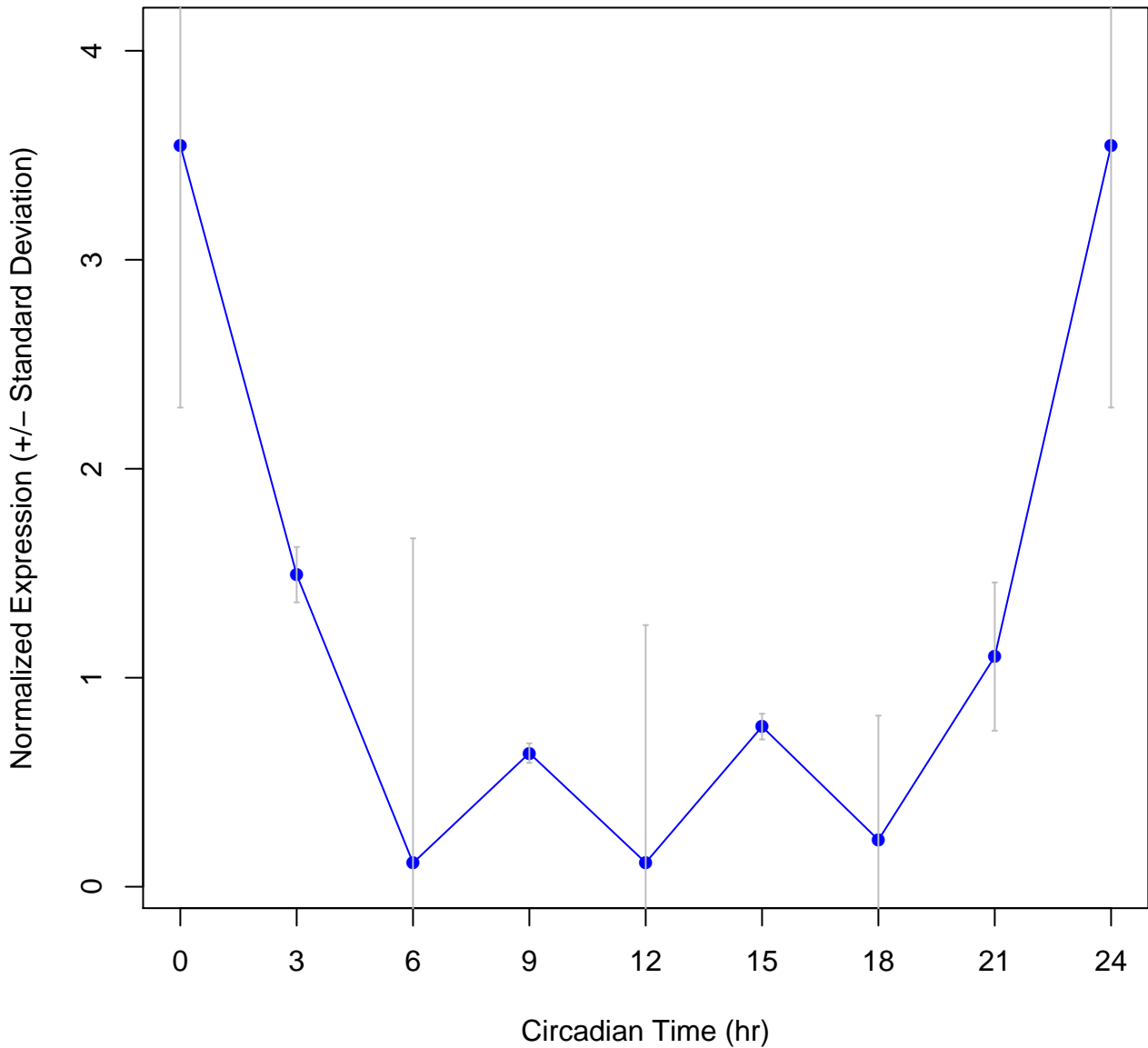
Supplement Figure 5 camk2a



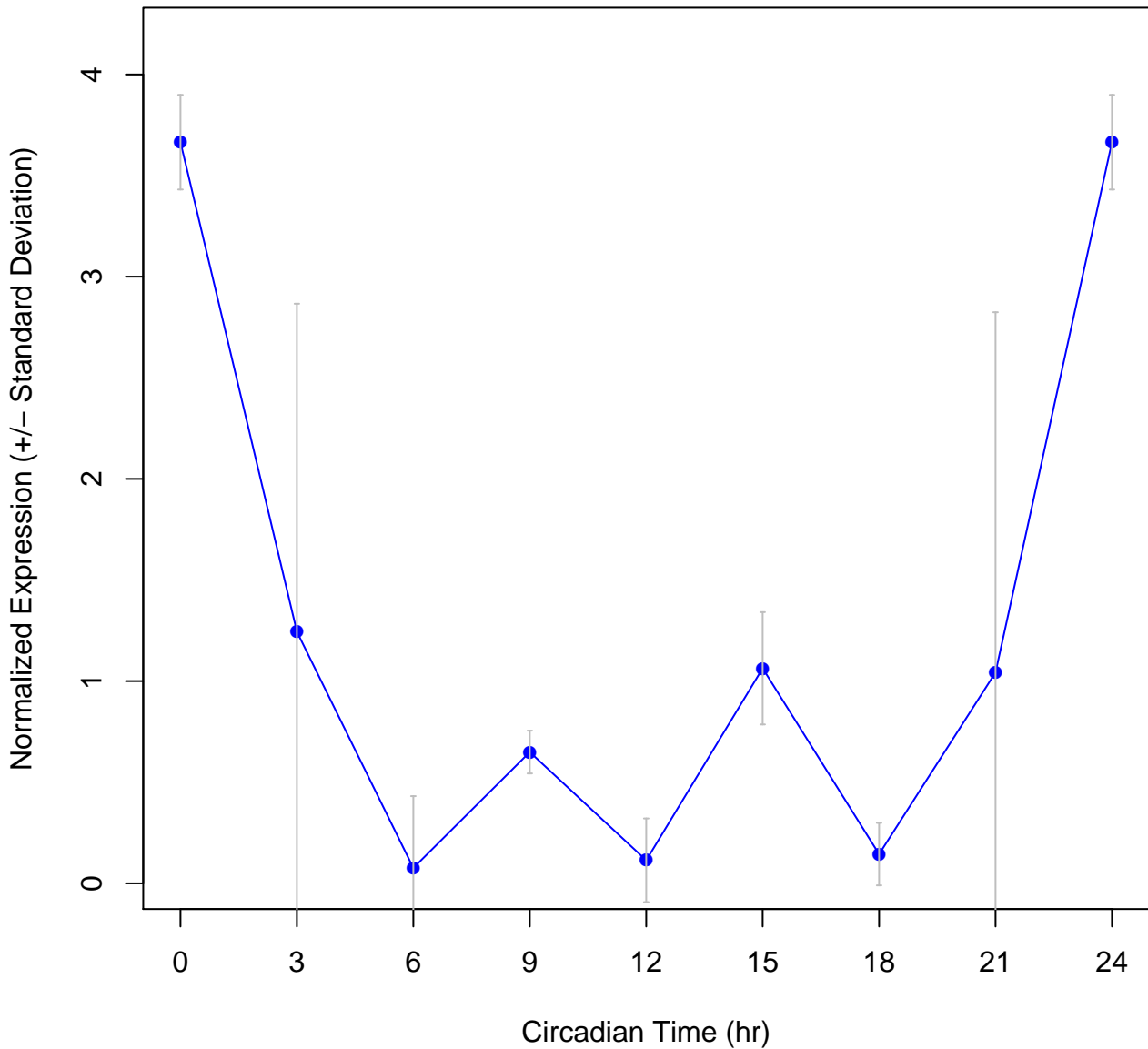
## Supplement Figure 5 ccnb1



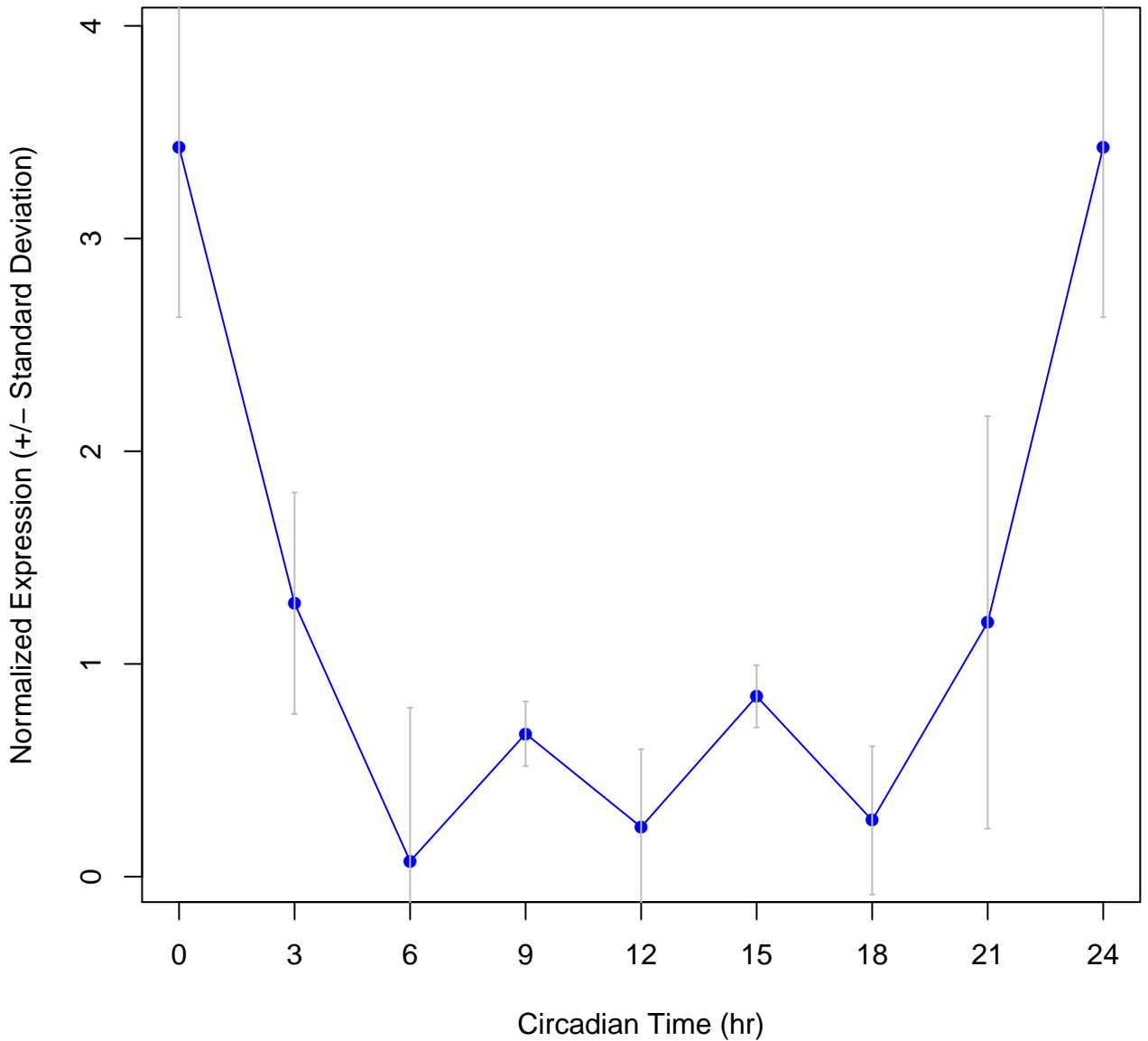
Supplement Figure 5 ccnb2



**Supplement Figure 5 ccnb3**

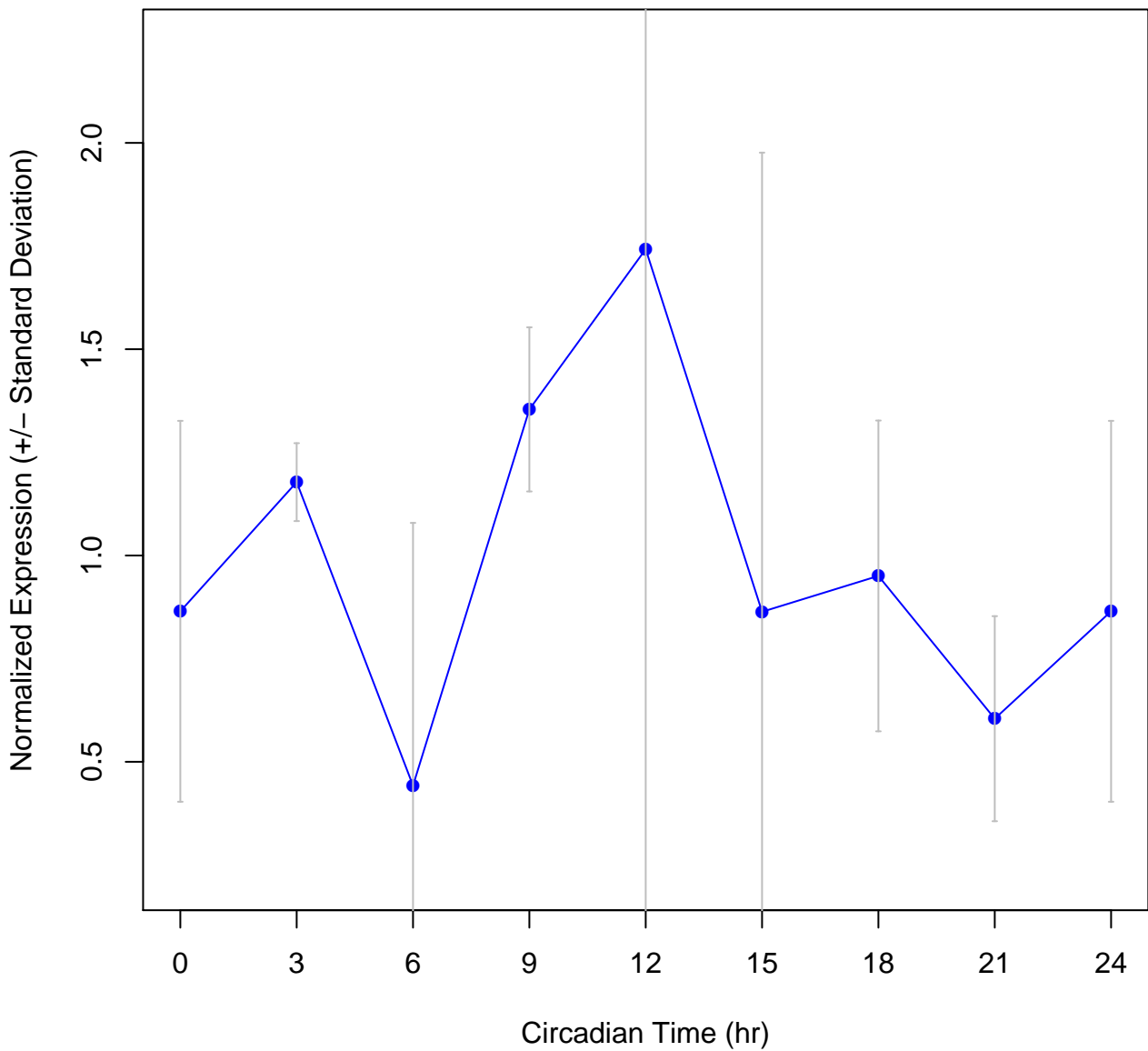


# Supplement Figure 5 ccnf

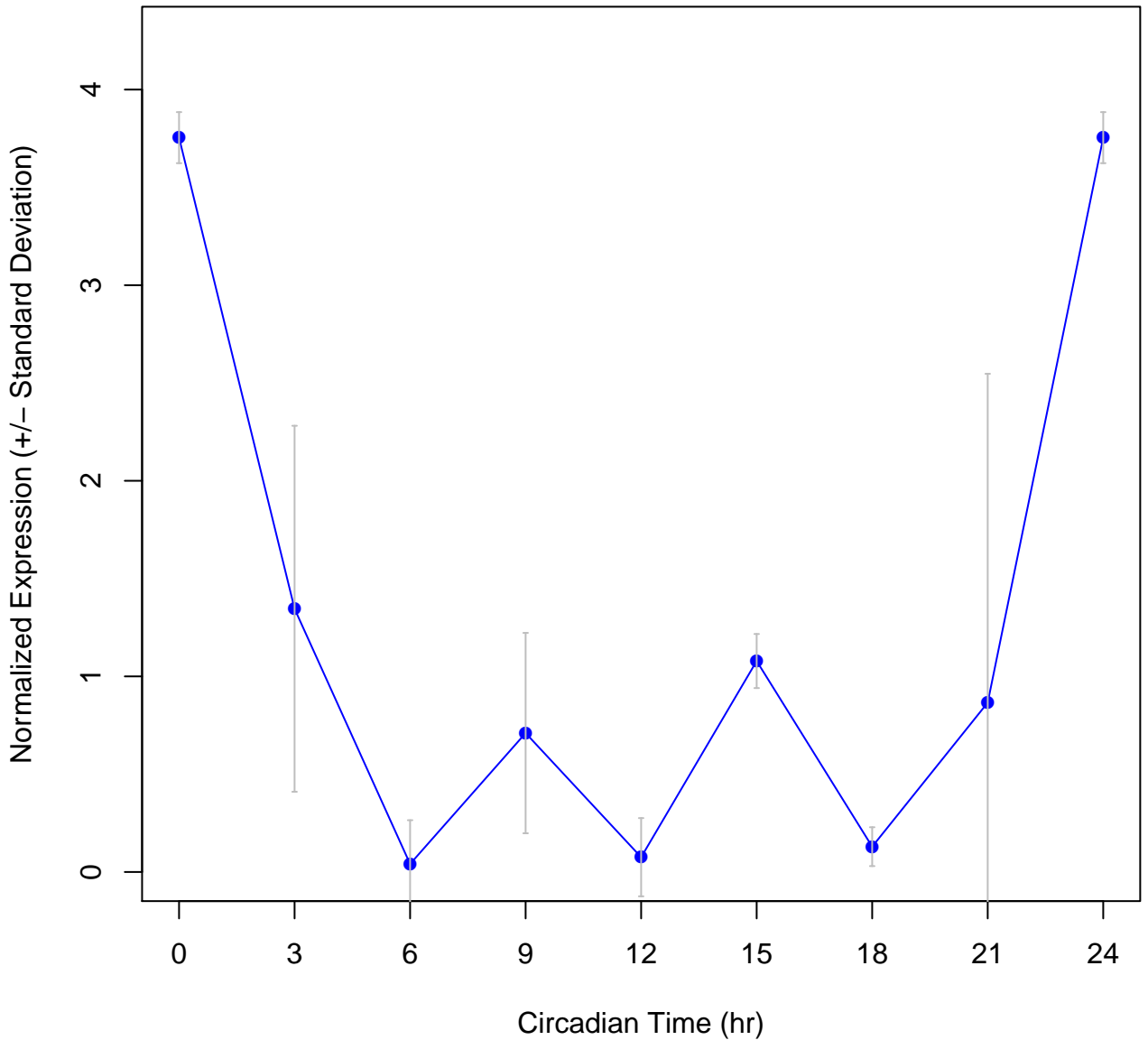




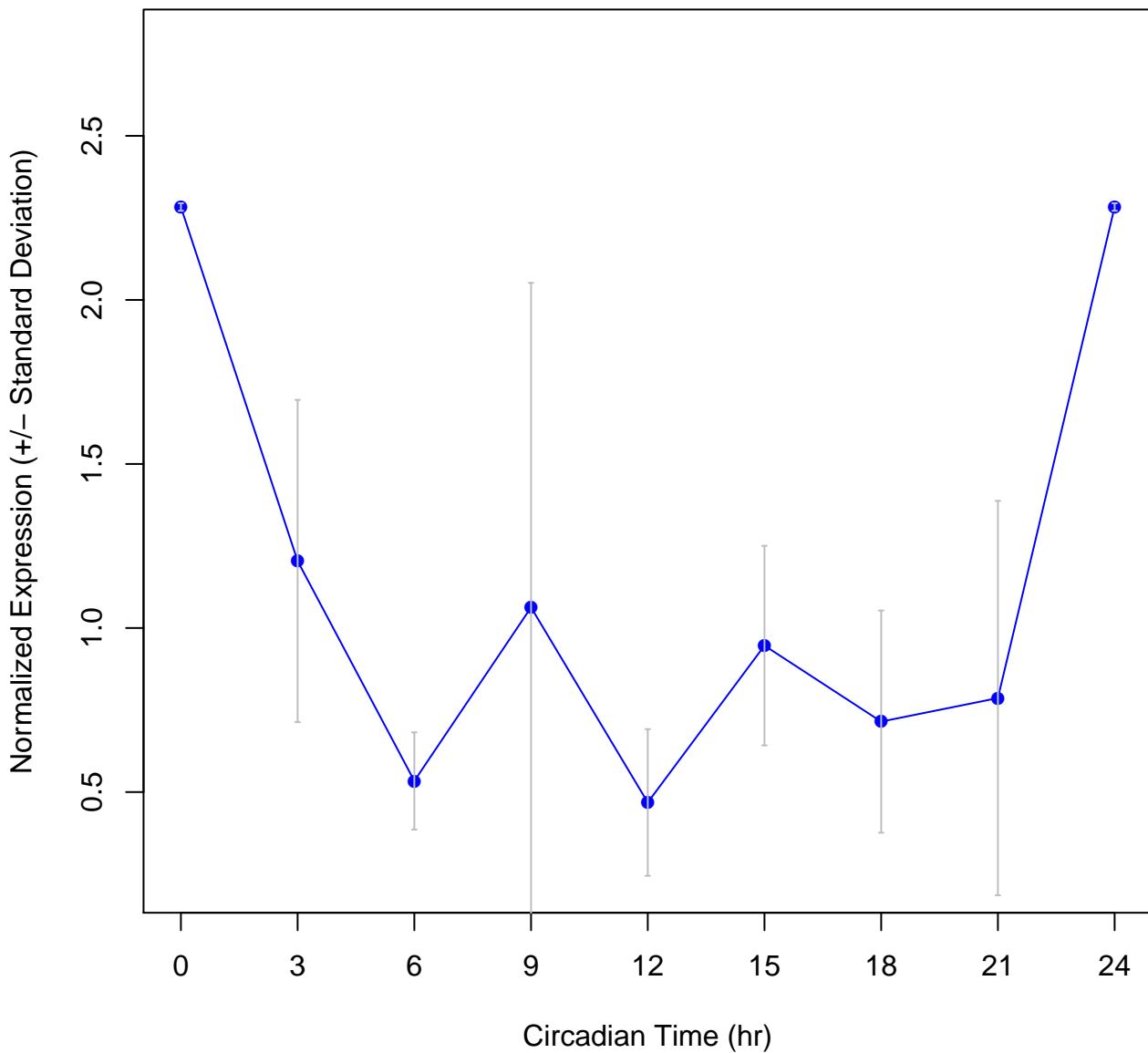
**Supplement Figure 5 cd44**



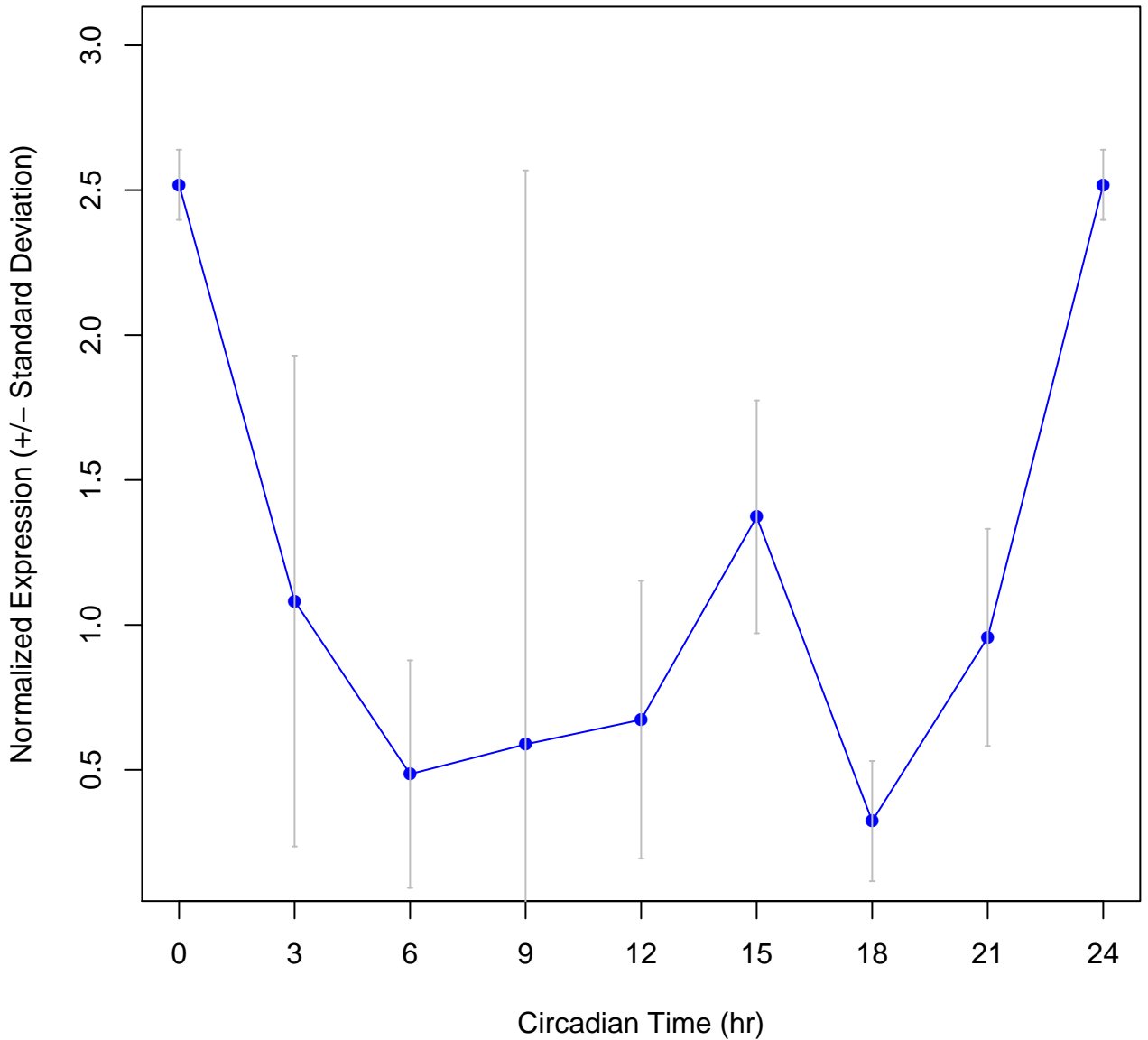
**Supplement Figure 5 cdc20**



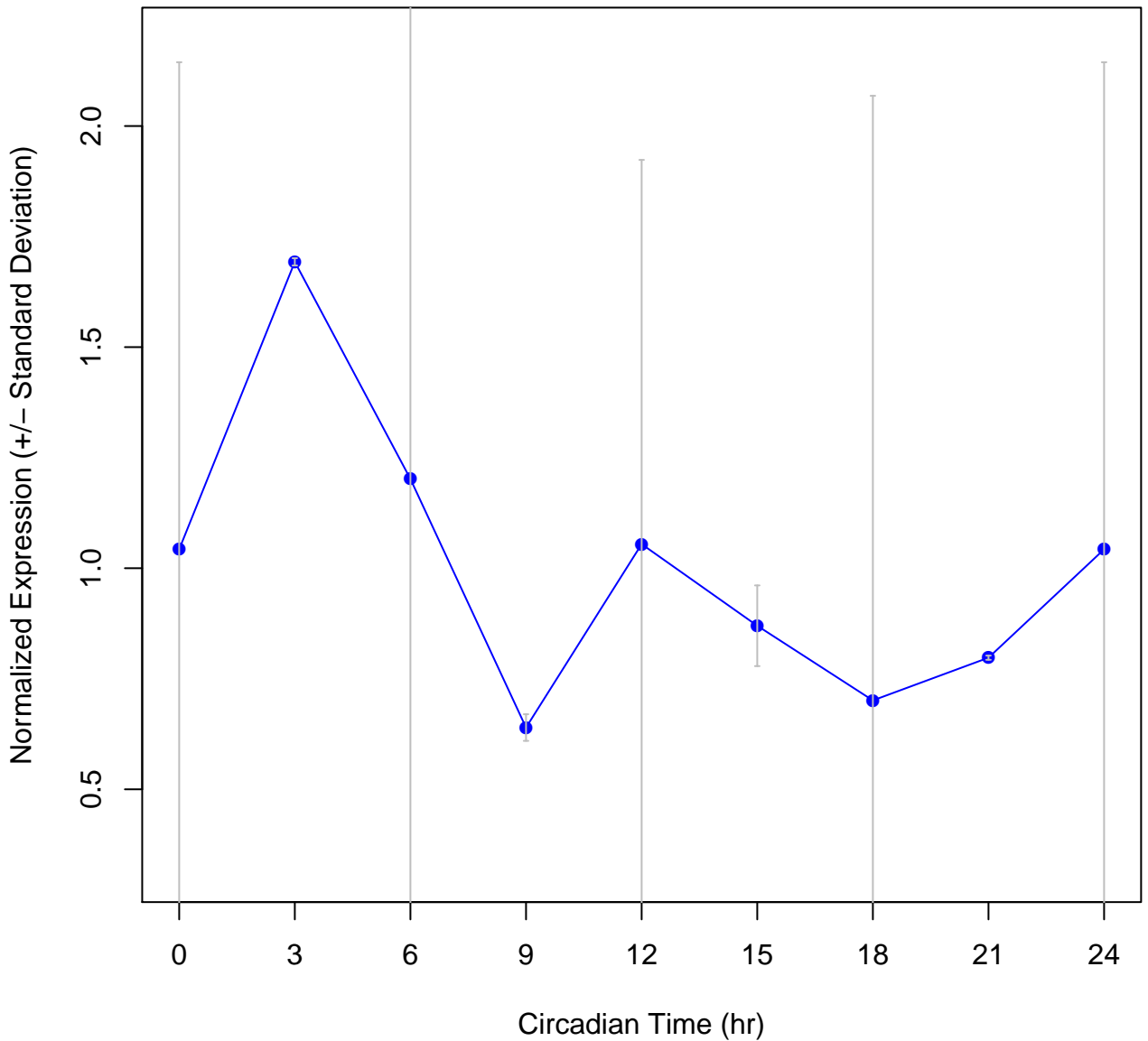
Supplement Figure 5 *cdc25b*



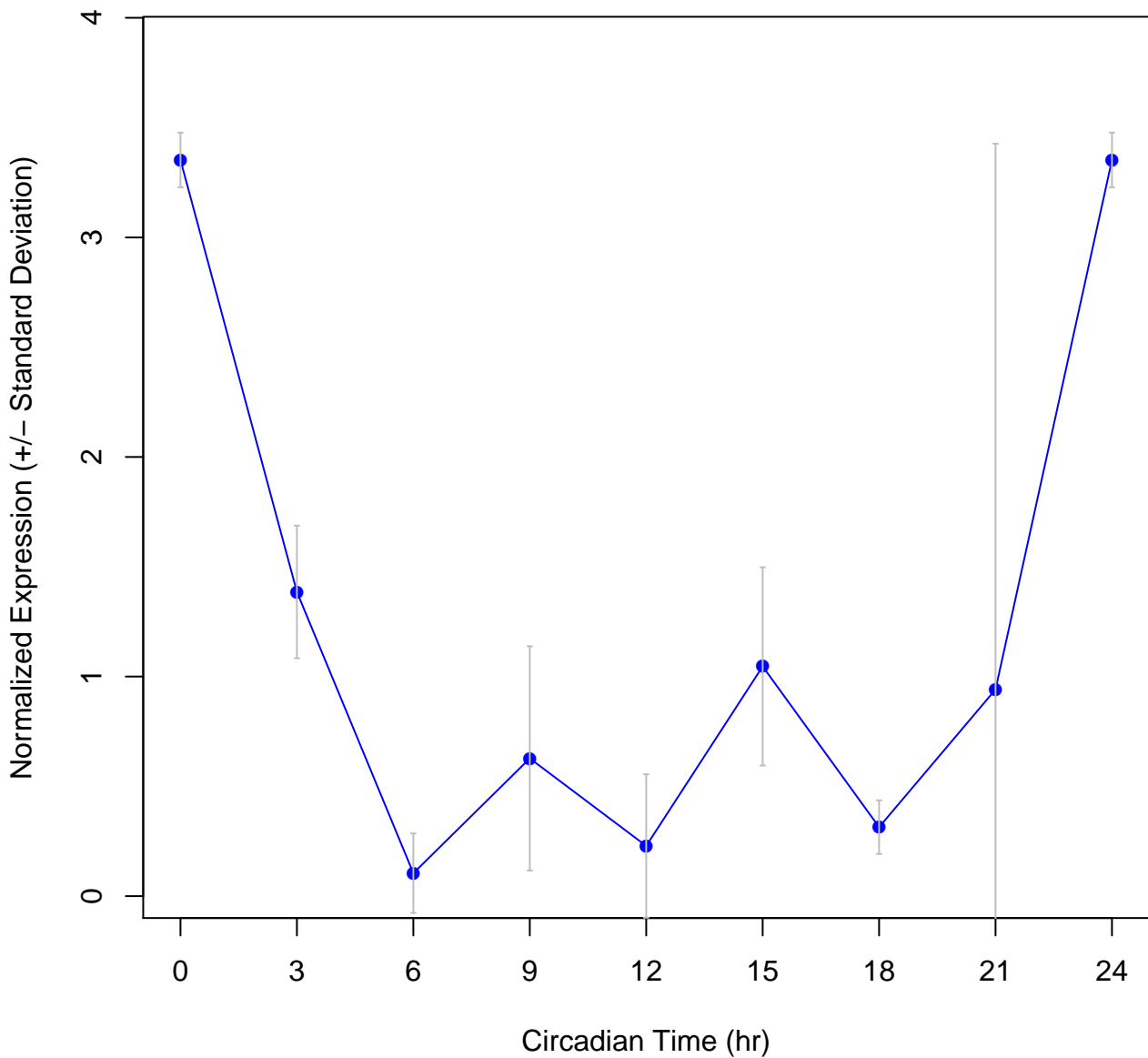
## Supplement Figure 5 cdca7



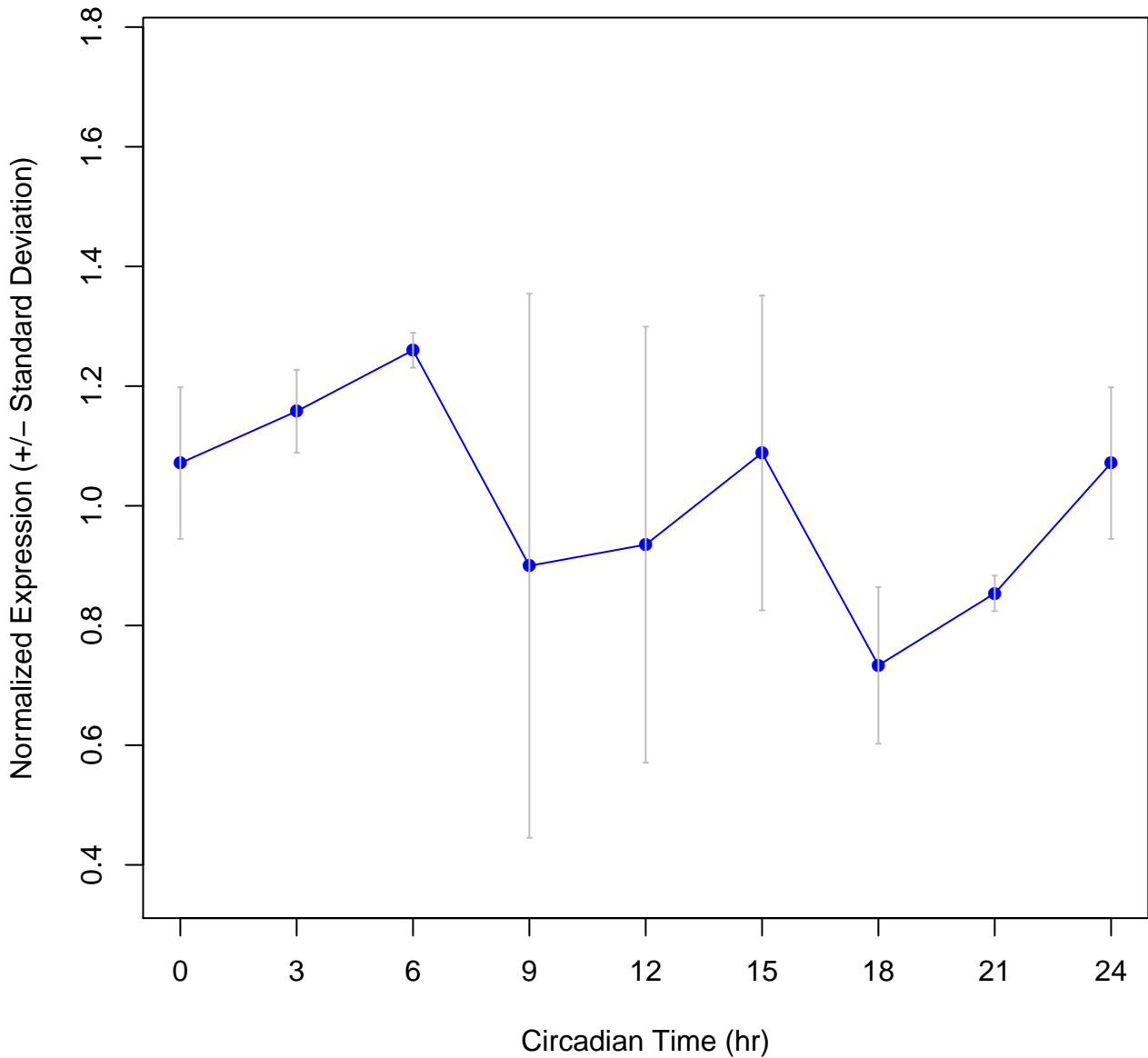
Supplement Figure 5 cdh15



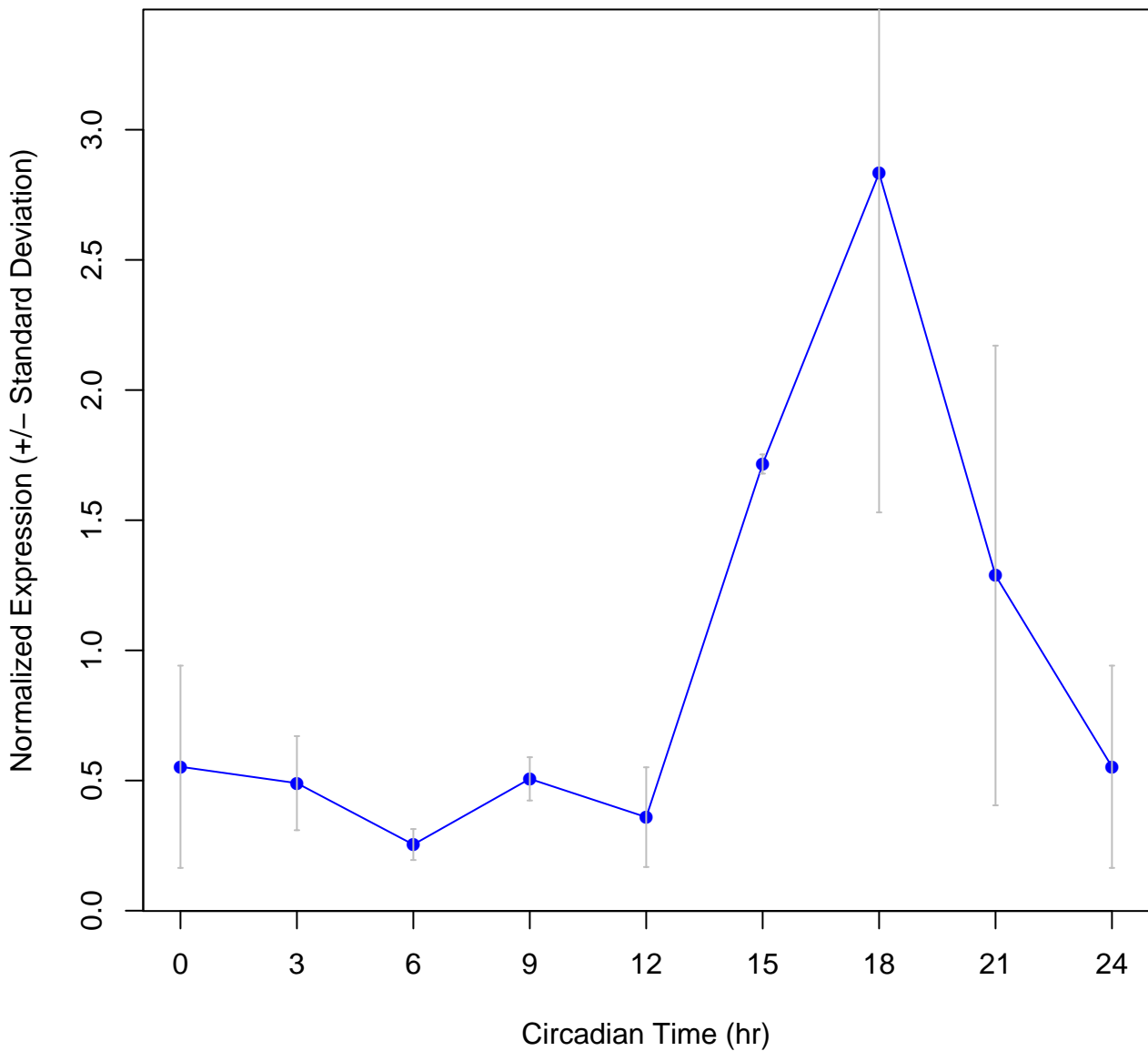
## Supplement Figure 5 cdk1



**Supplement Figure 5 cdk7**

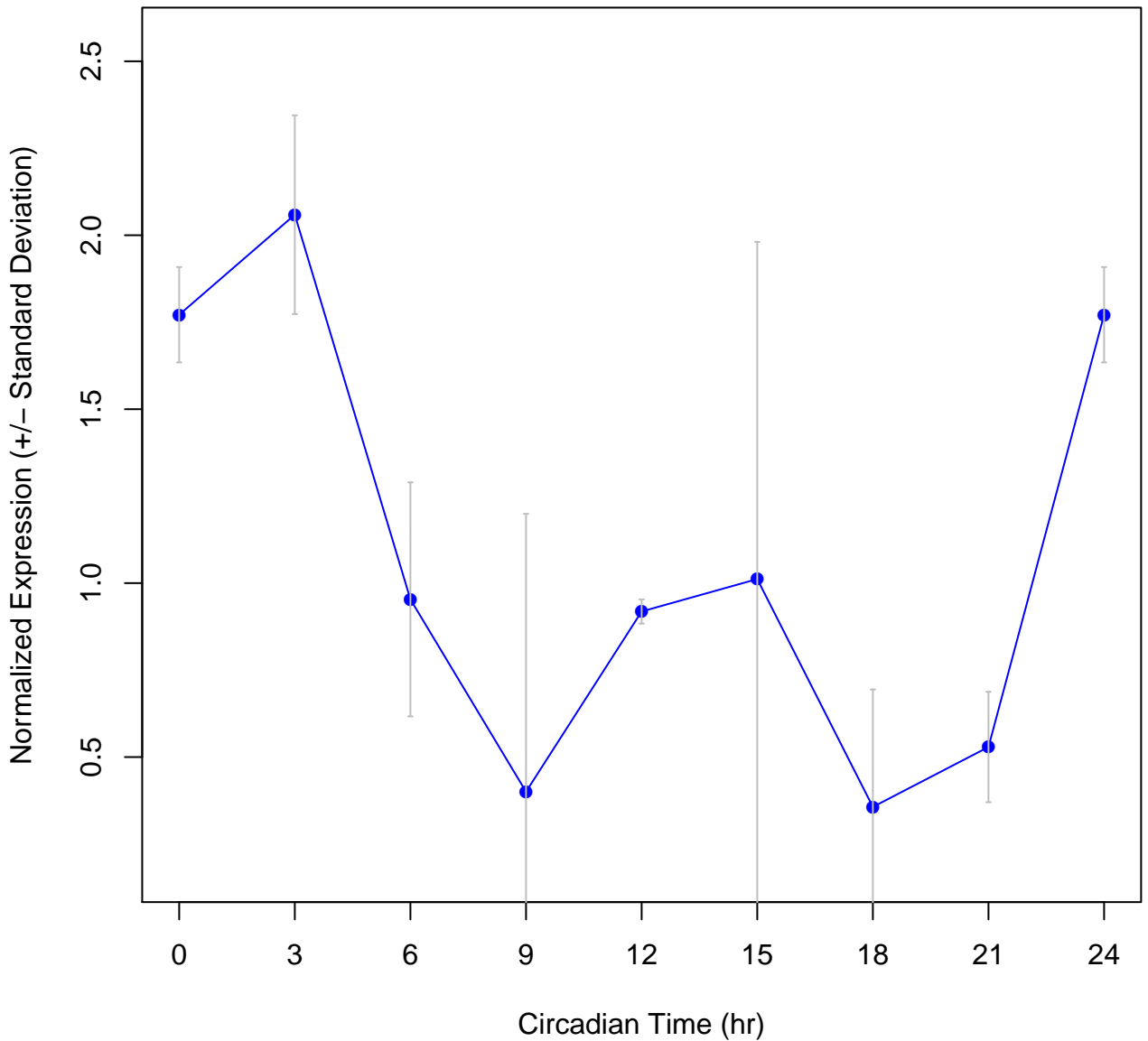


Supplement Figure 5 cdkn1a

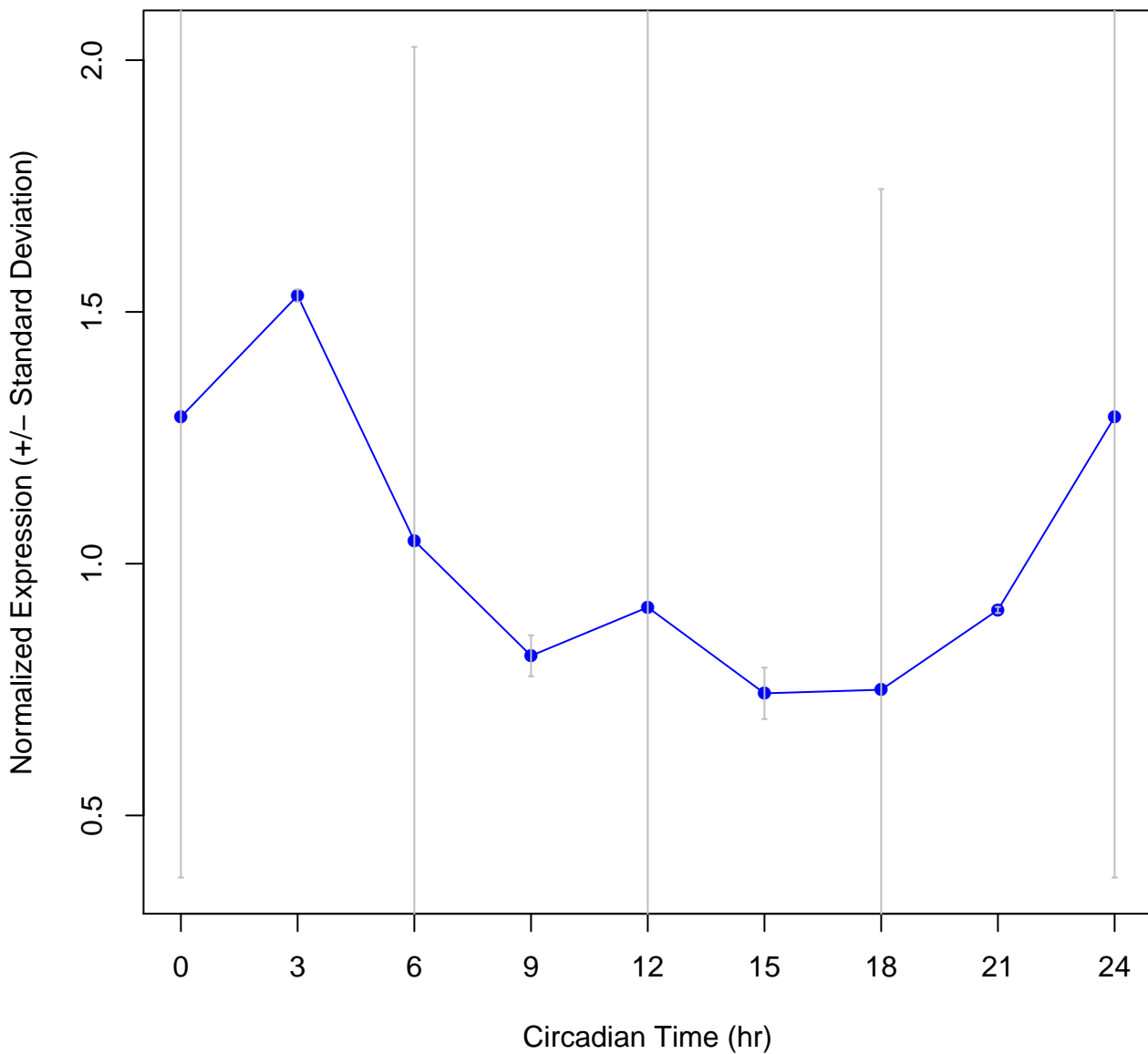




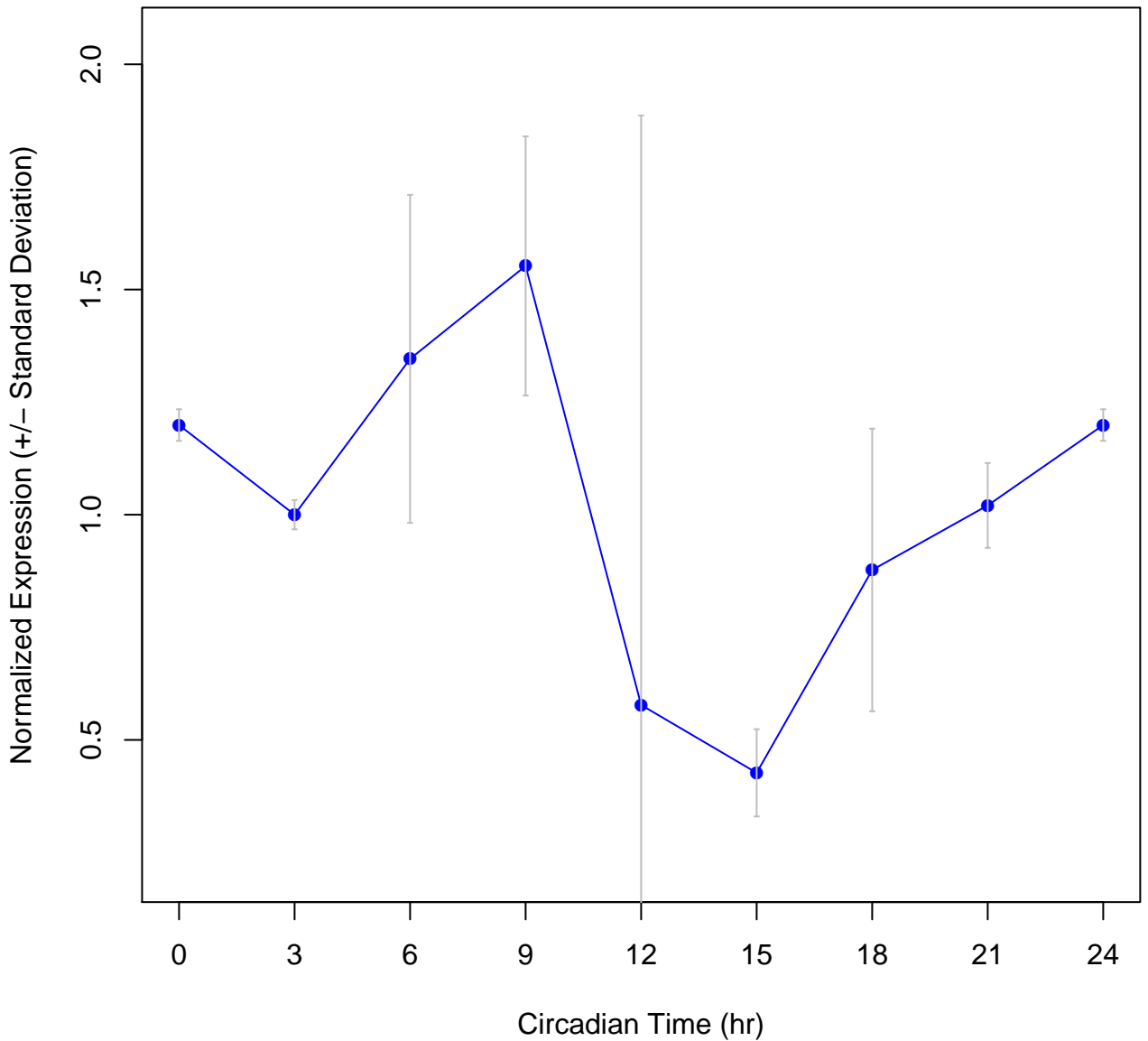
# Supplement Figure 5 chk1



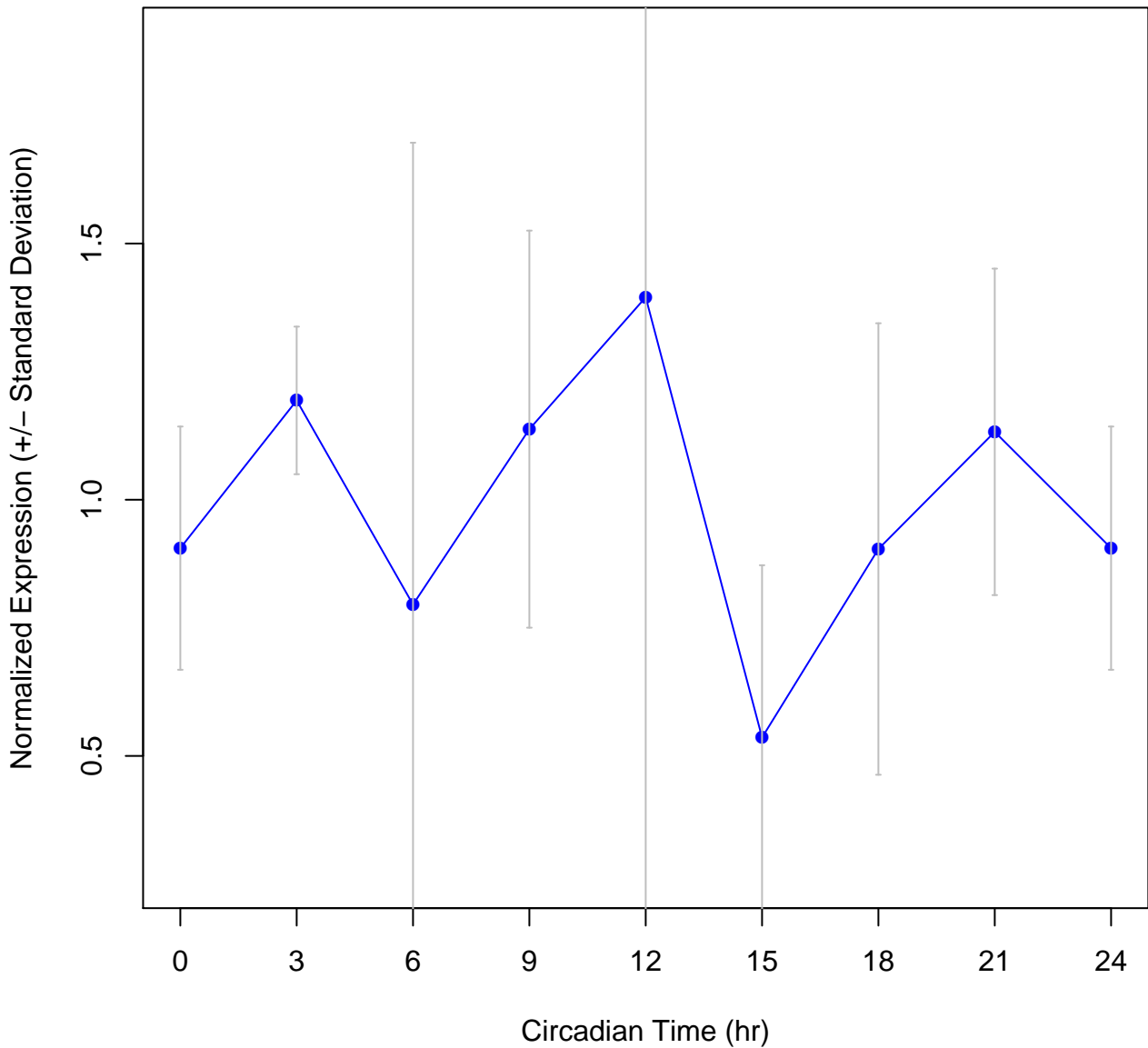
Supplement Figure 5 chrnb1



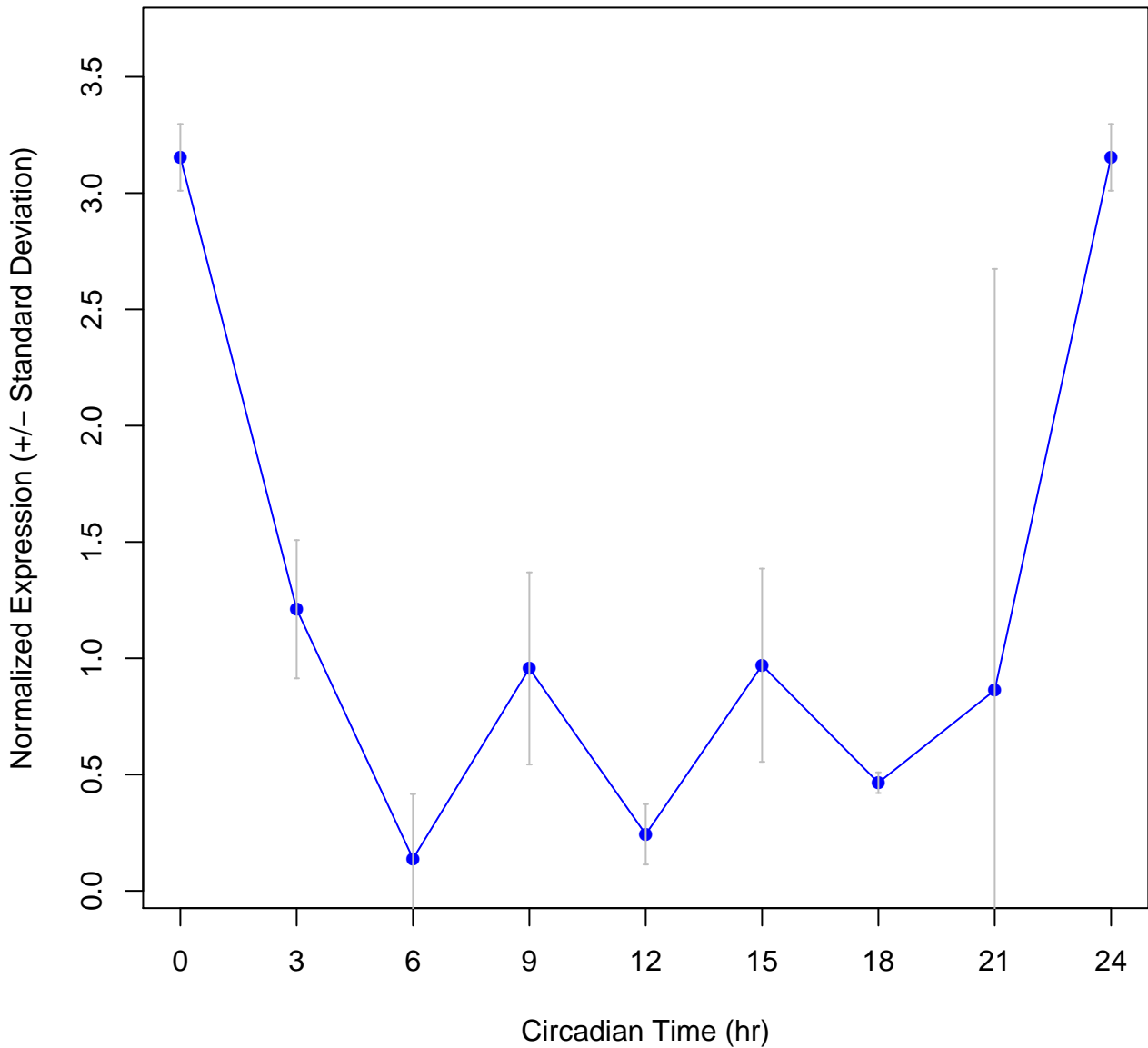
**Supplement Figure 5 ck1e**



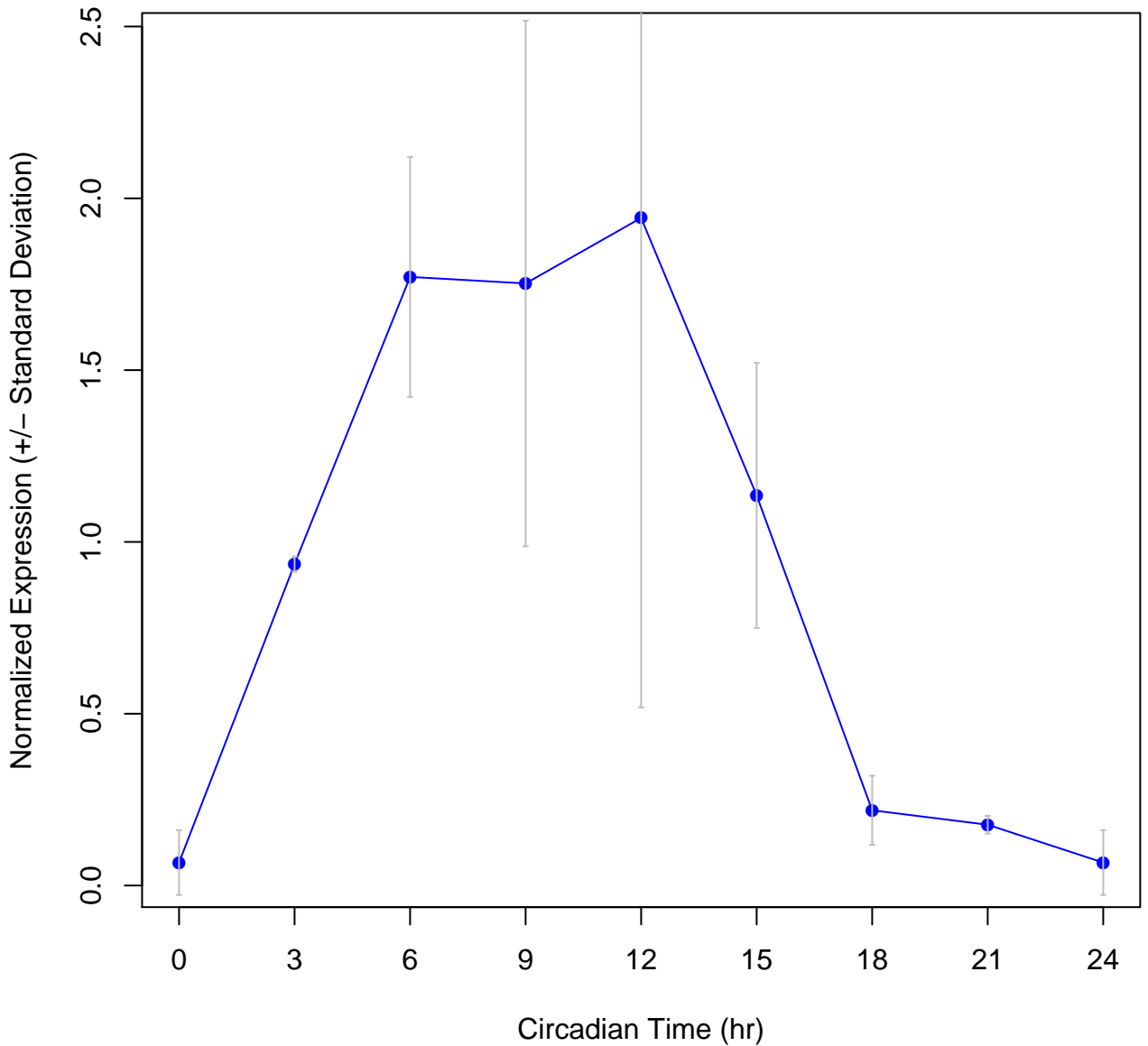
**Supplement Figure 5 ckm**



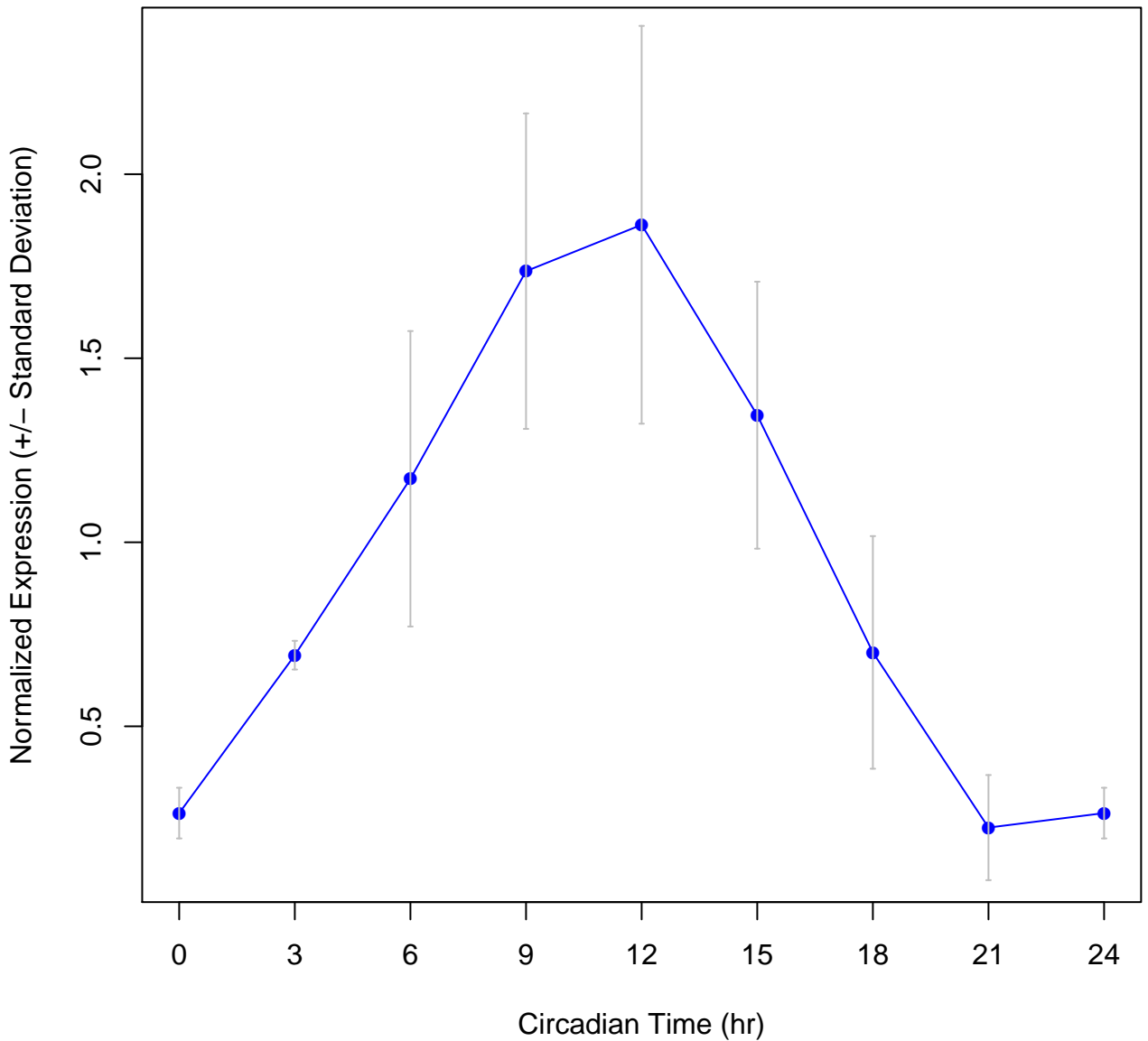
## Supplement Figure 5 cks2



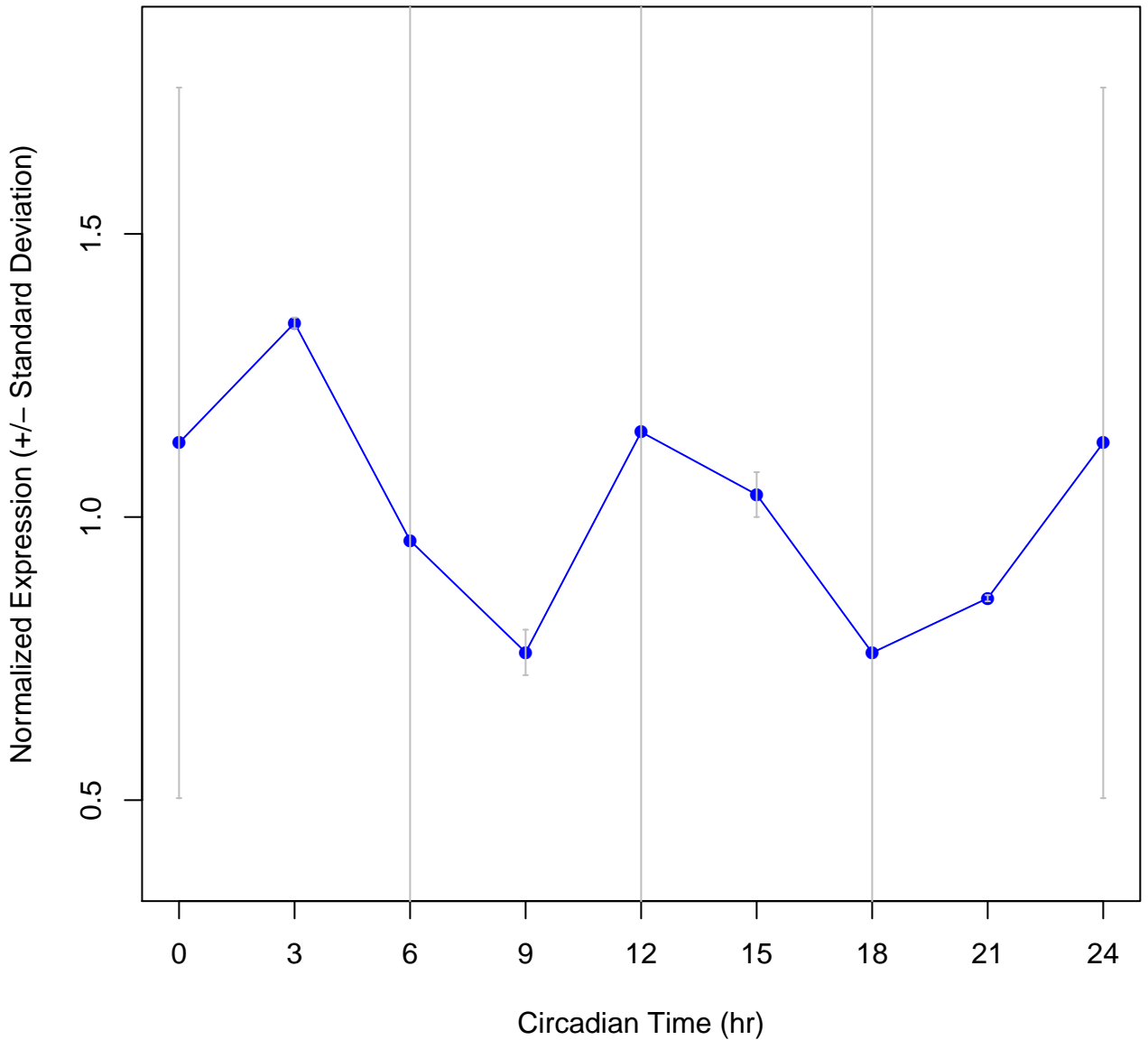
## Supplement Figure 5 clocka



## Supplement Figure 5 clockb

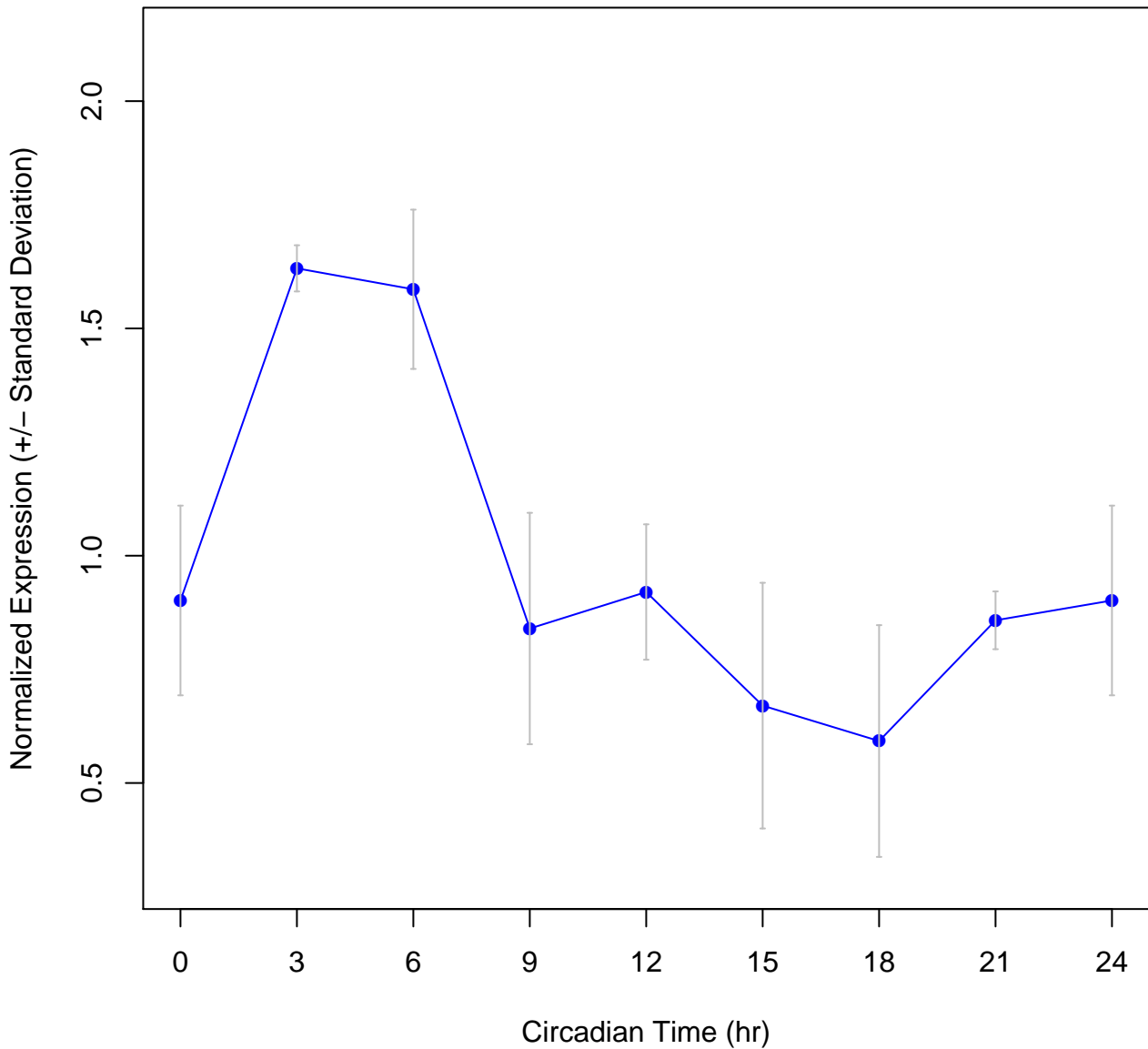


Supplement Figure 5 col9a1

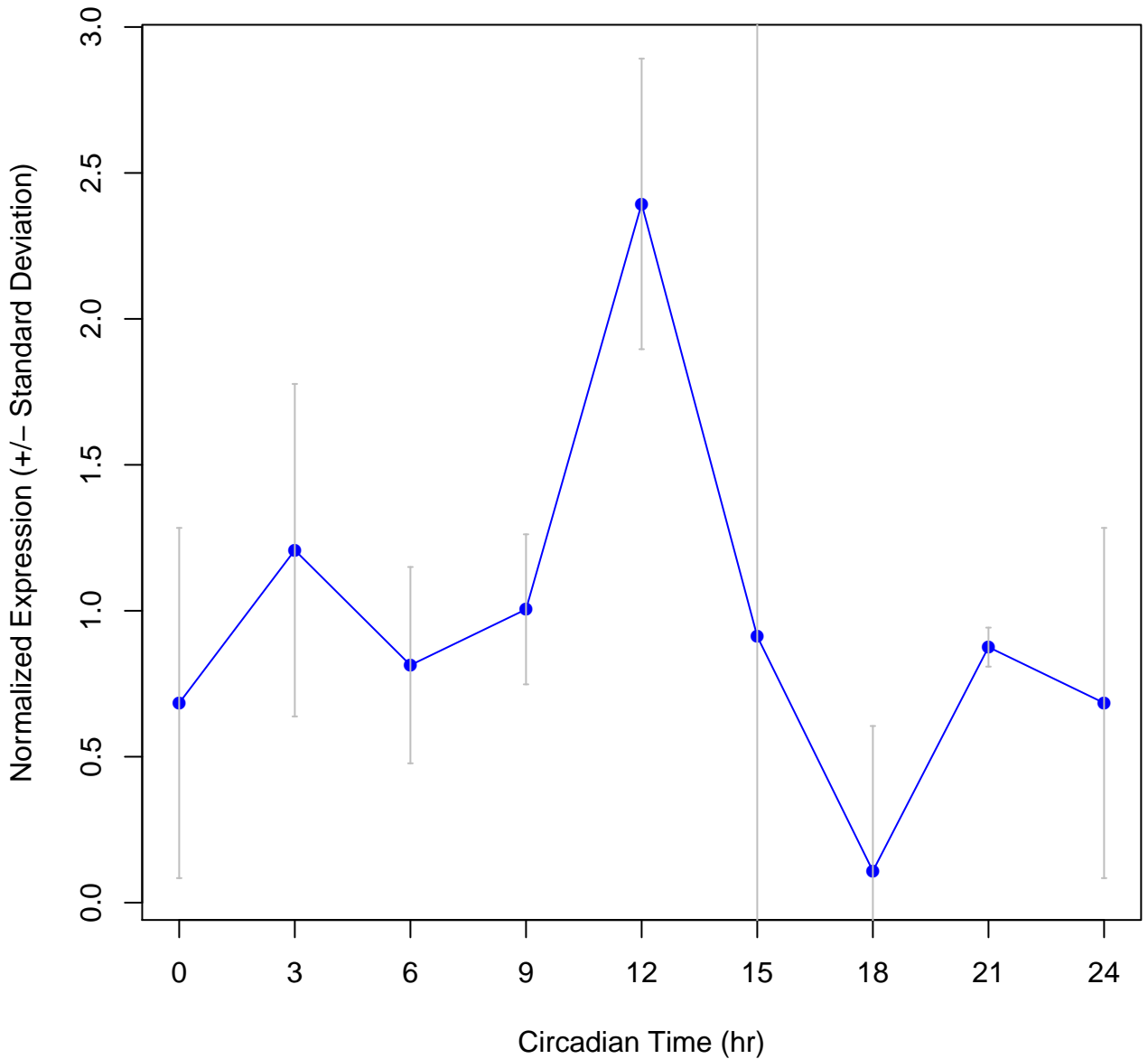




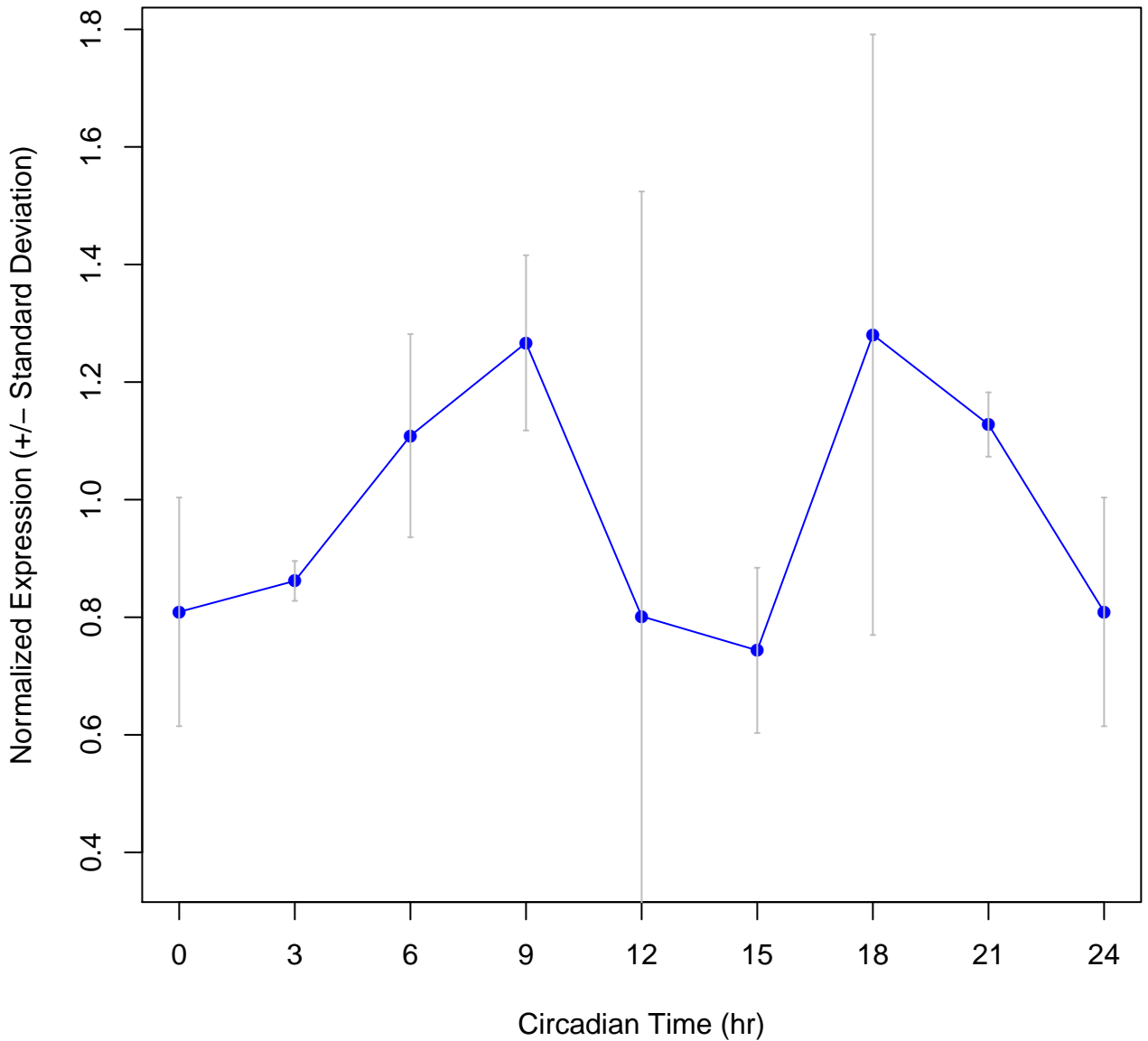
## Supplement Figure 5 cpd photolyase



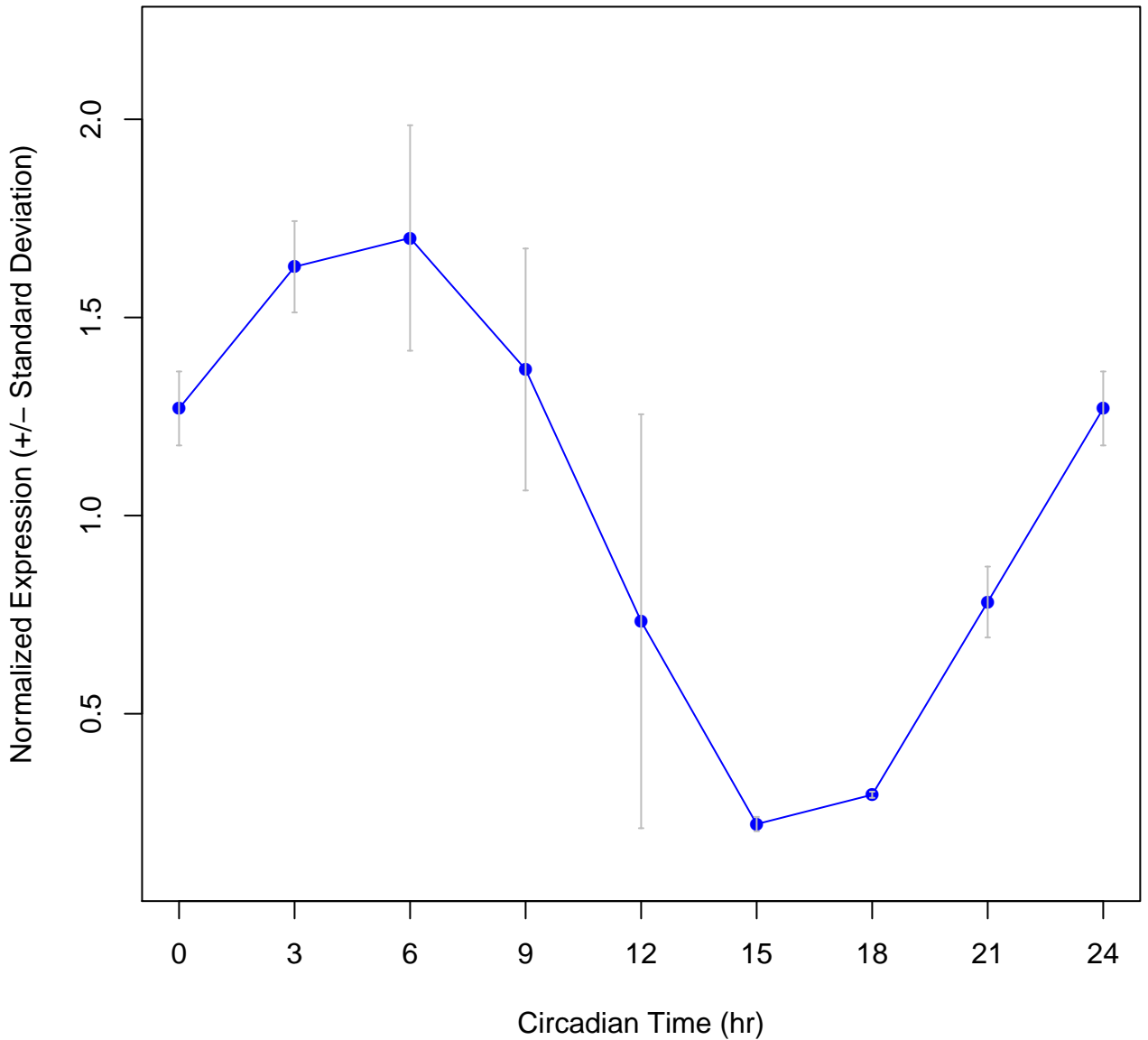
## Supplement Figure 5 creb5



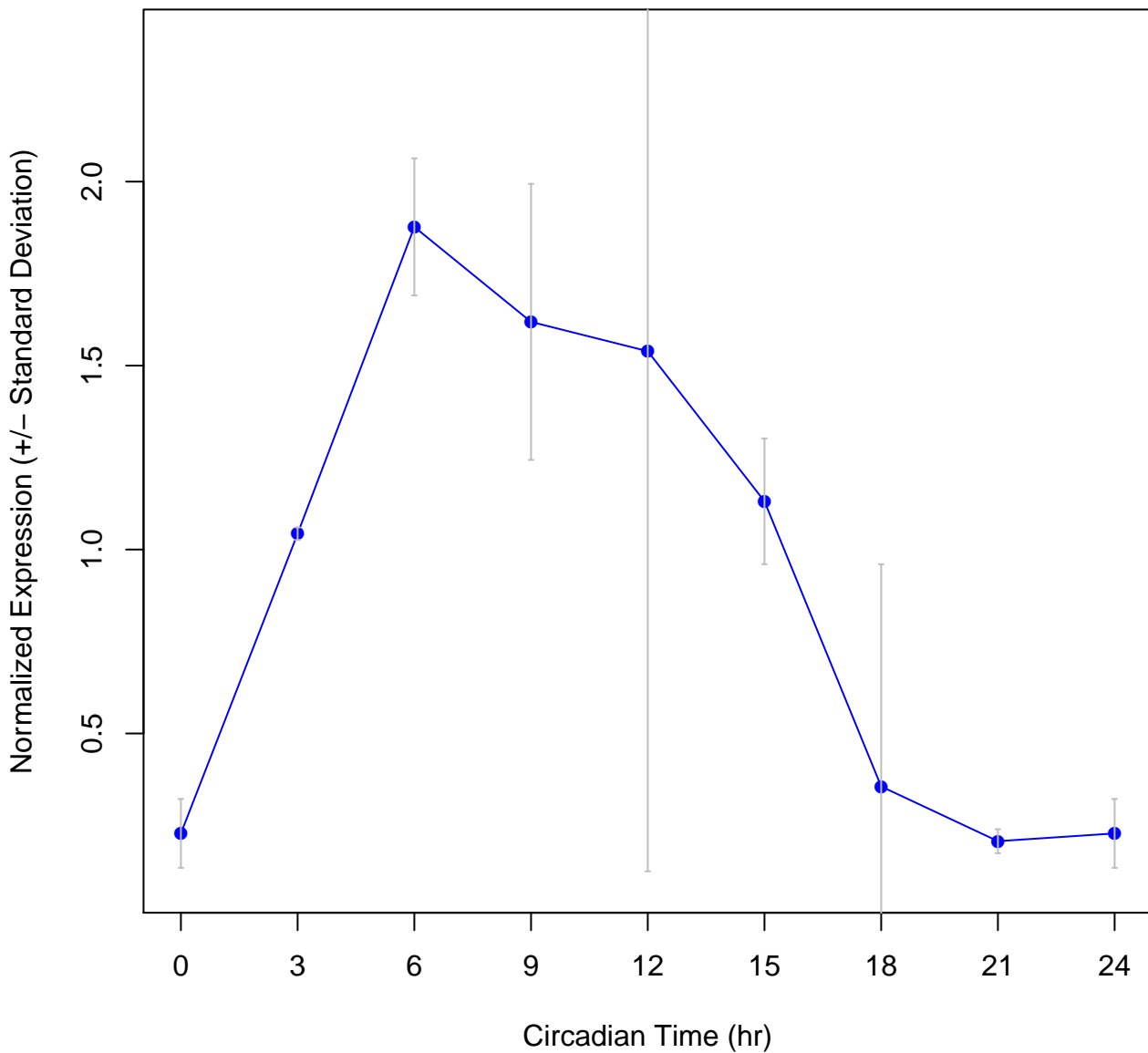
## Supplement Figure 5 crtc2



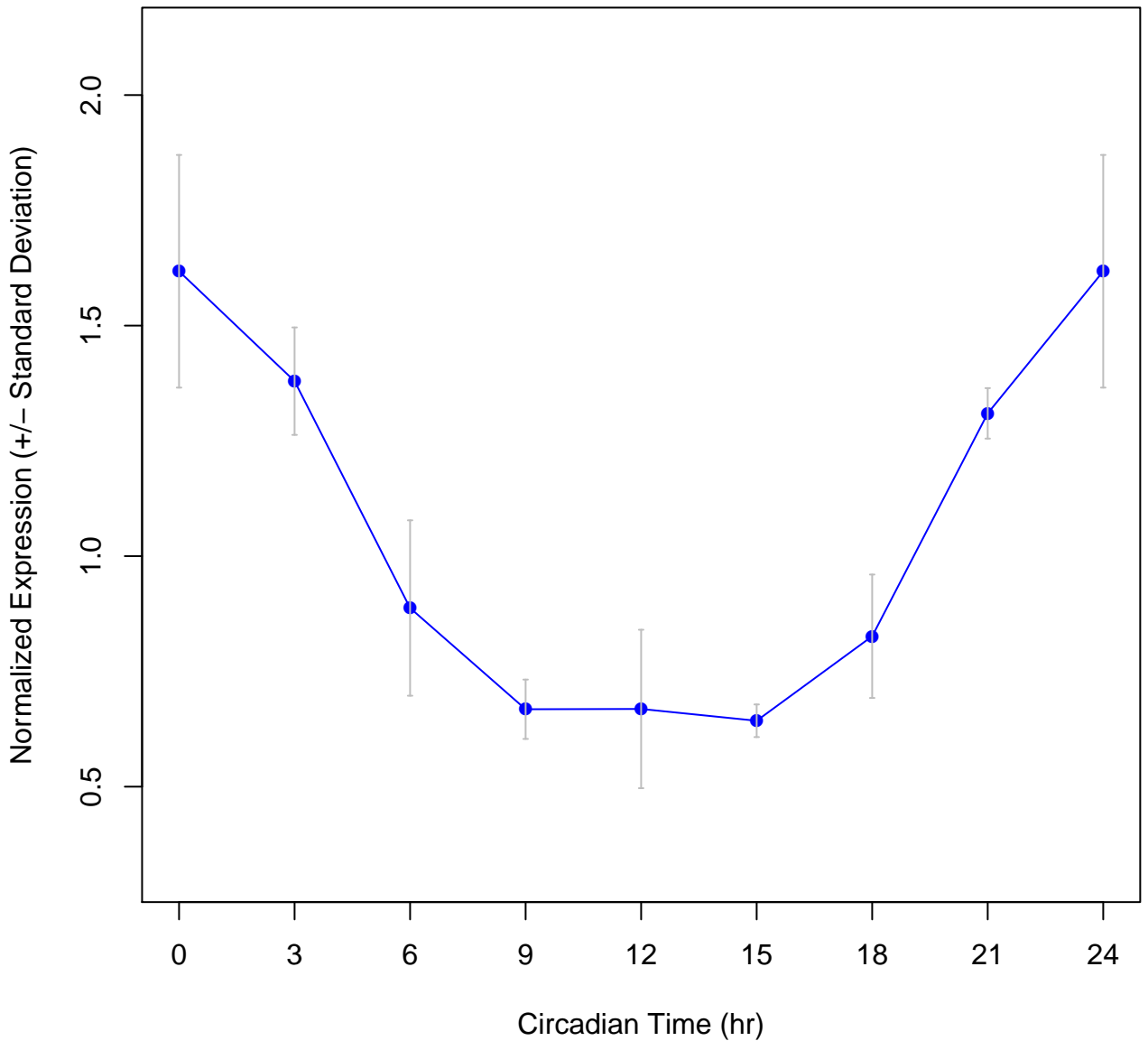
Supplement Figure 5 cry1



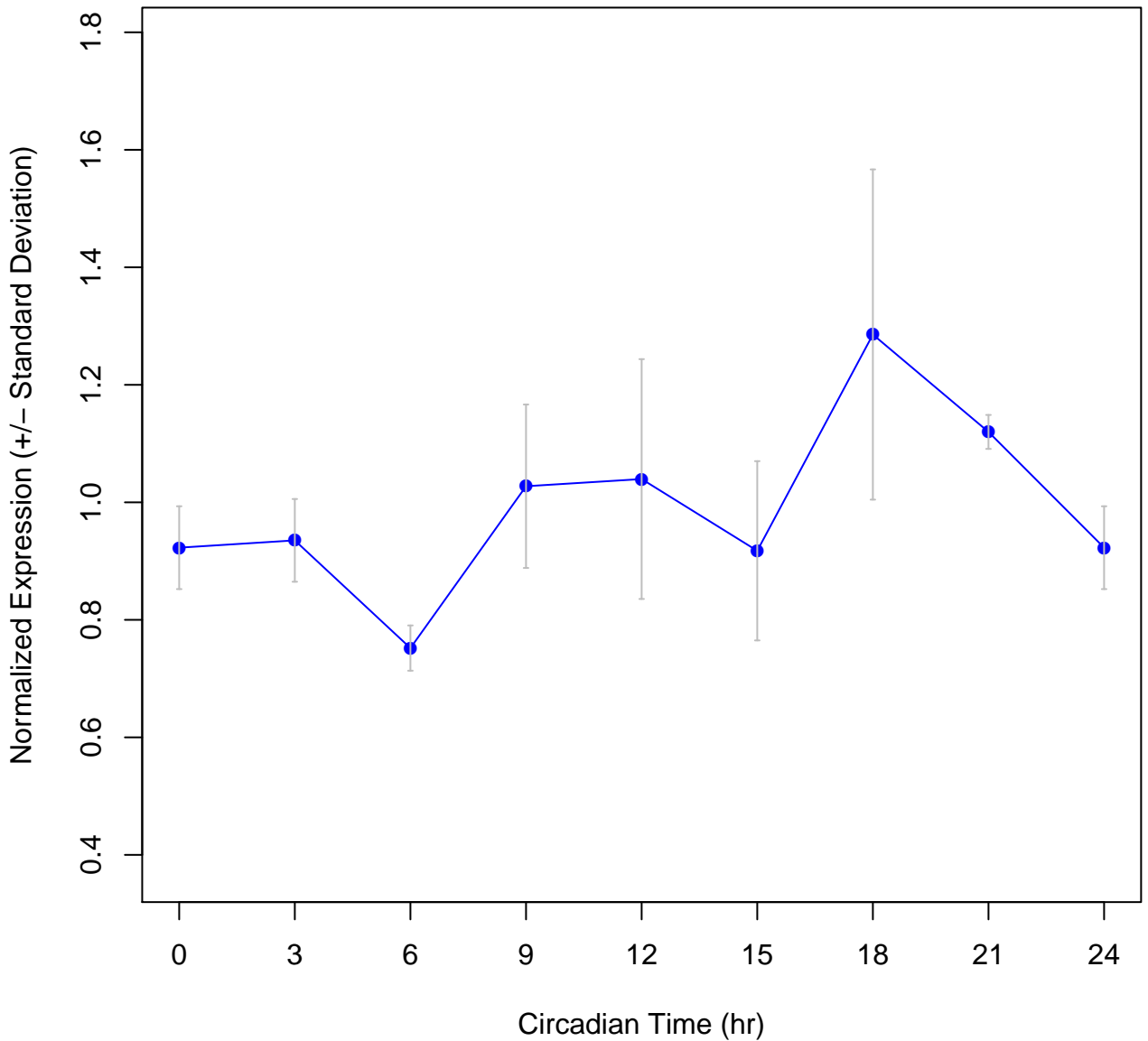
Supplement Figure 5 cry2



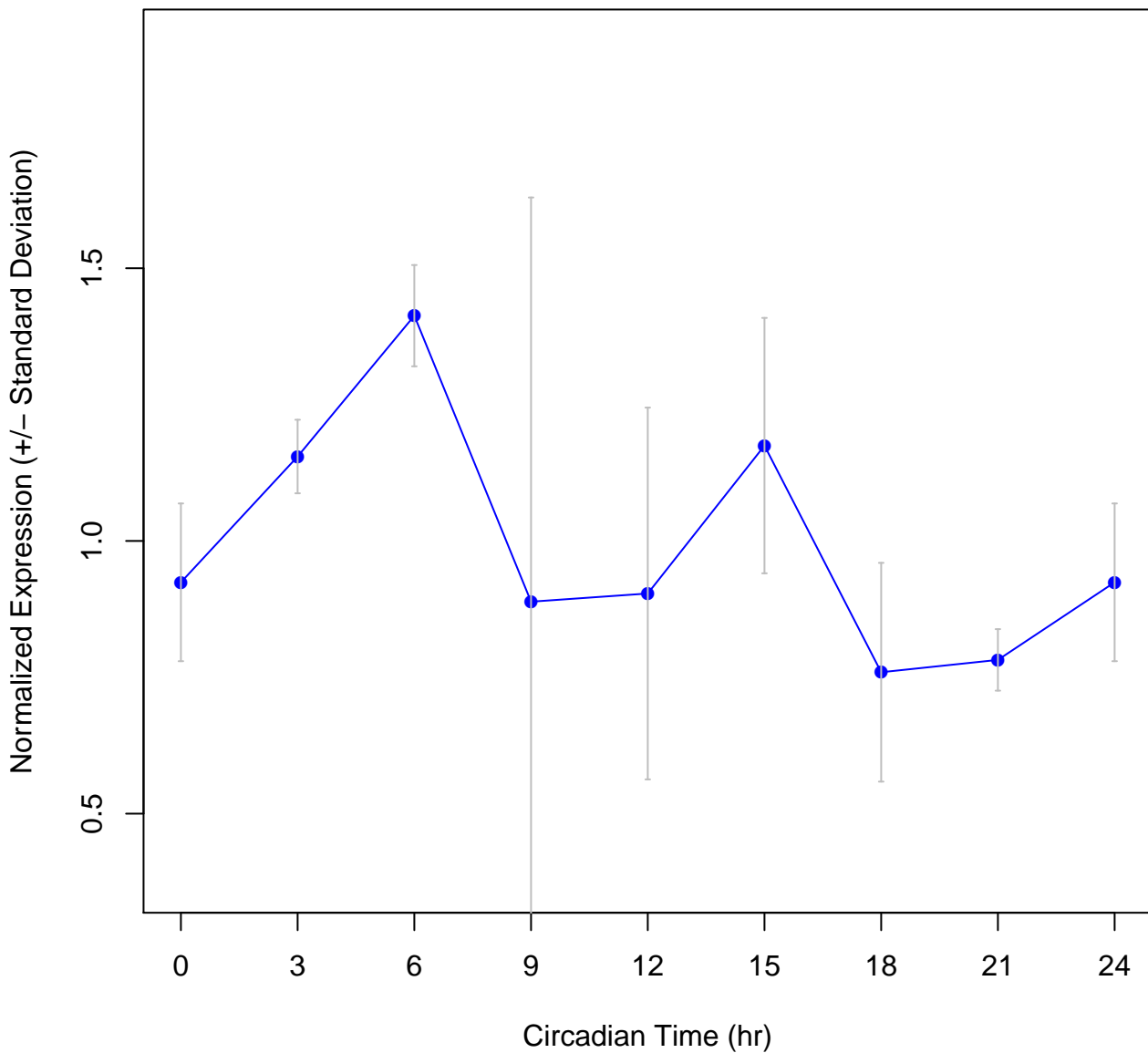
Supplement Figure 5 cry3



Supplement Figure 5 *ctbp2*

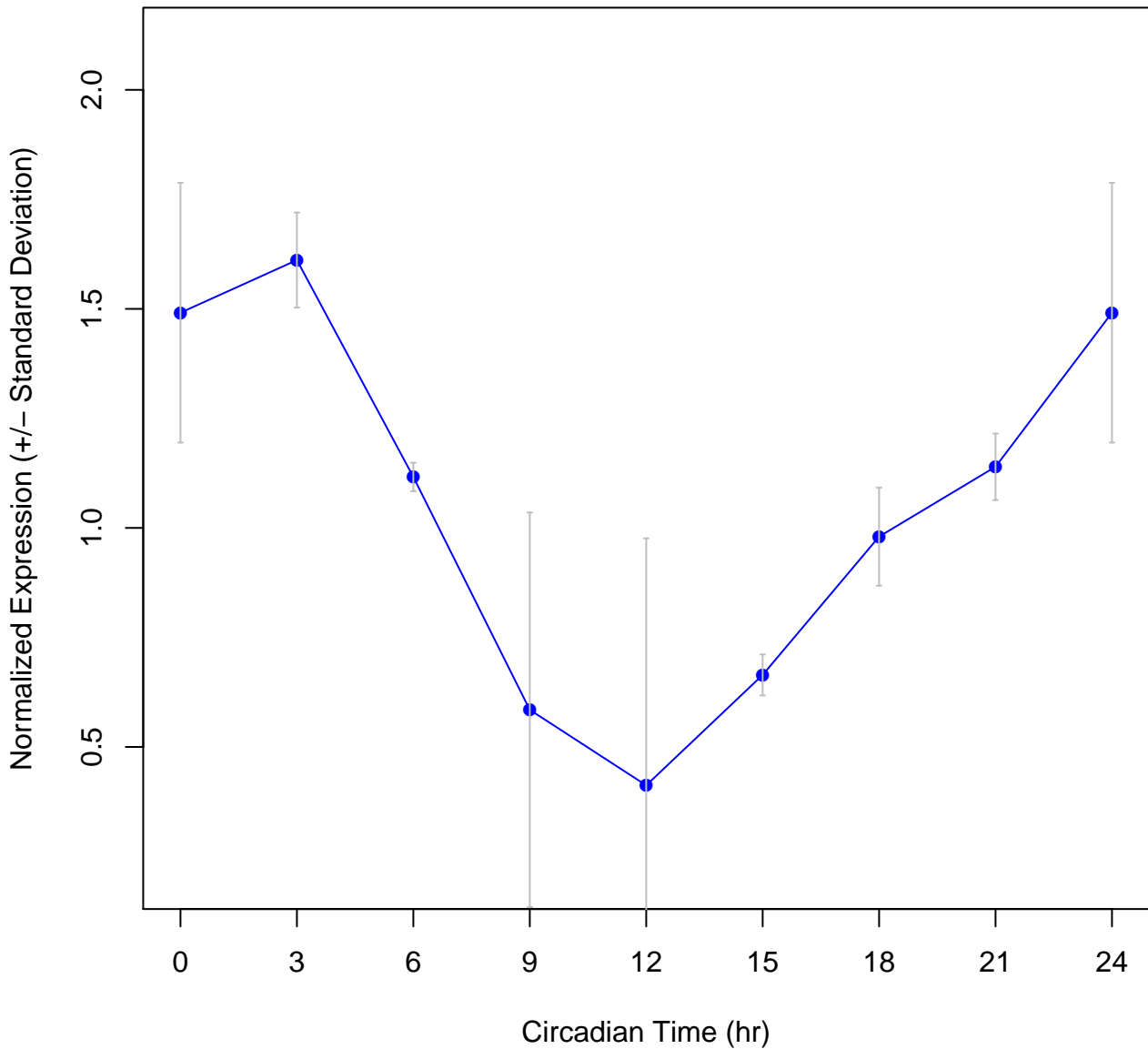


Supplement Figure 5 cul1

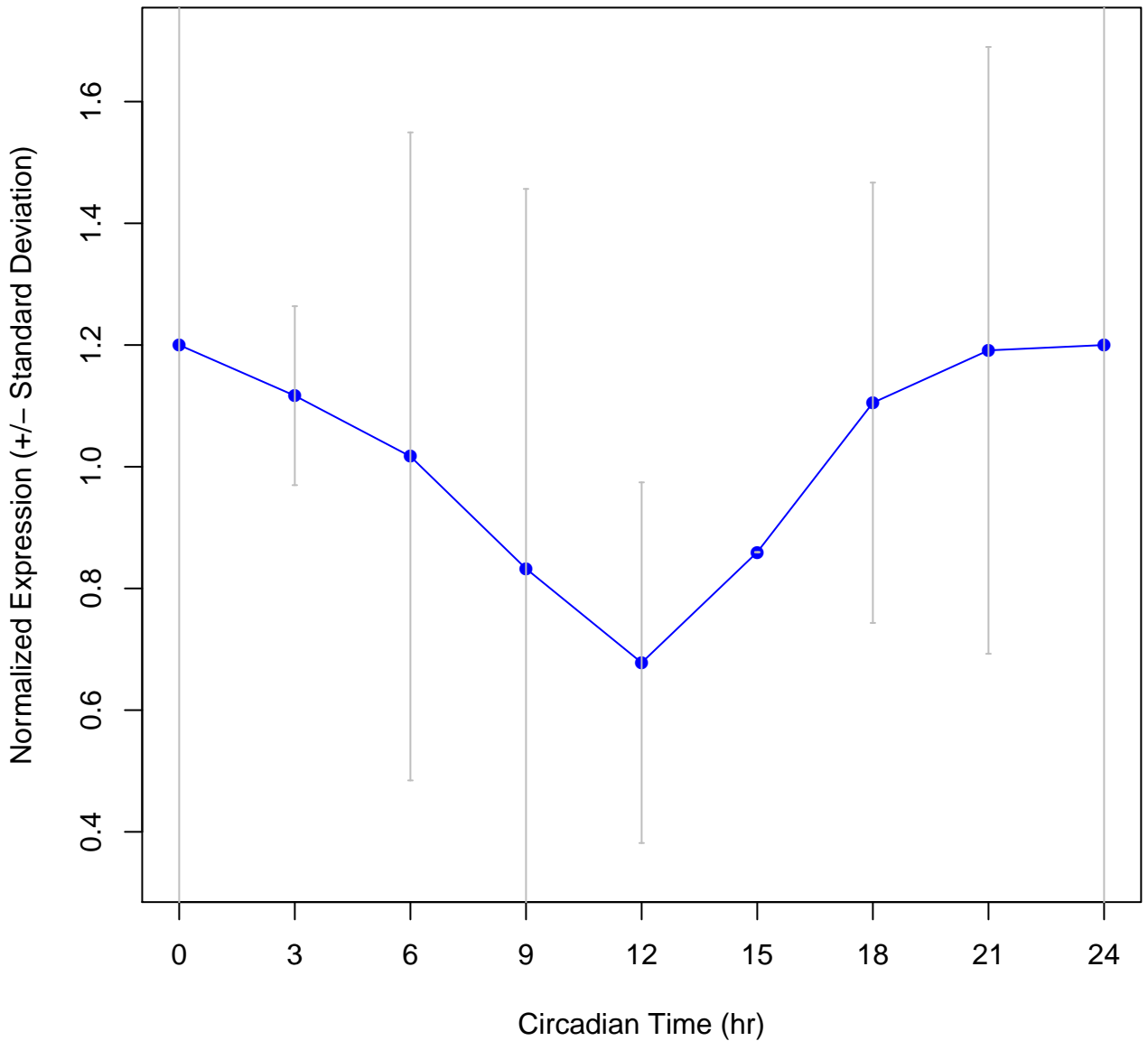




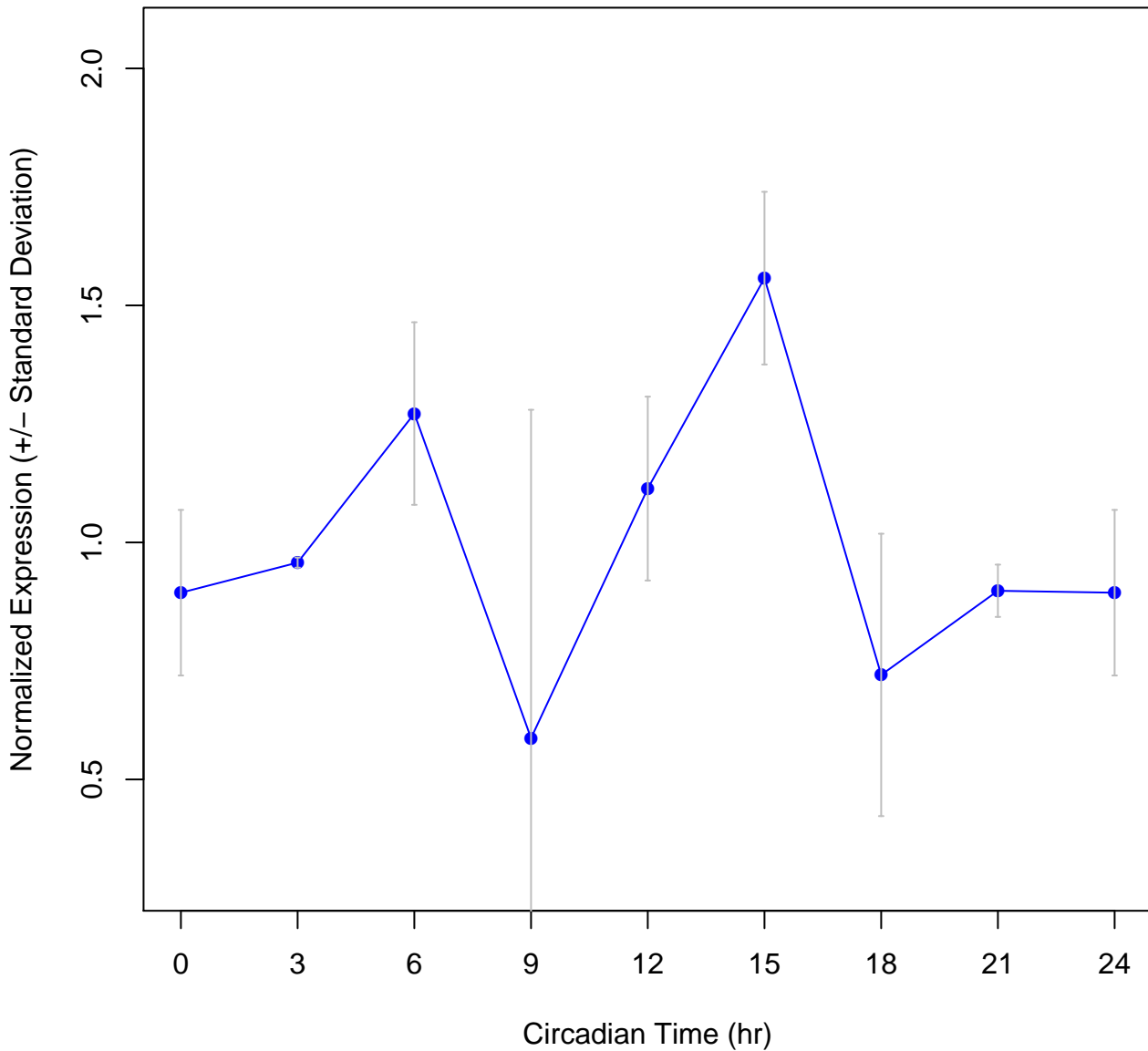
Supplement Figure 5 cyp1



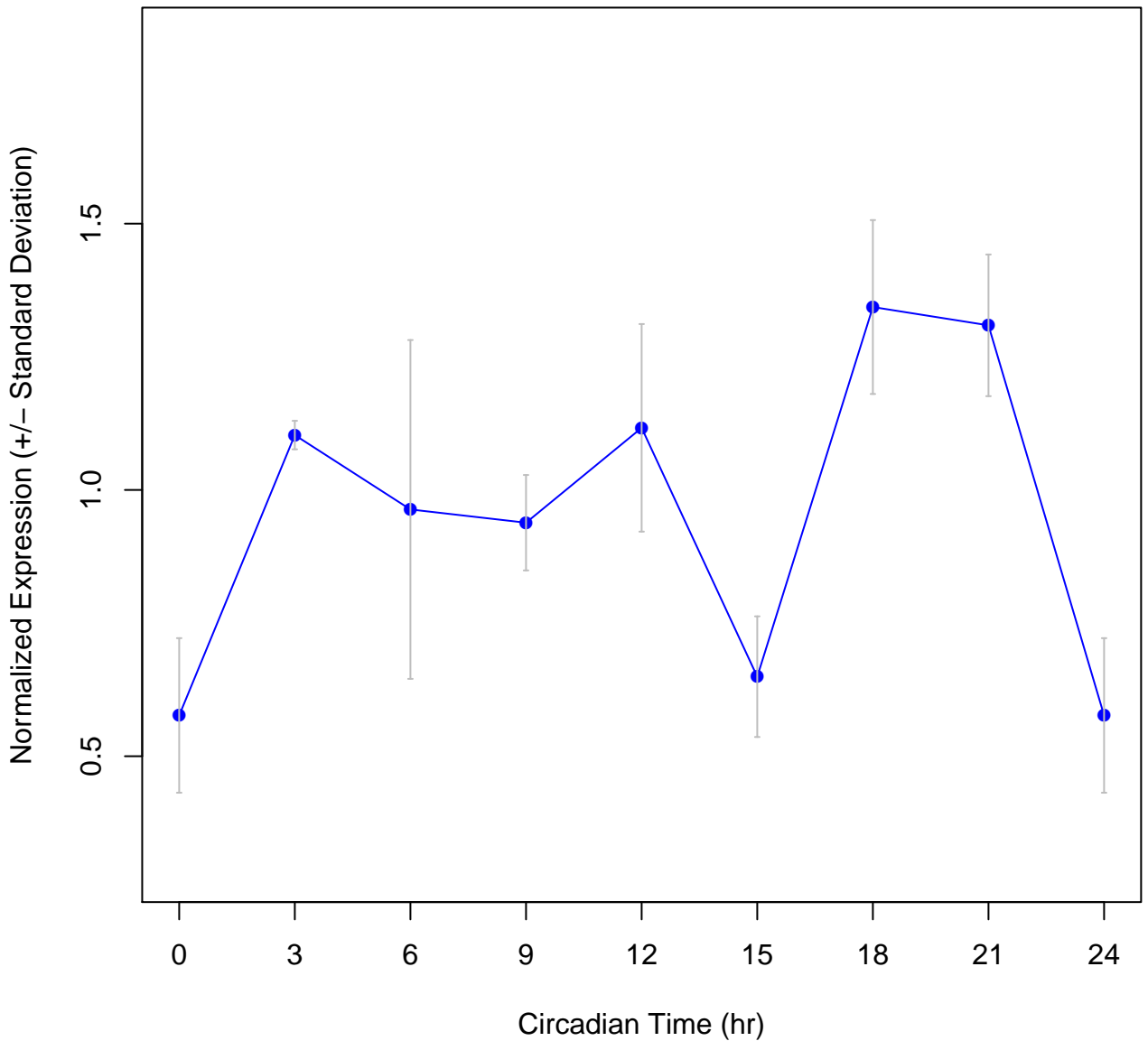
Supplement Figure 5 dct



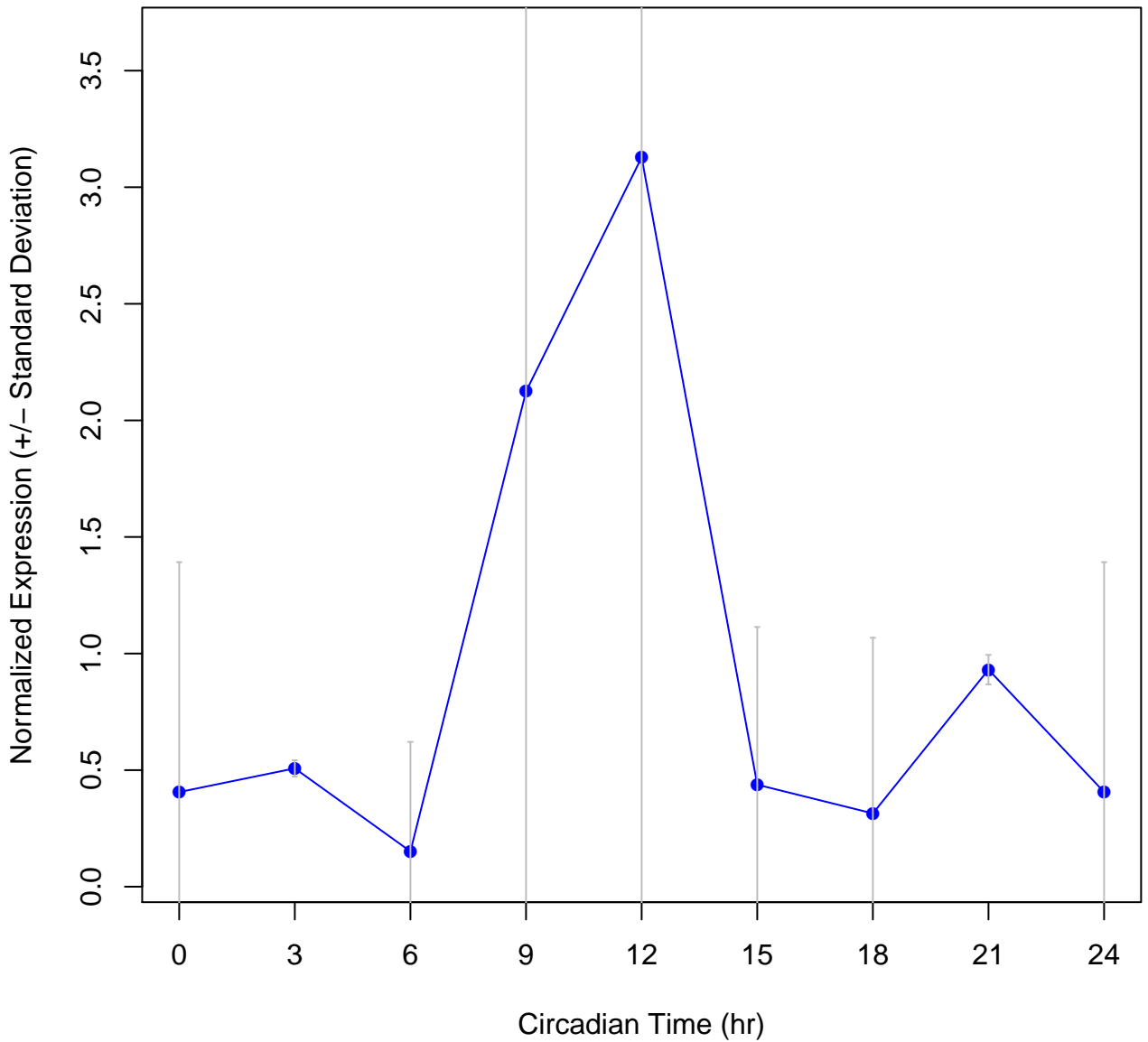
Supplement Figure 5 ddb1



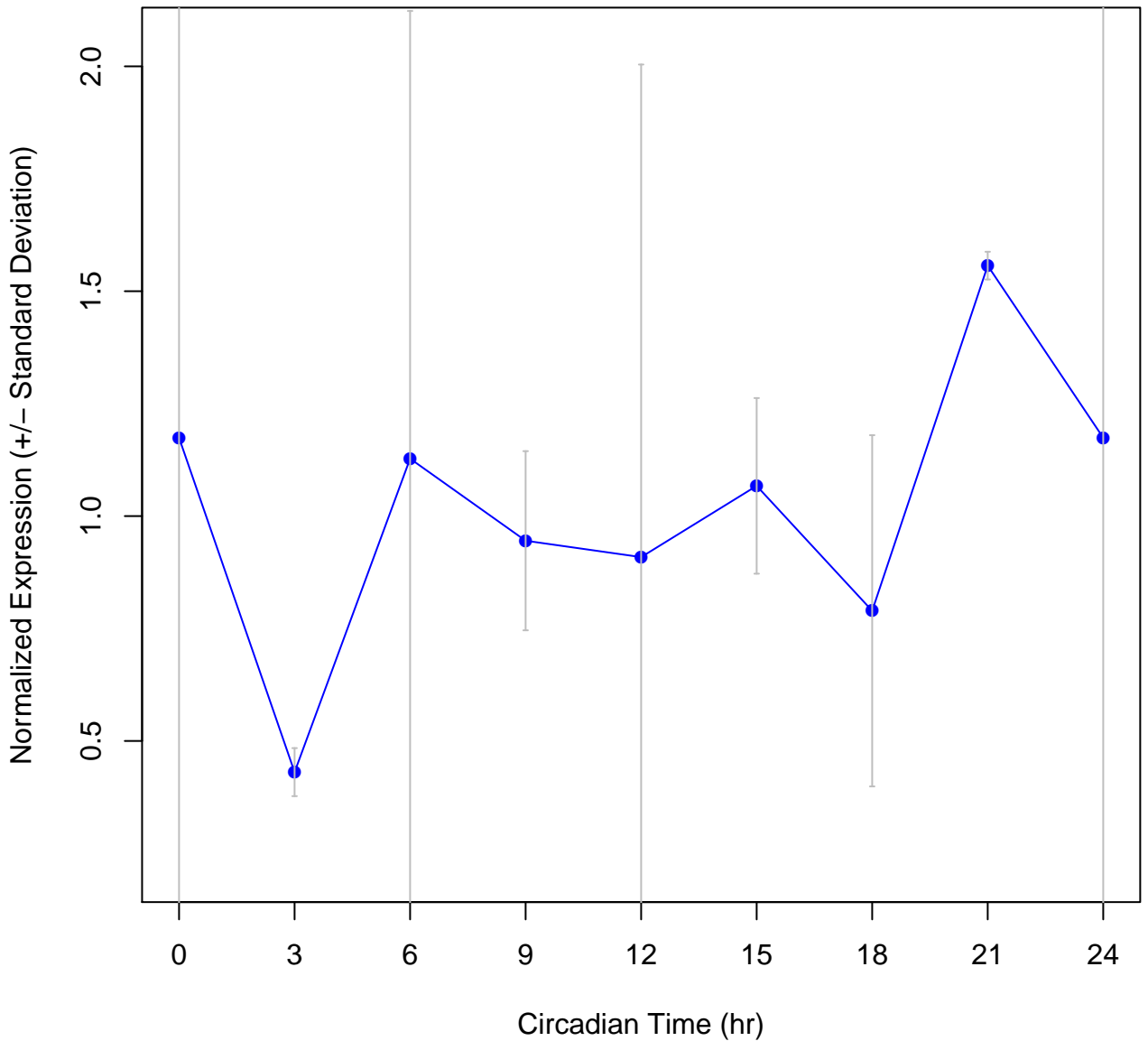
Supplement Figure 5 ddb2



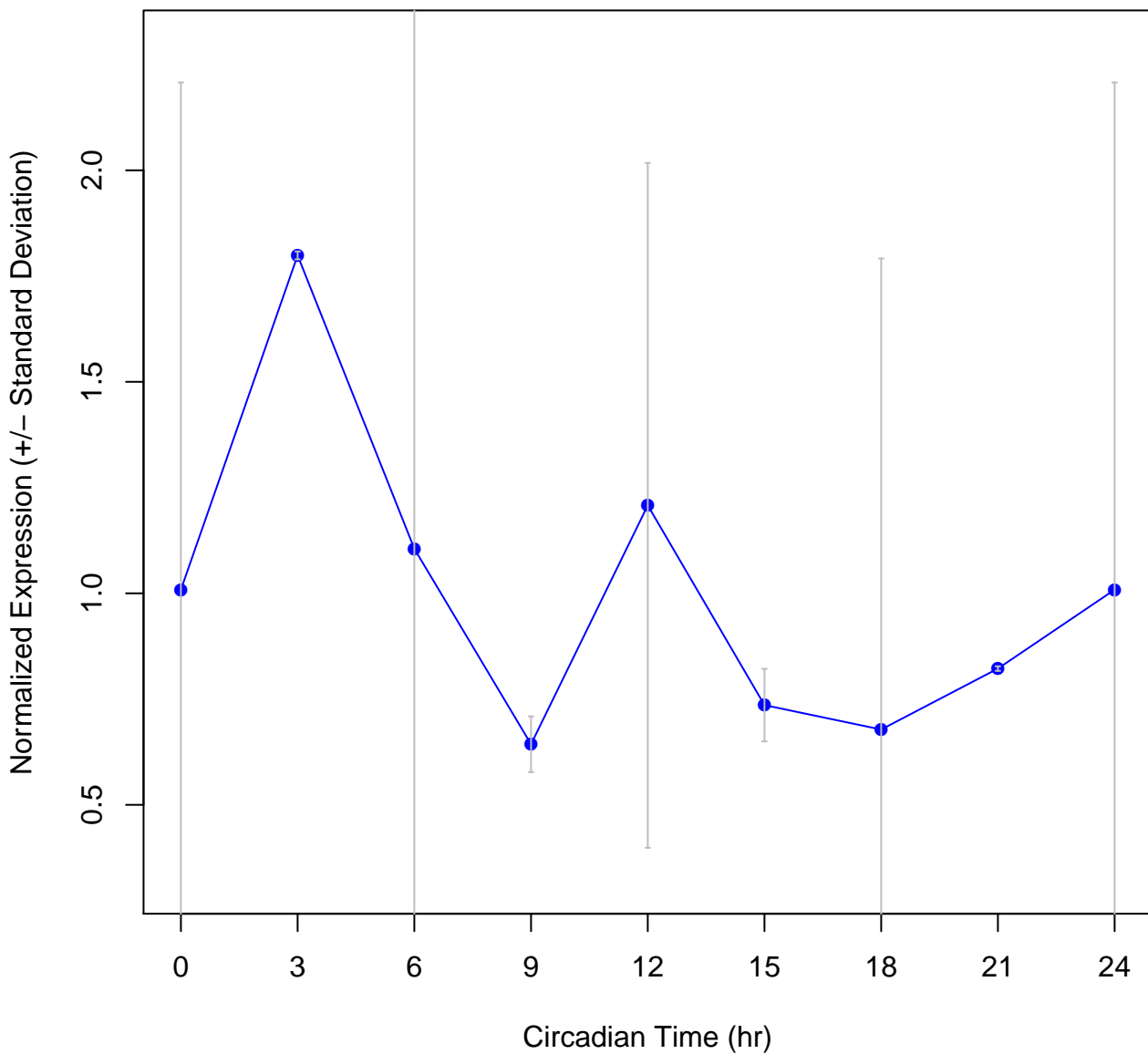
## Supplement Figure 5 dio3



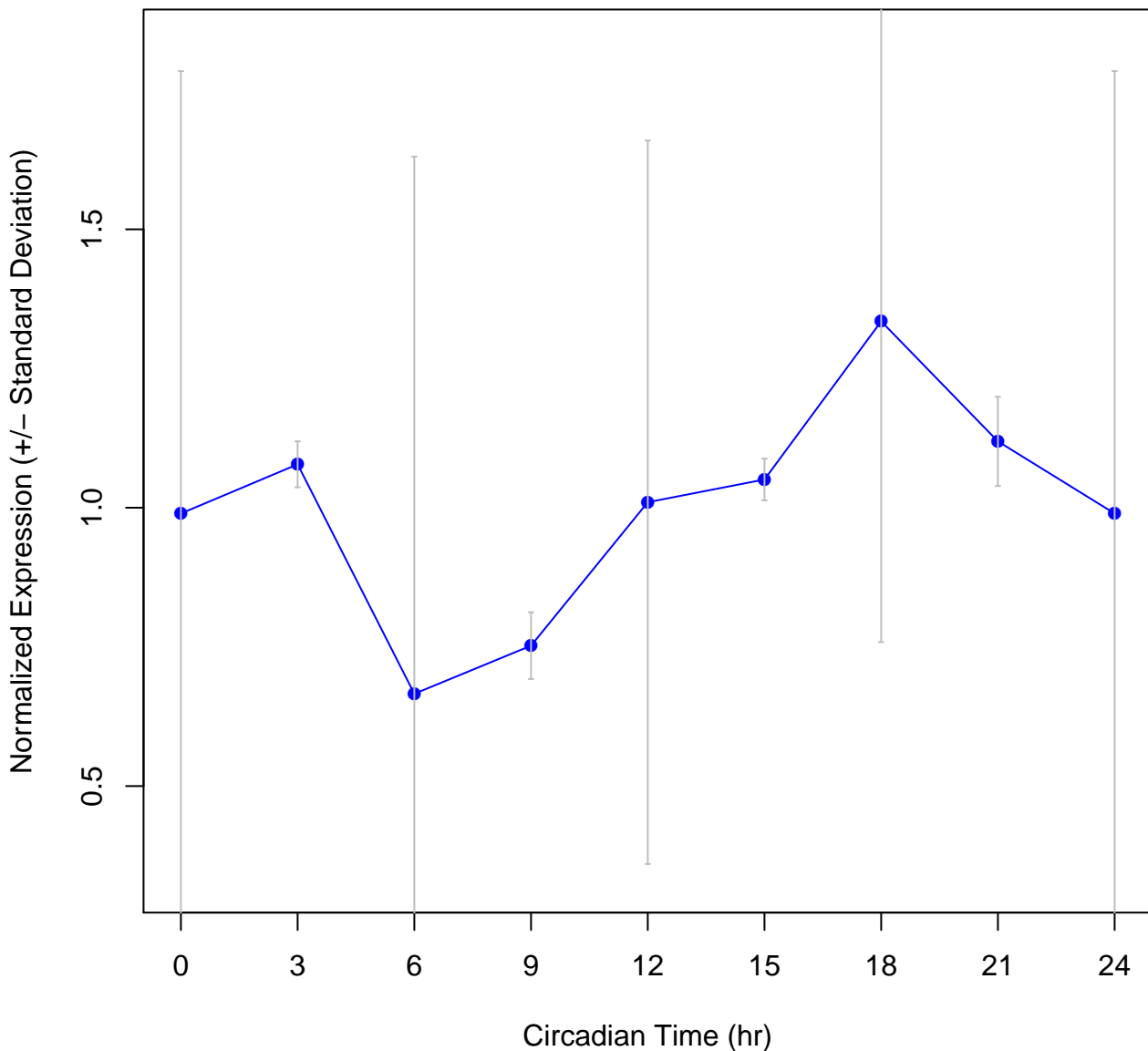
Supplement Figure 5 dnah7



Supplement Figure 5 dnajb4

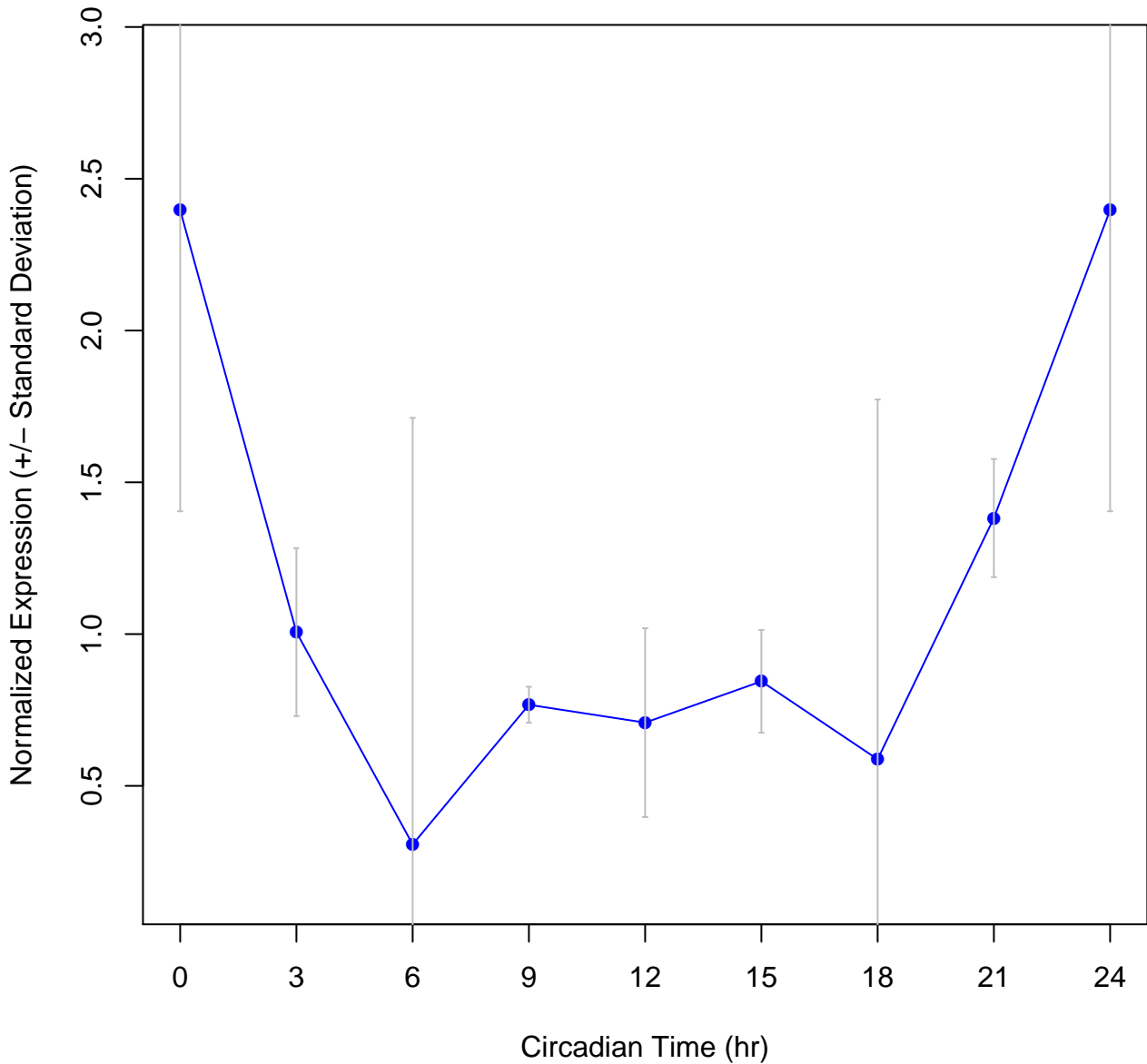


Supplement Figure 5 dscam1l

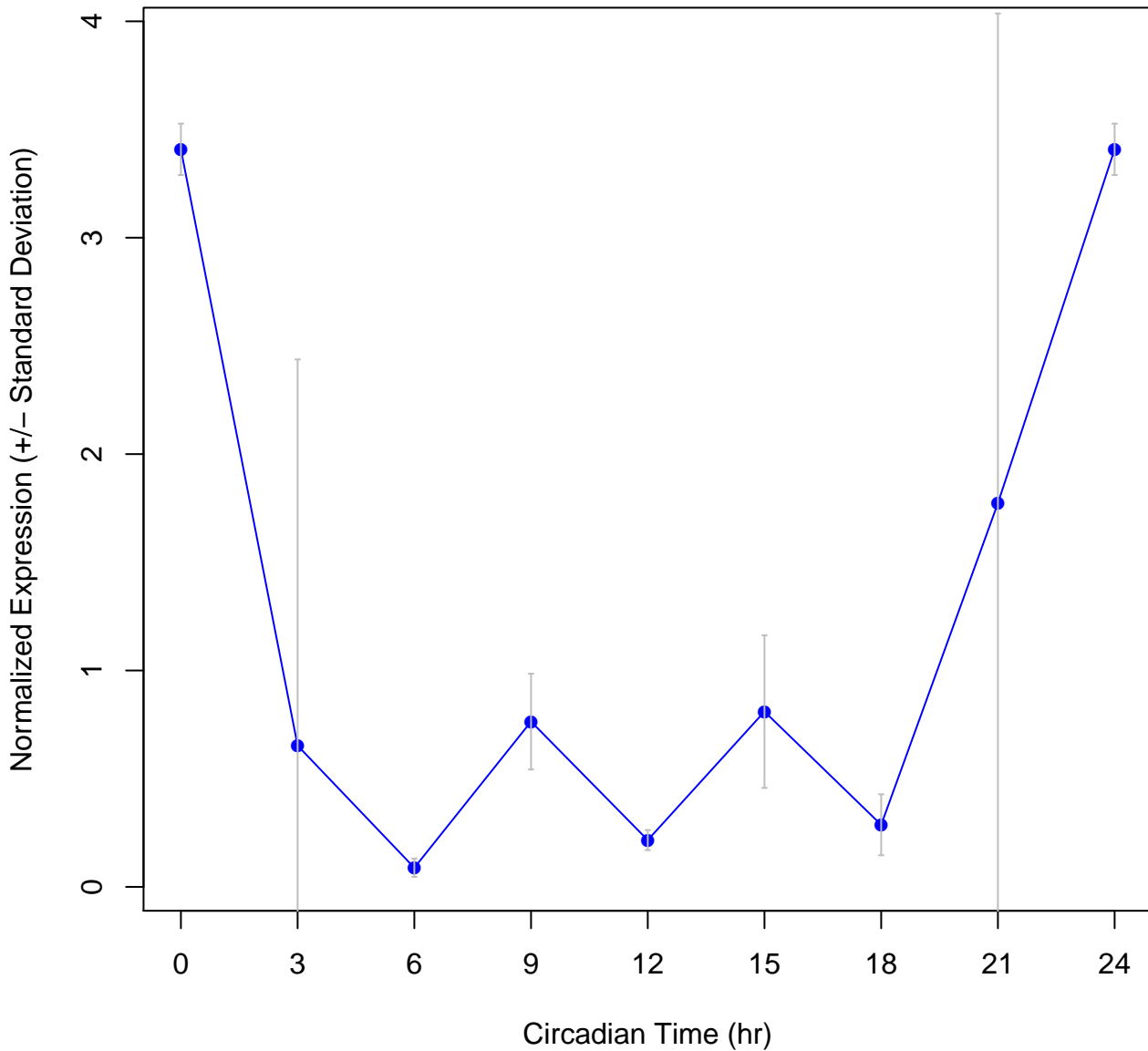




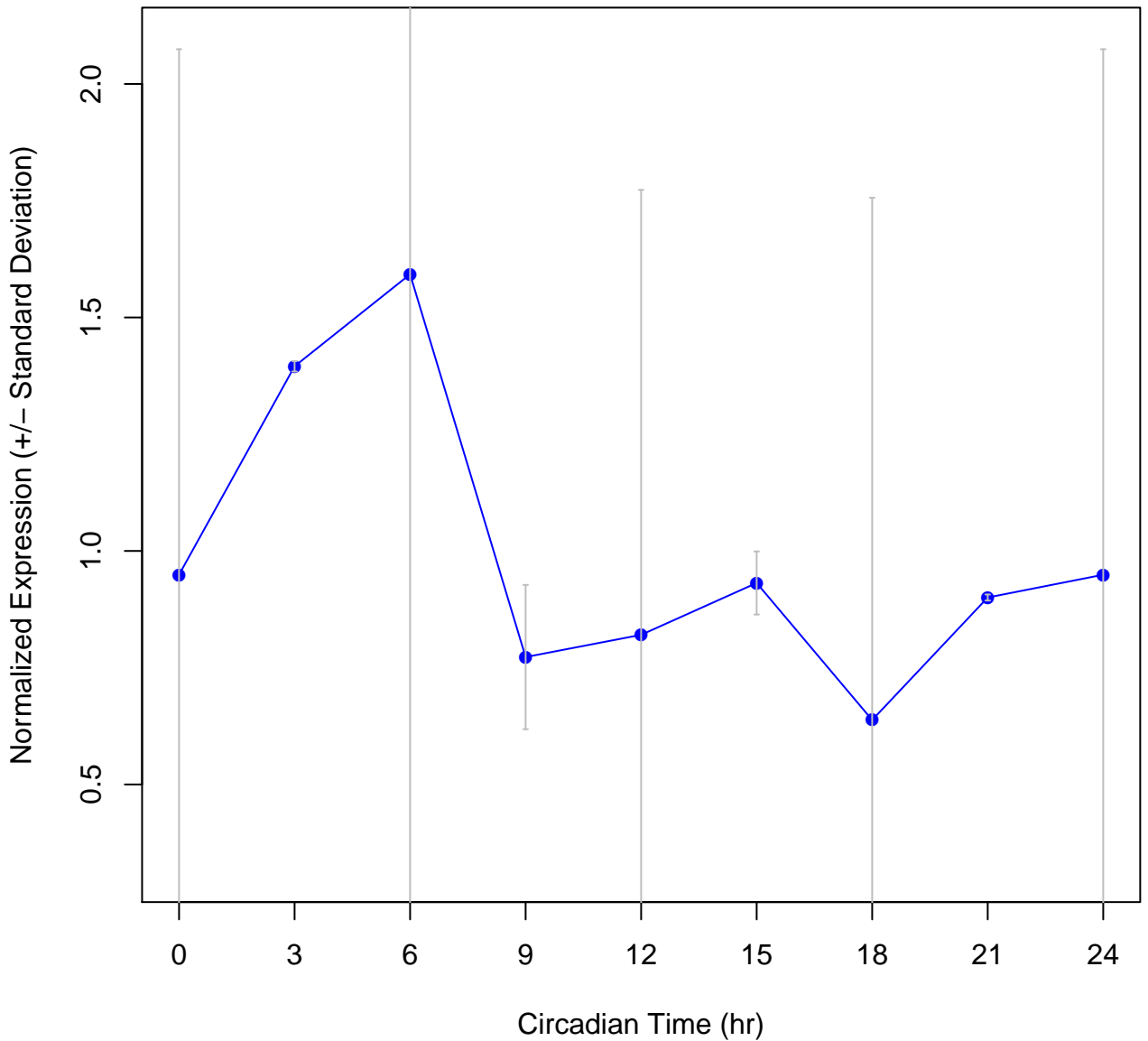
Supplement Figure 5 e2f



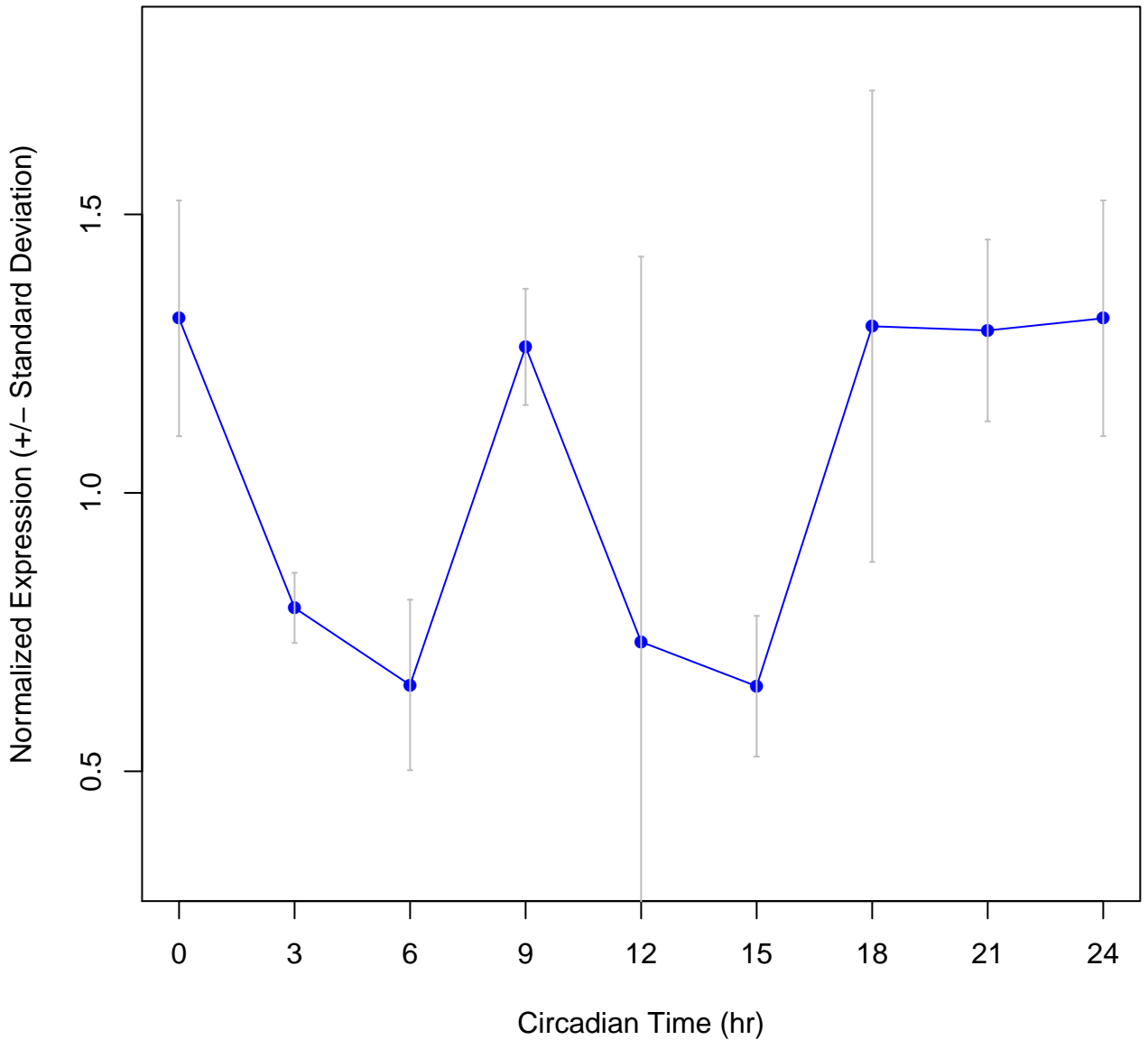
Supplement Figure 5 ect2



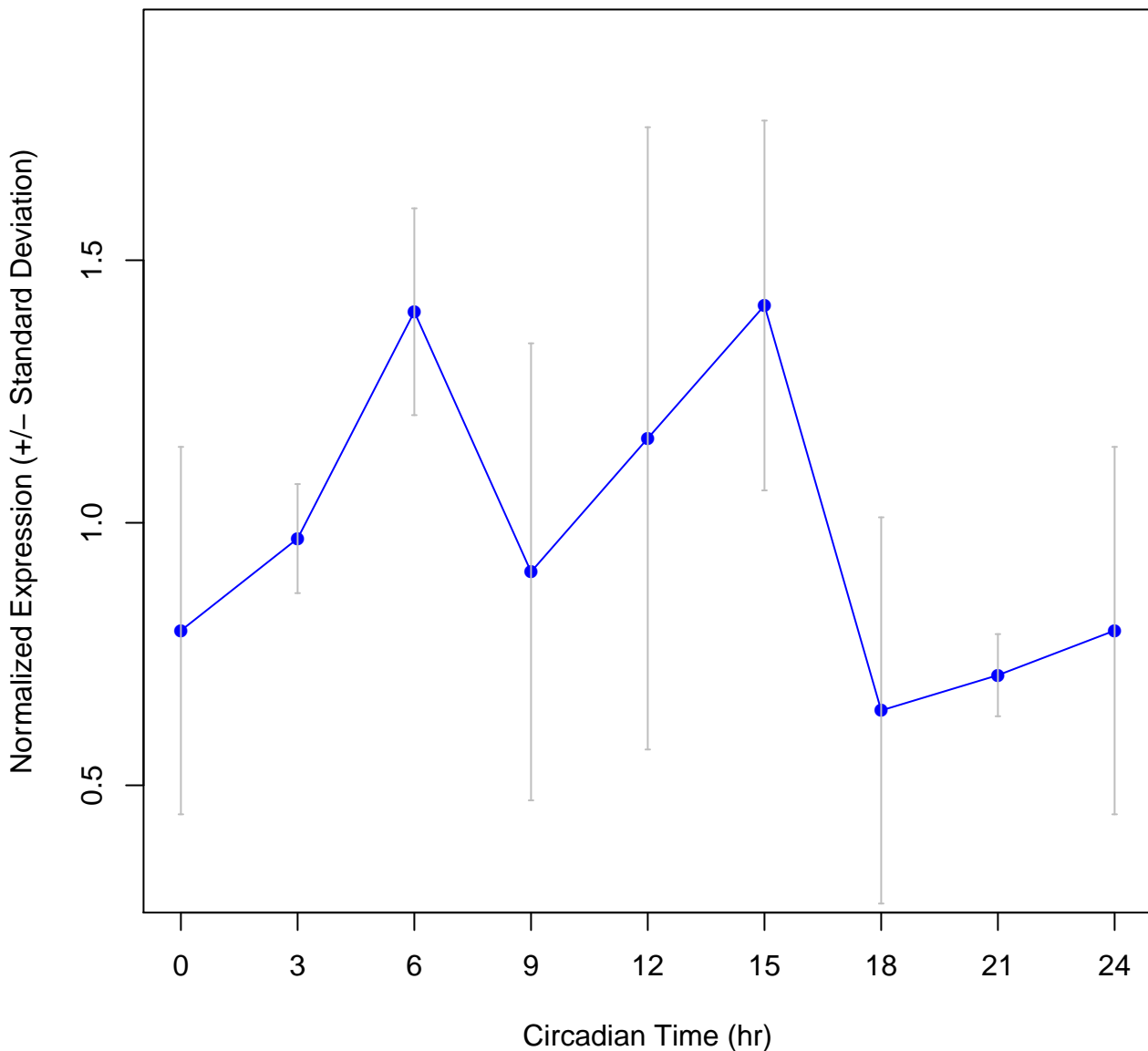
**Supplement Figure 5 enox1**



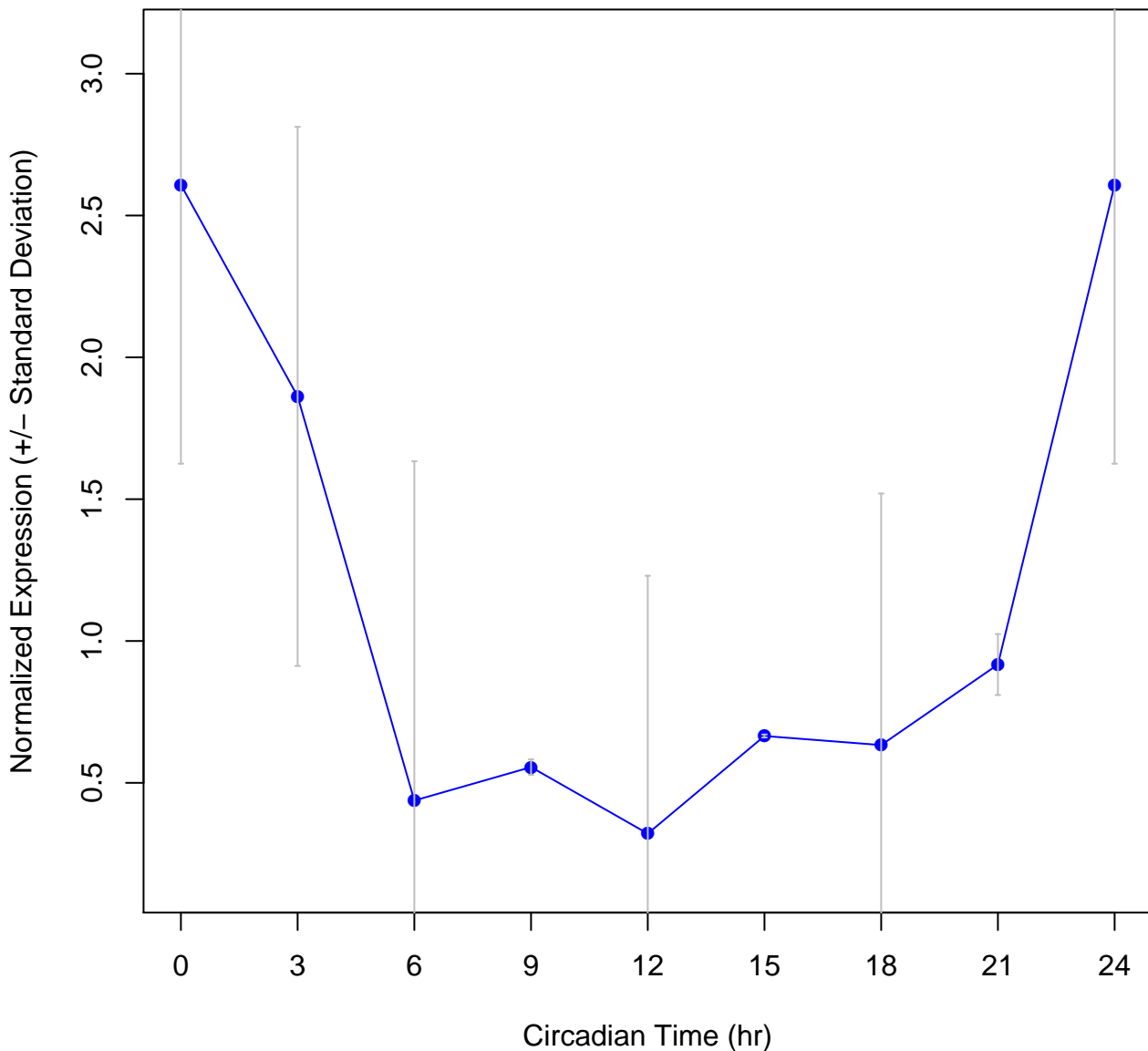
**Supplement Figure 5 enox2**



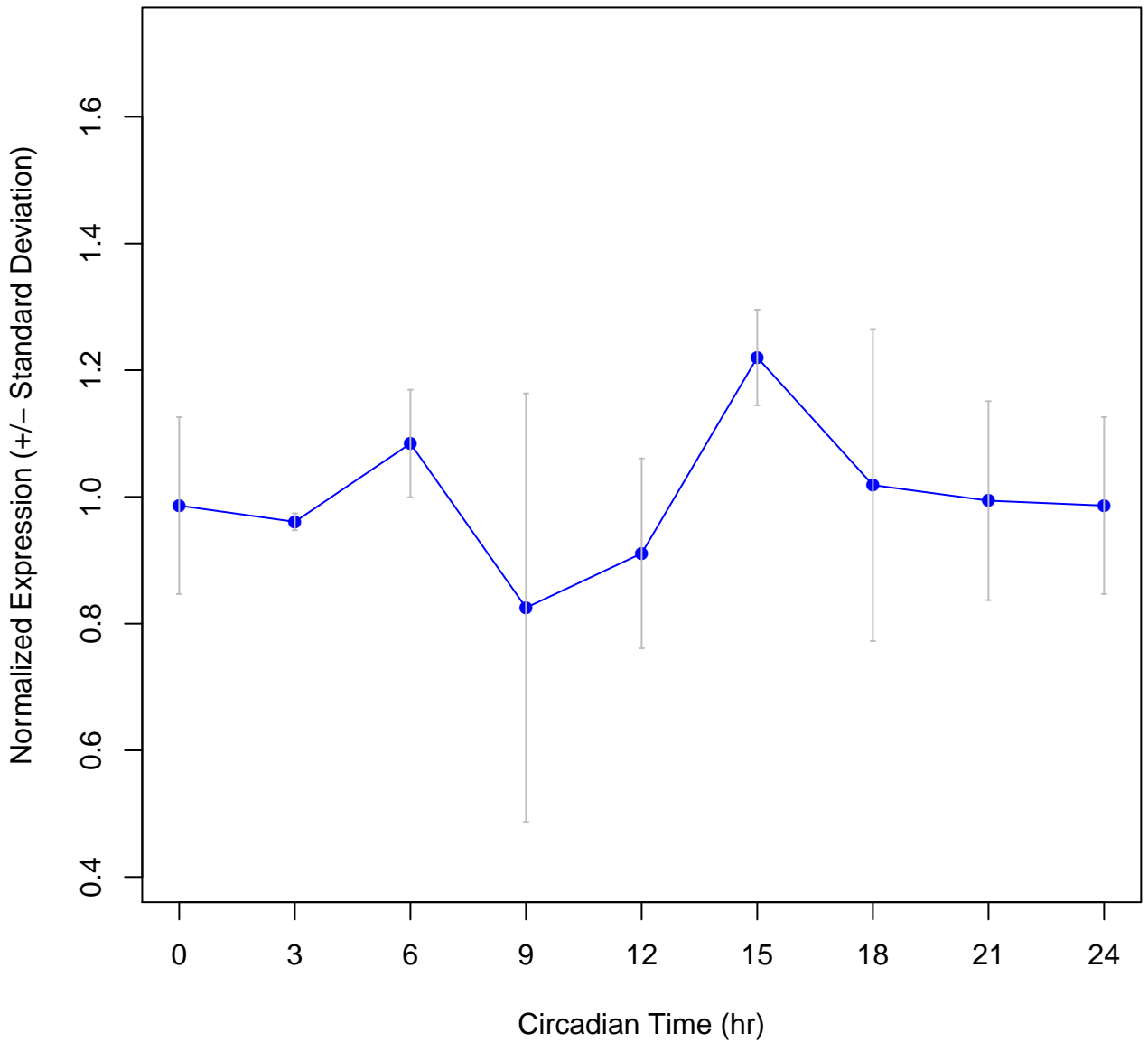
Supplement Figure 5 ensxmag00000013922



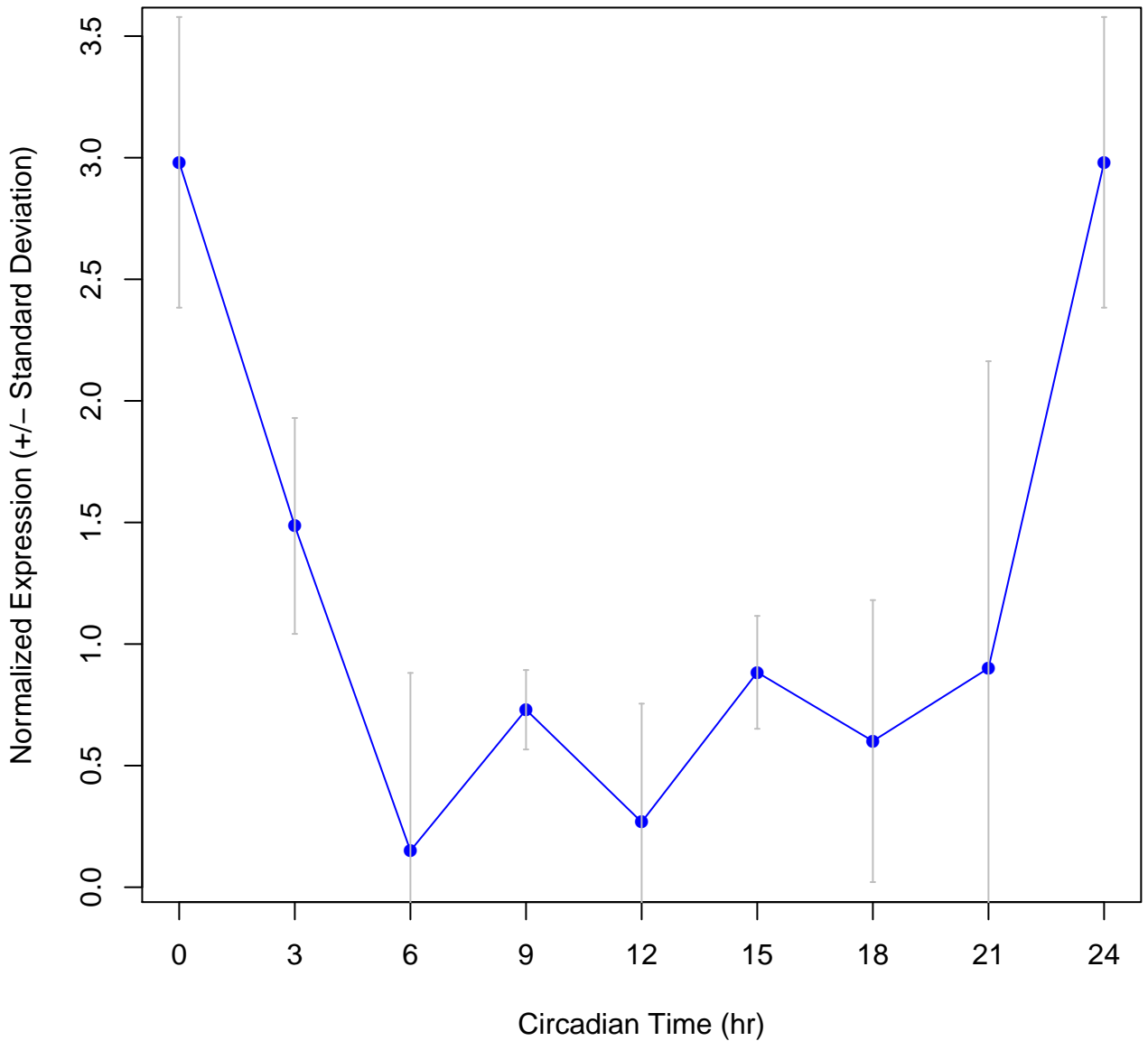
**Supplement Figure 5 ensxmag00000017815**



## Supplement Figure 5 ercc3

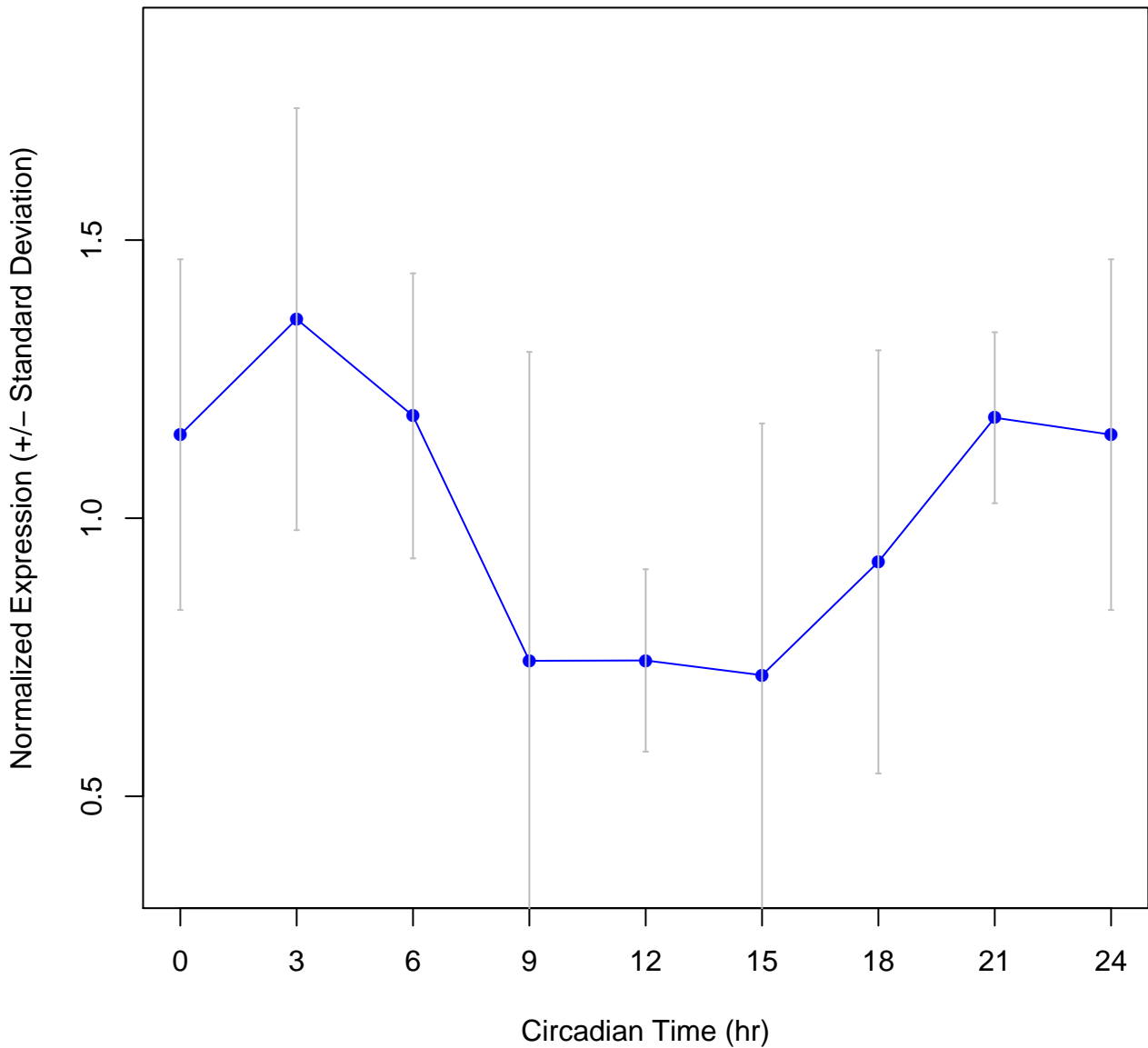


## Supplement Figure 5 esp11

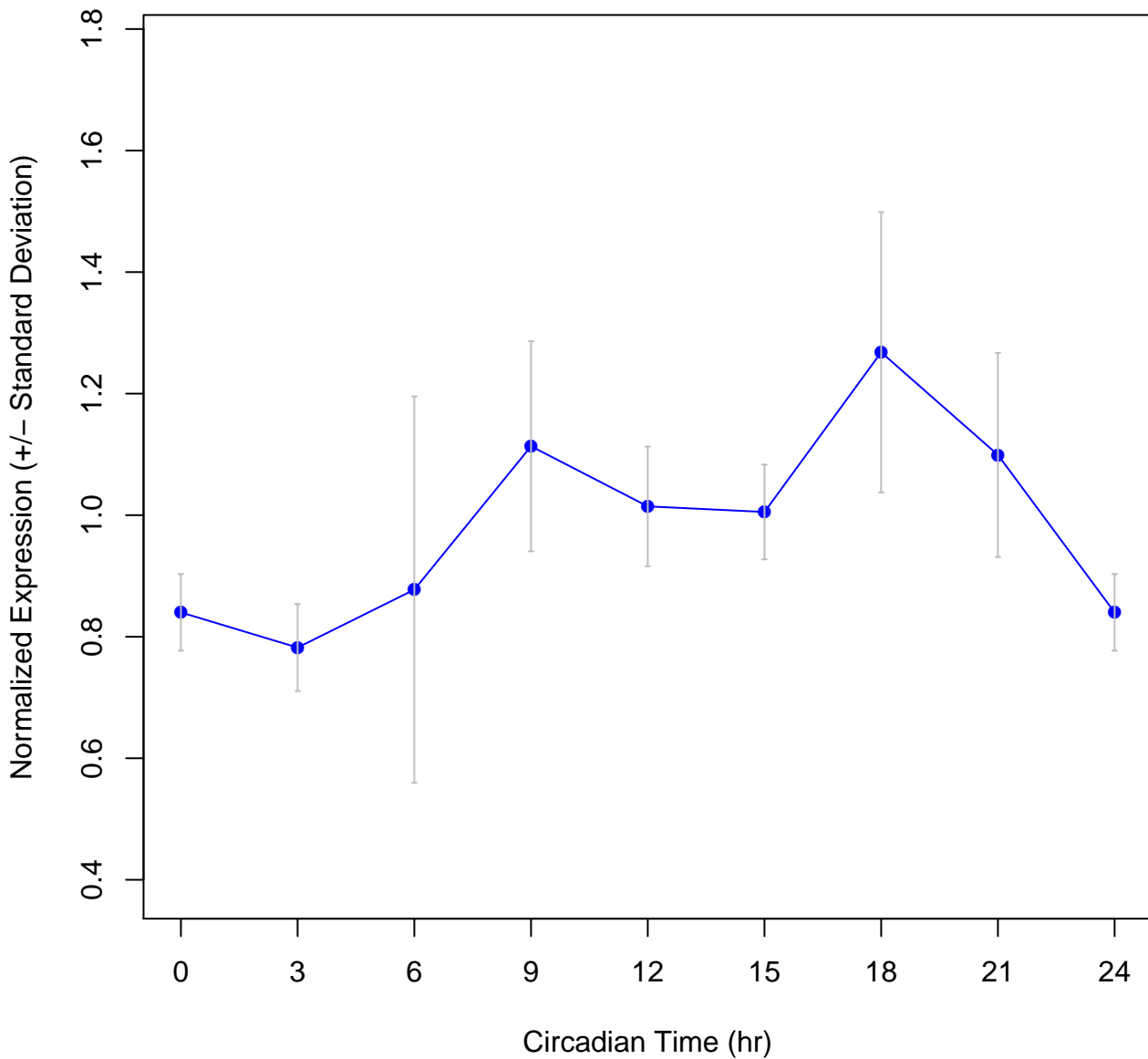




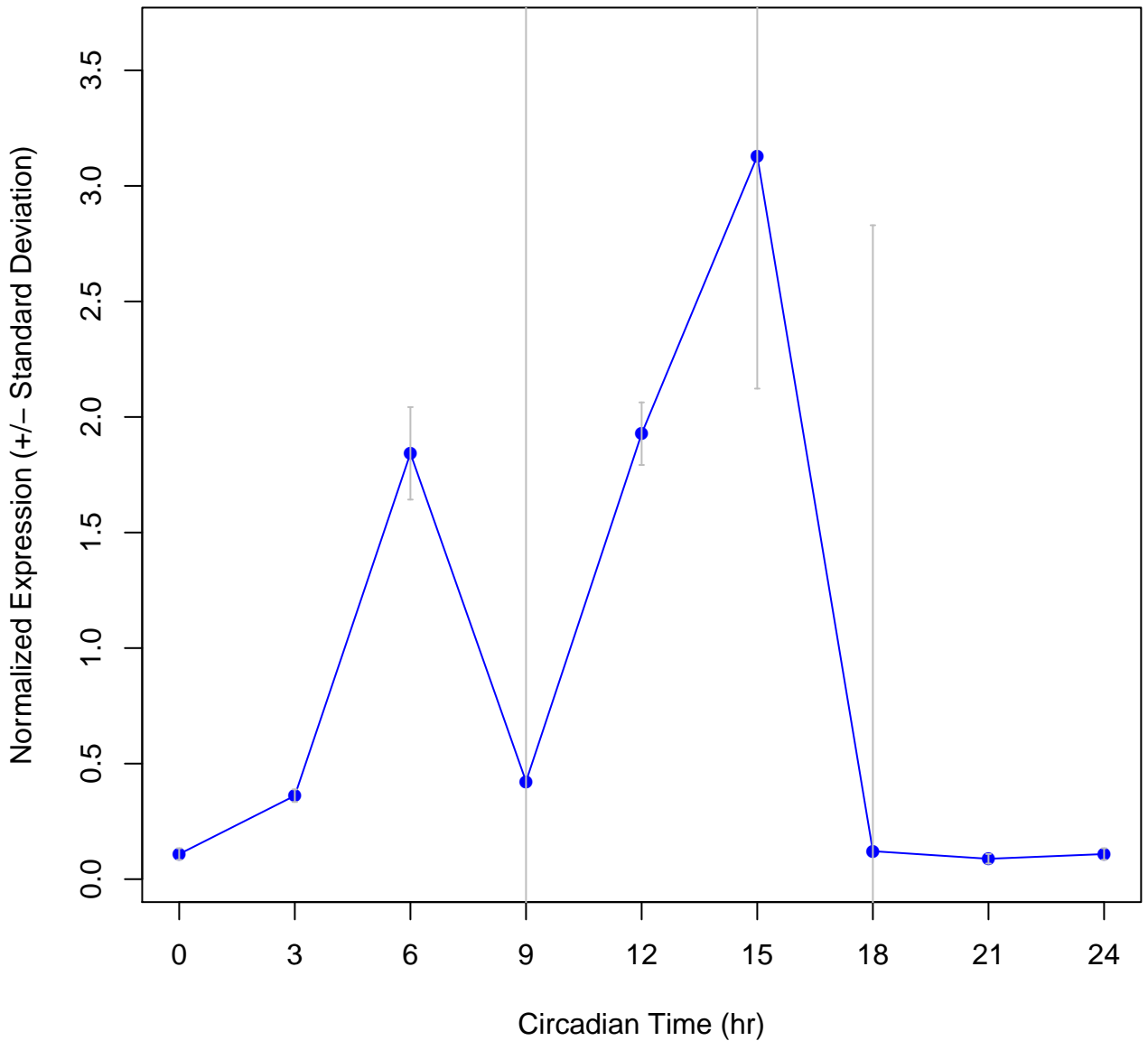
Supplement Figure 5 e2r



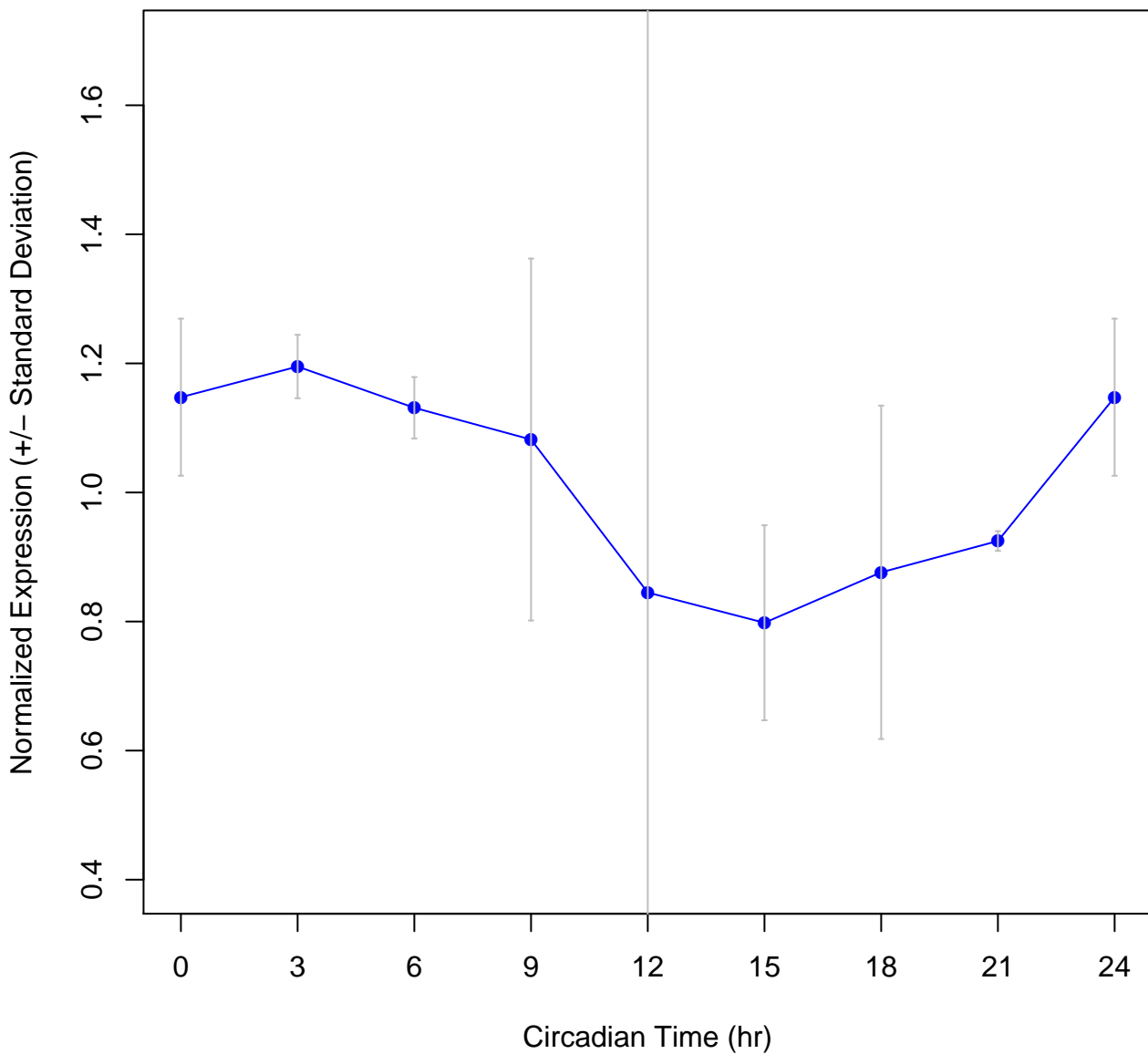
Supplement Figure 5 fam102b



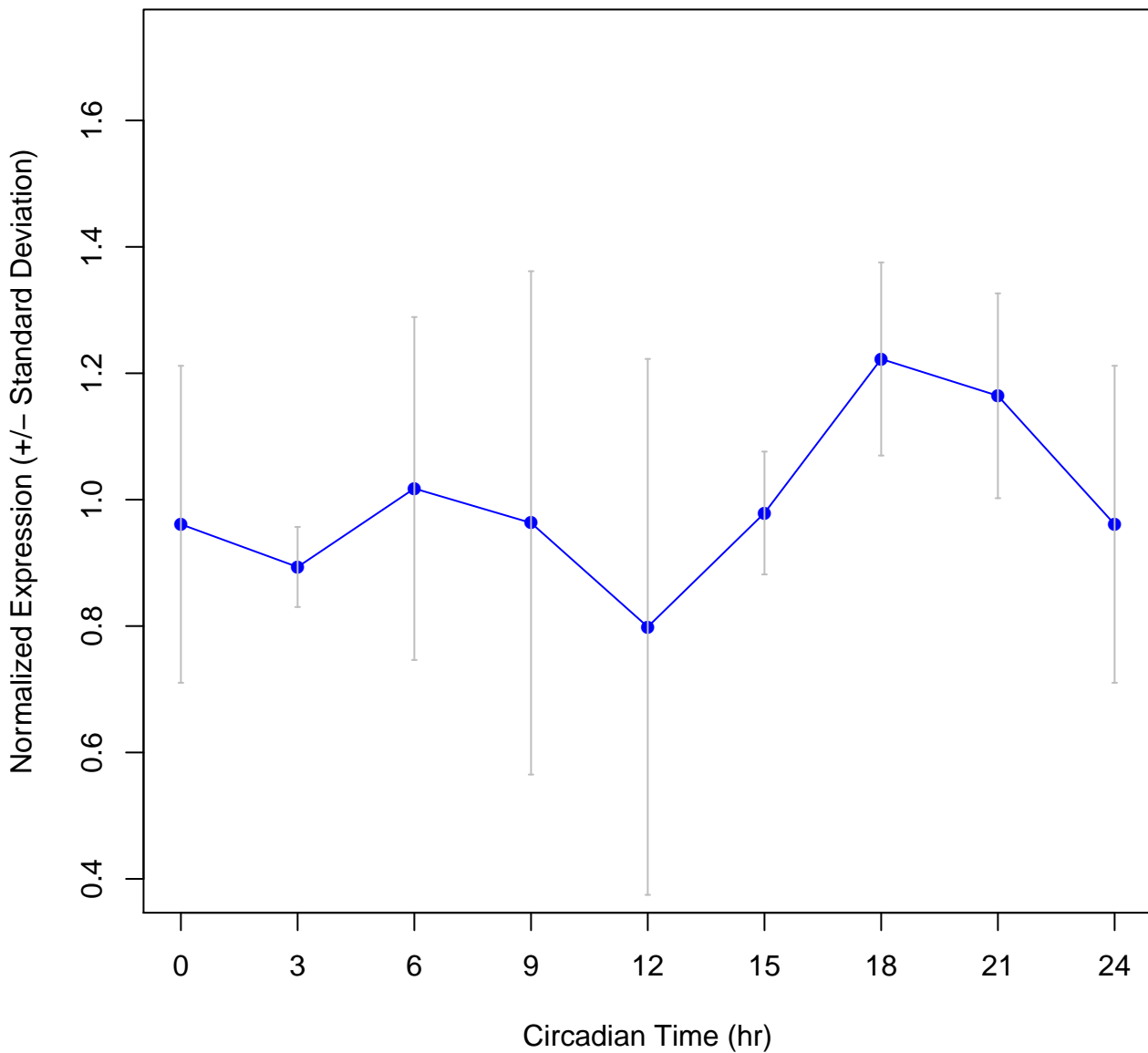
**Supplement Figure 5 fasn**



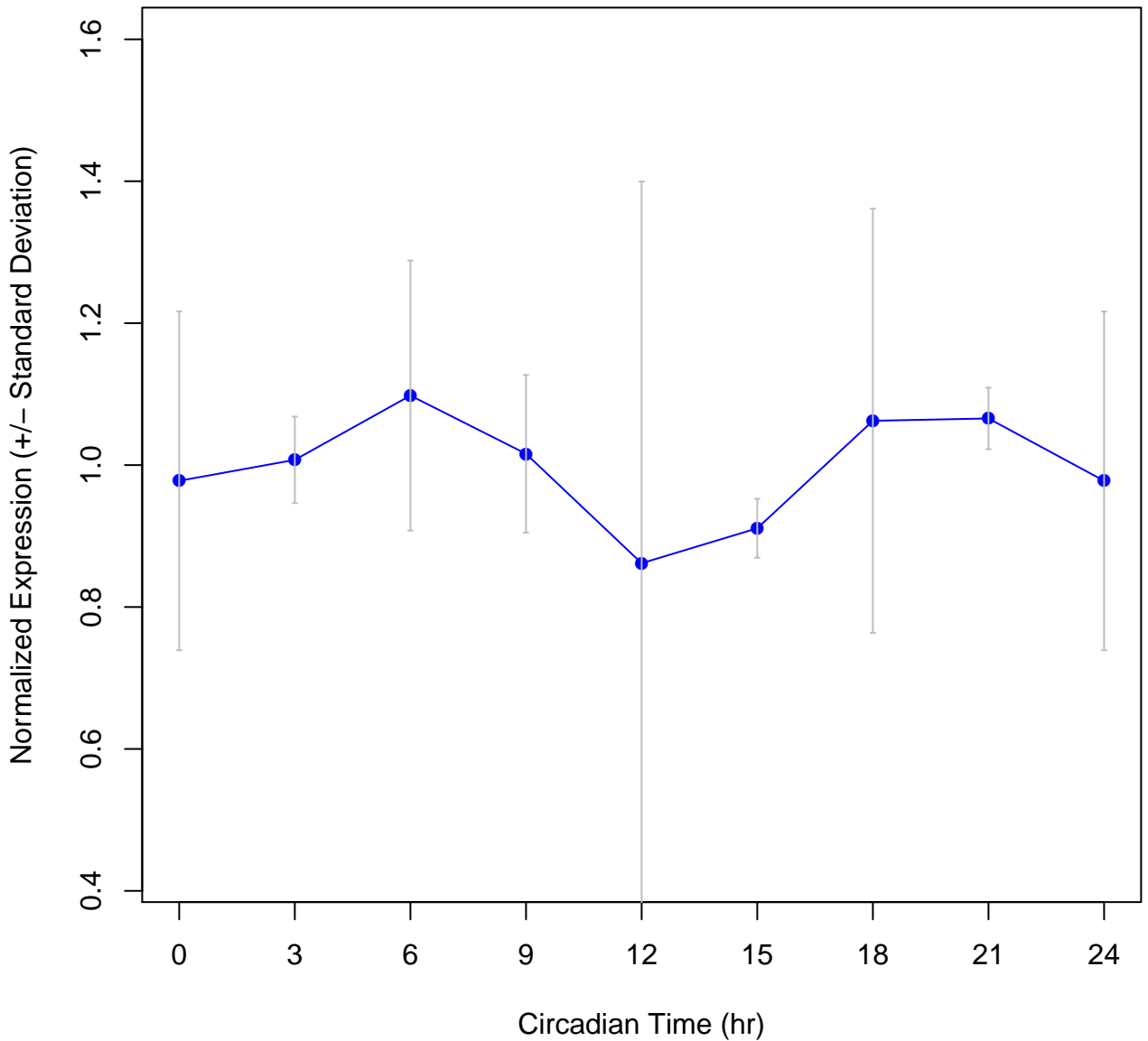
Supplement Figure 5 fbxw11



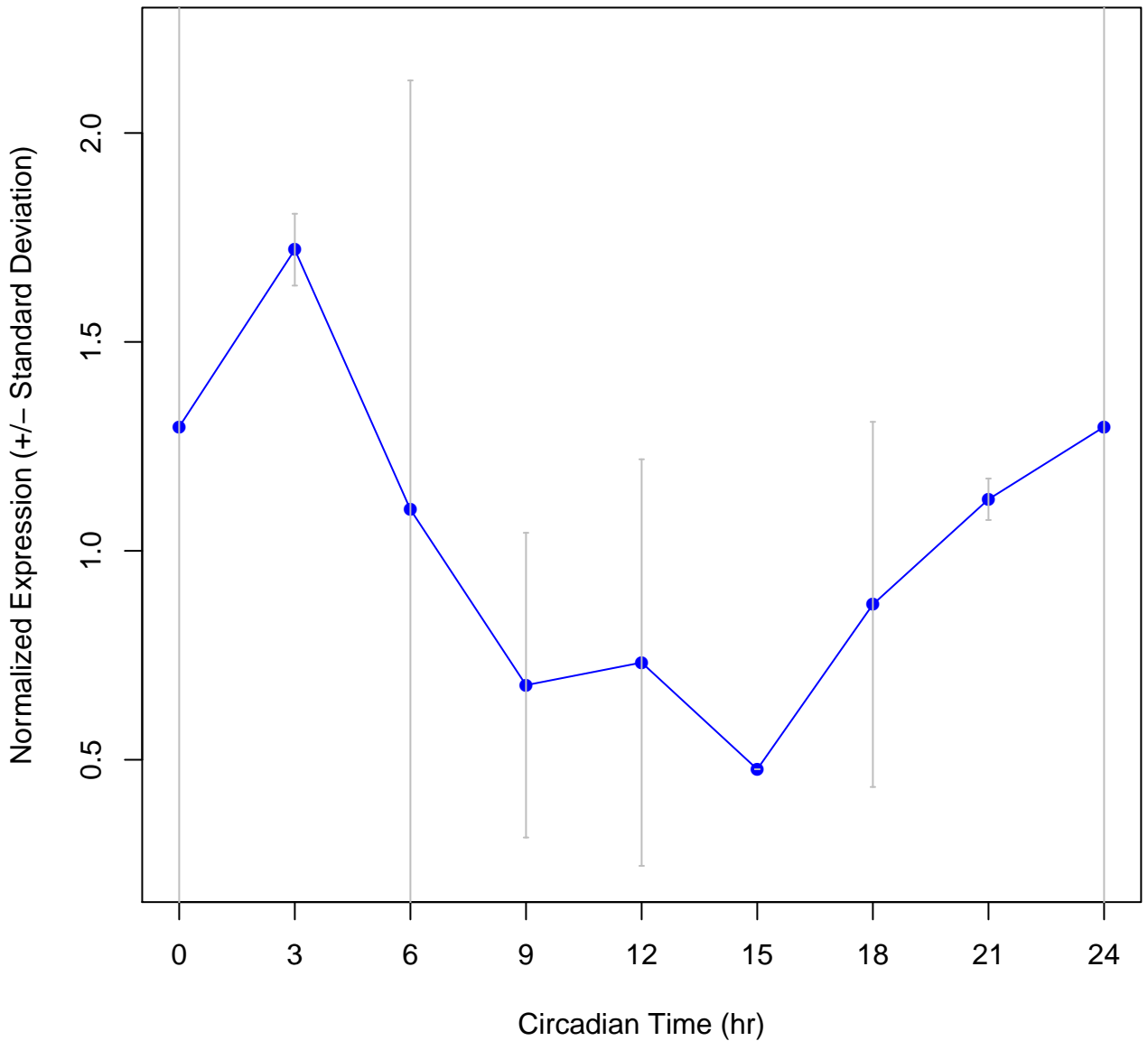
Supplement Figure 5 fggy



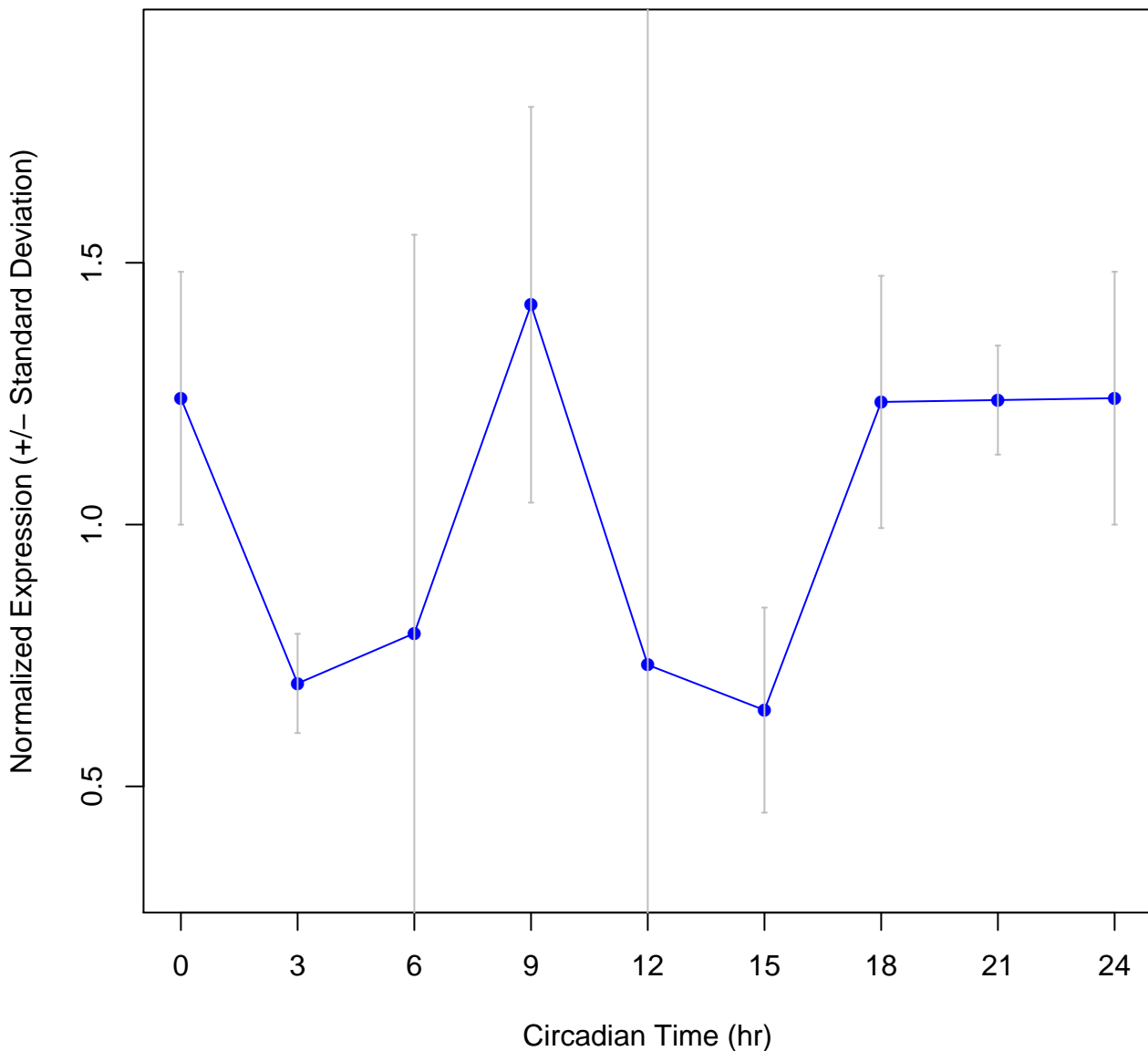
Supplement Figure 5 flt4



Supplement Figure 5 foxn1

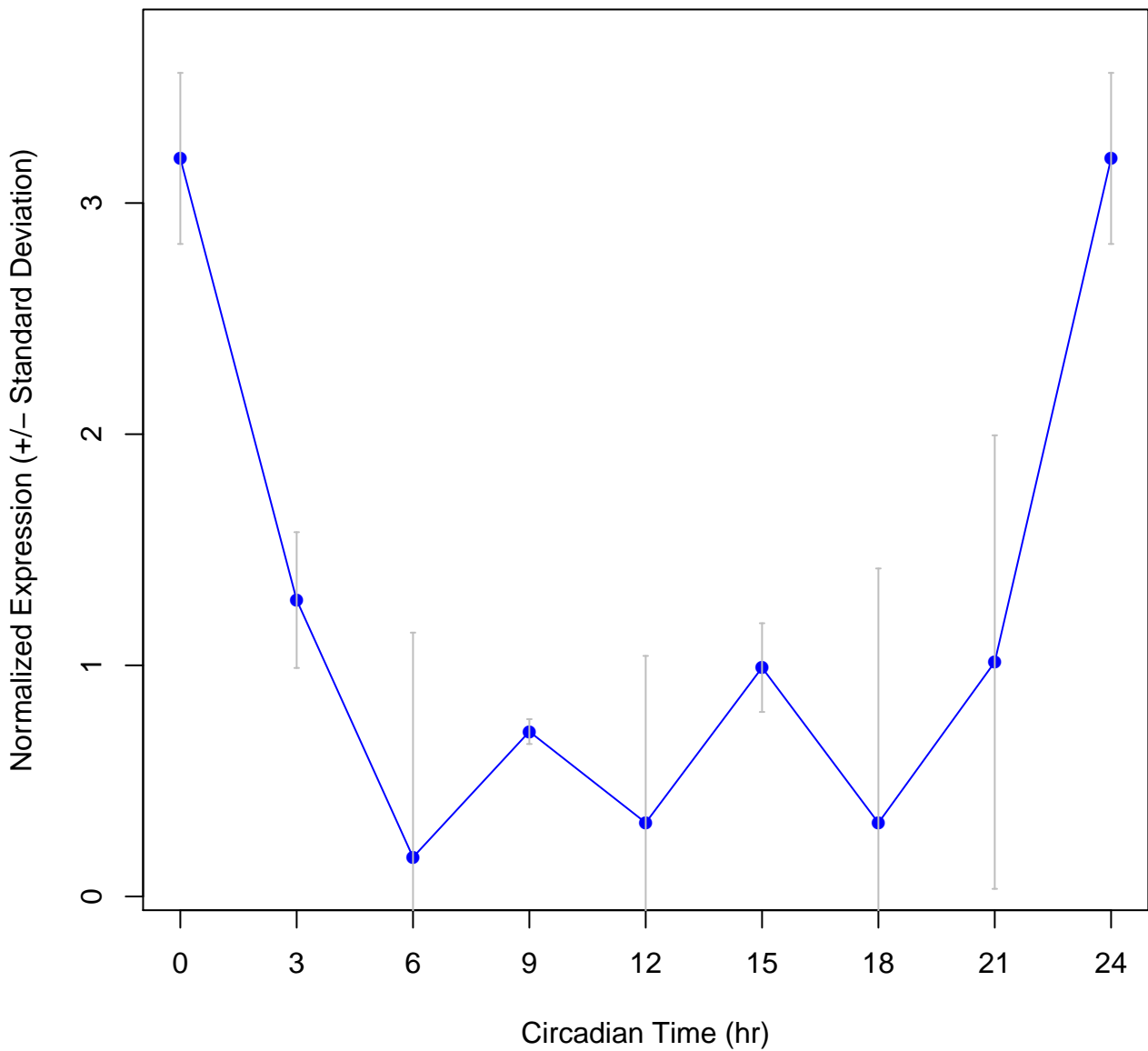


Supplement Figure 5 foxo4

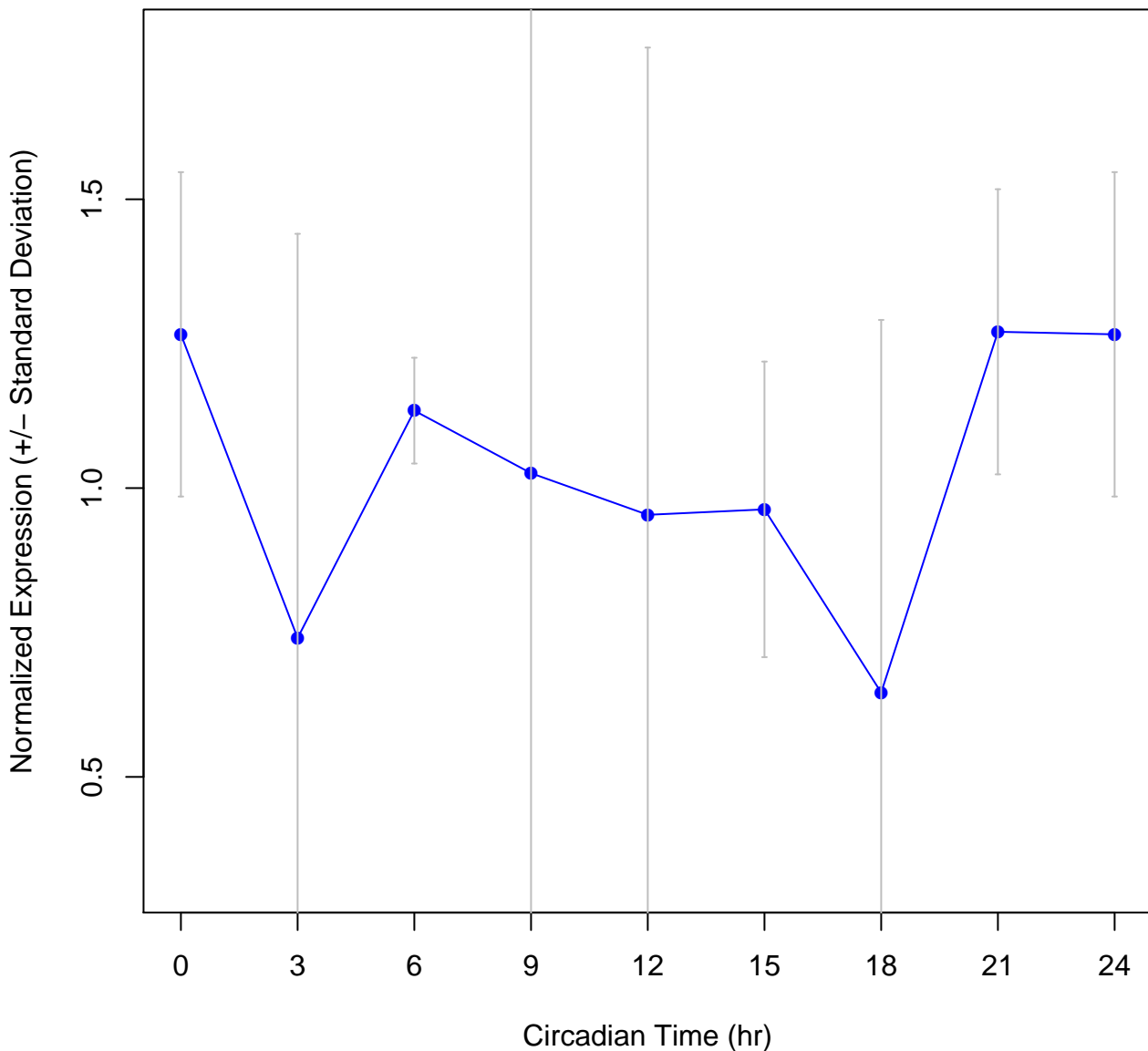




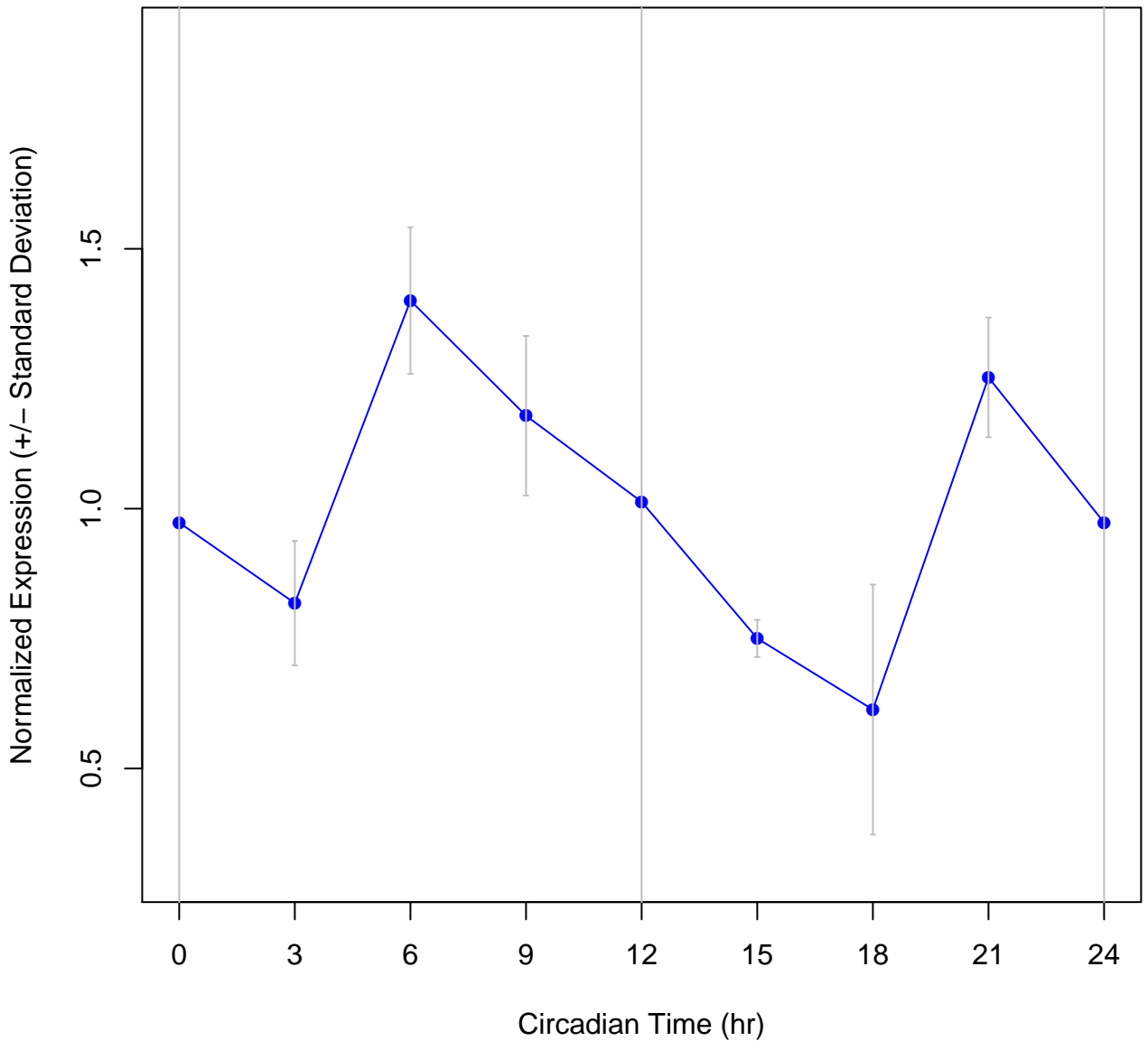
Supplement Figure 5 g2e3



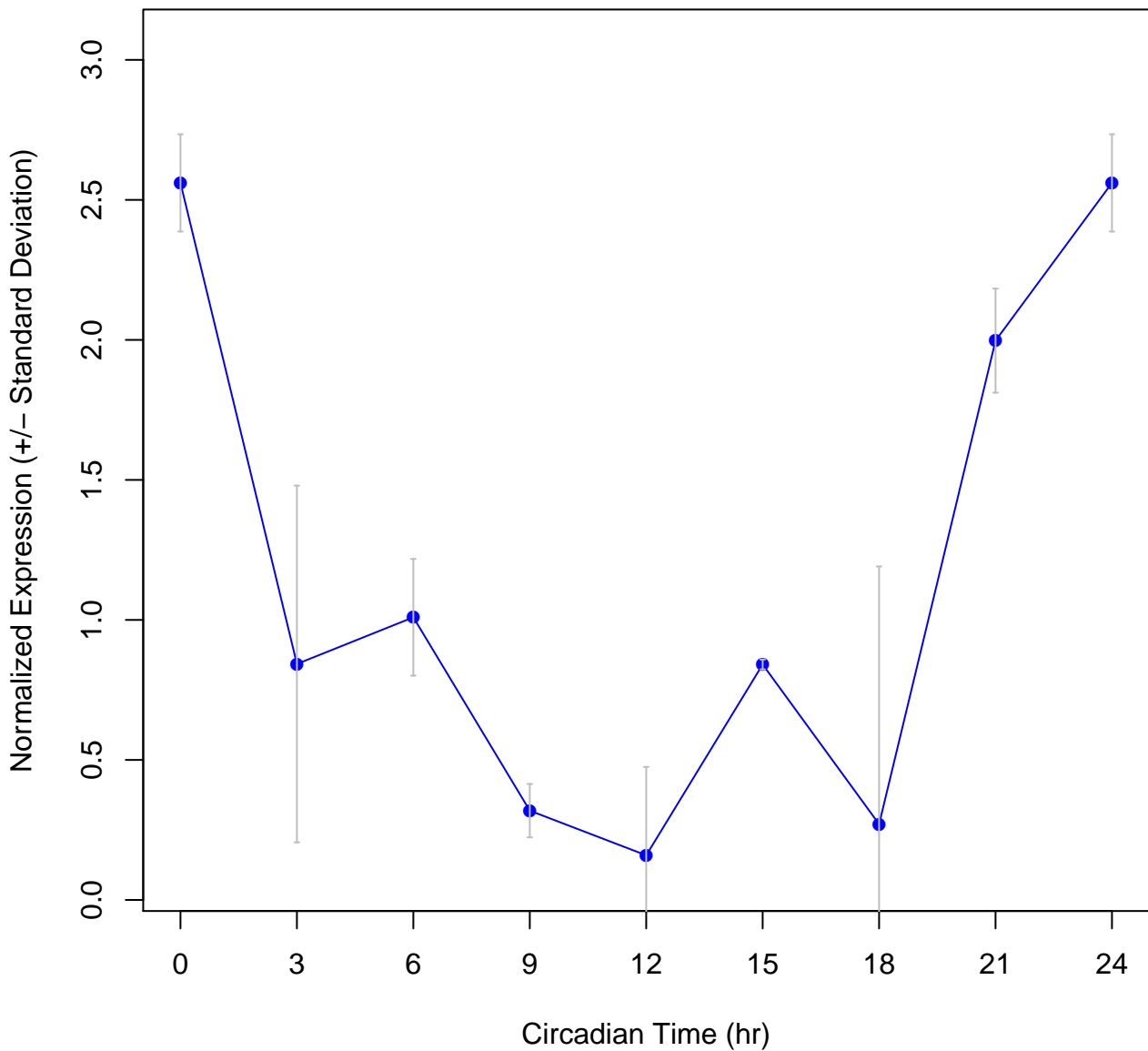
Supplement Figure 5 gadd45aa



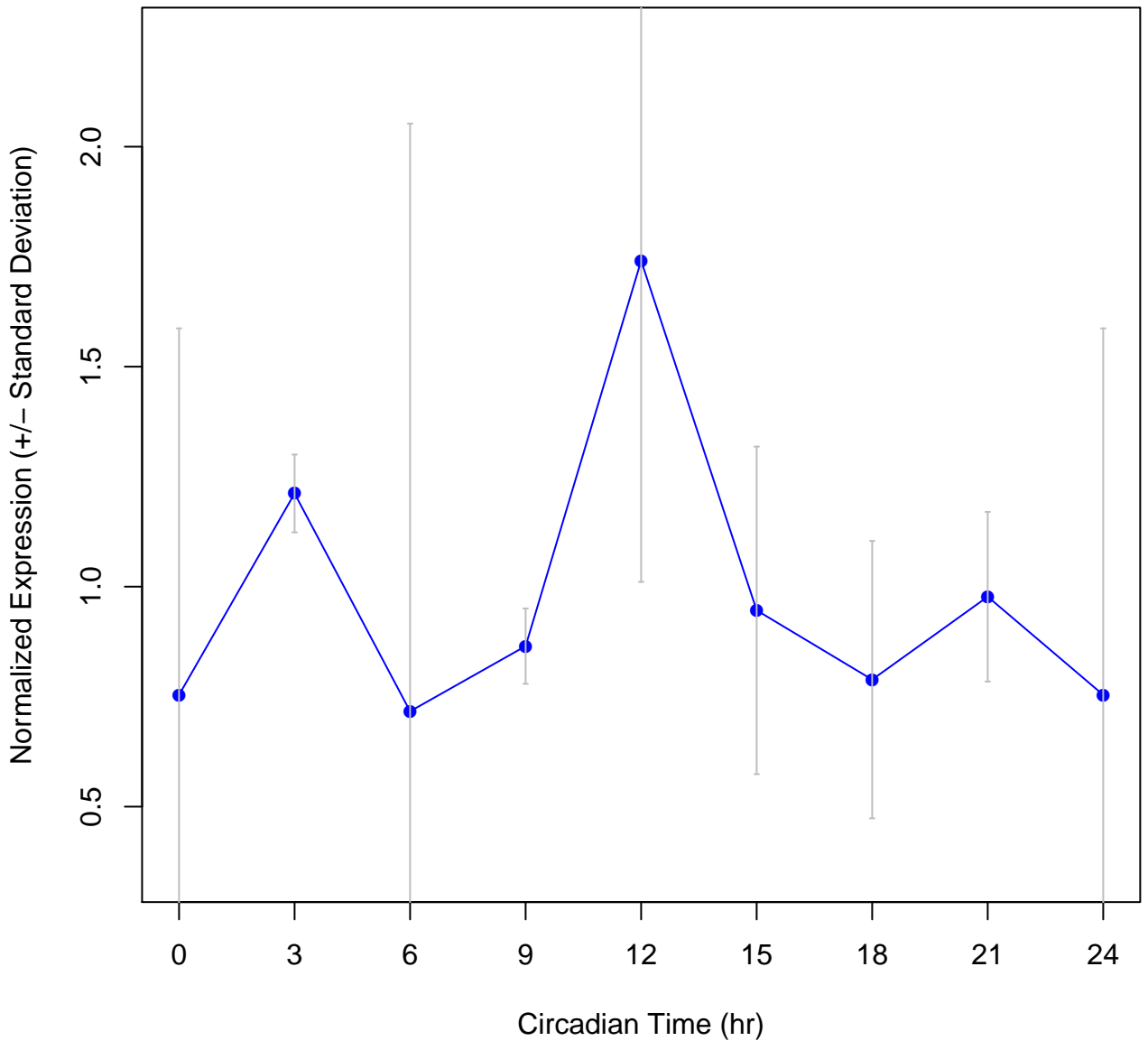
Supplement Figure 5 gadd45ab



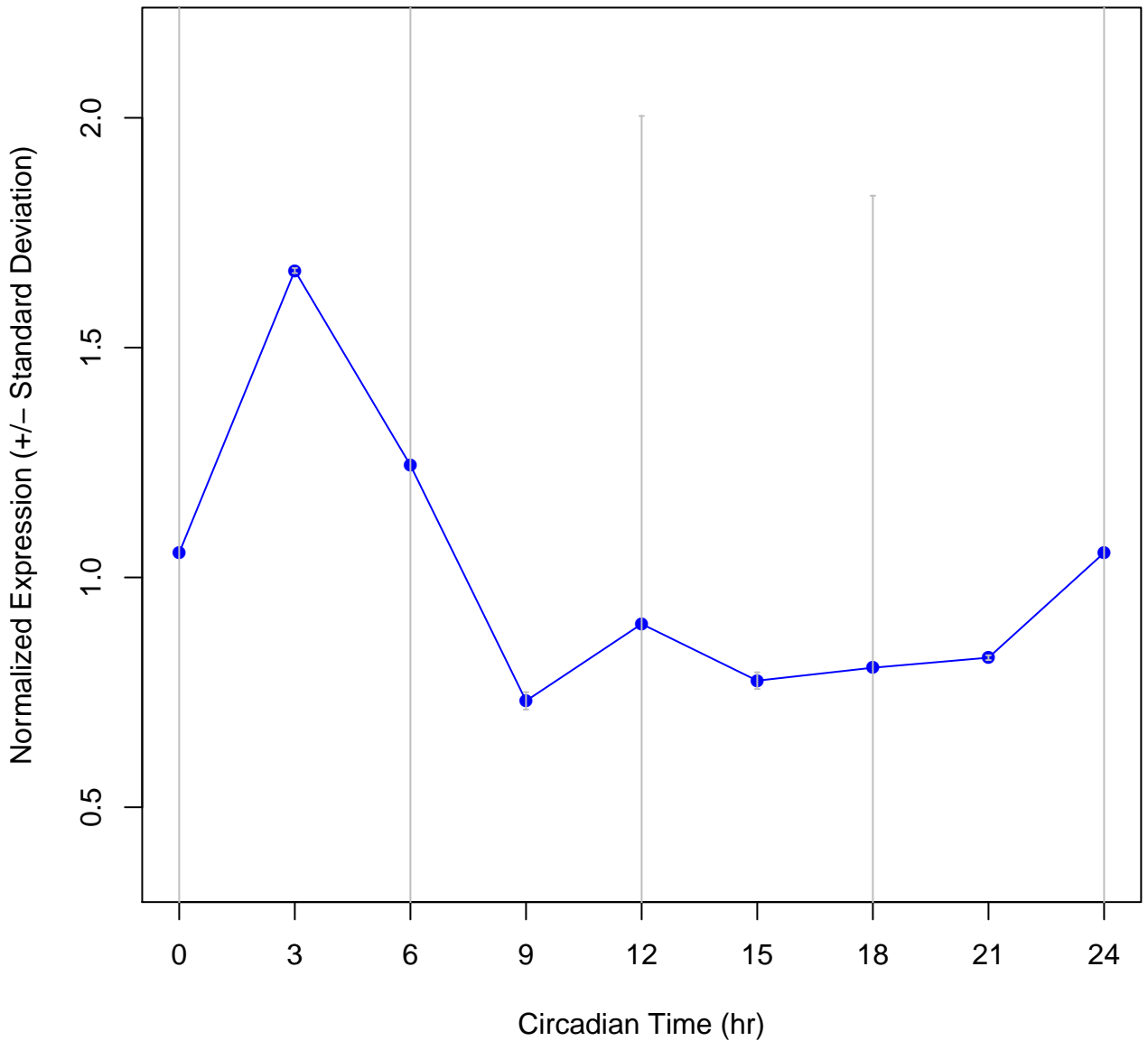
Supplement Figure 5 *gadd45b*



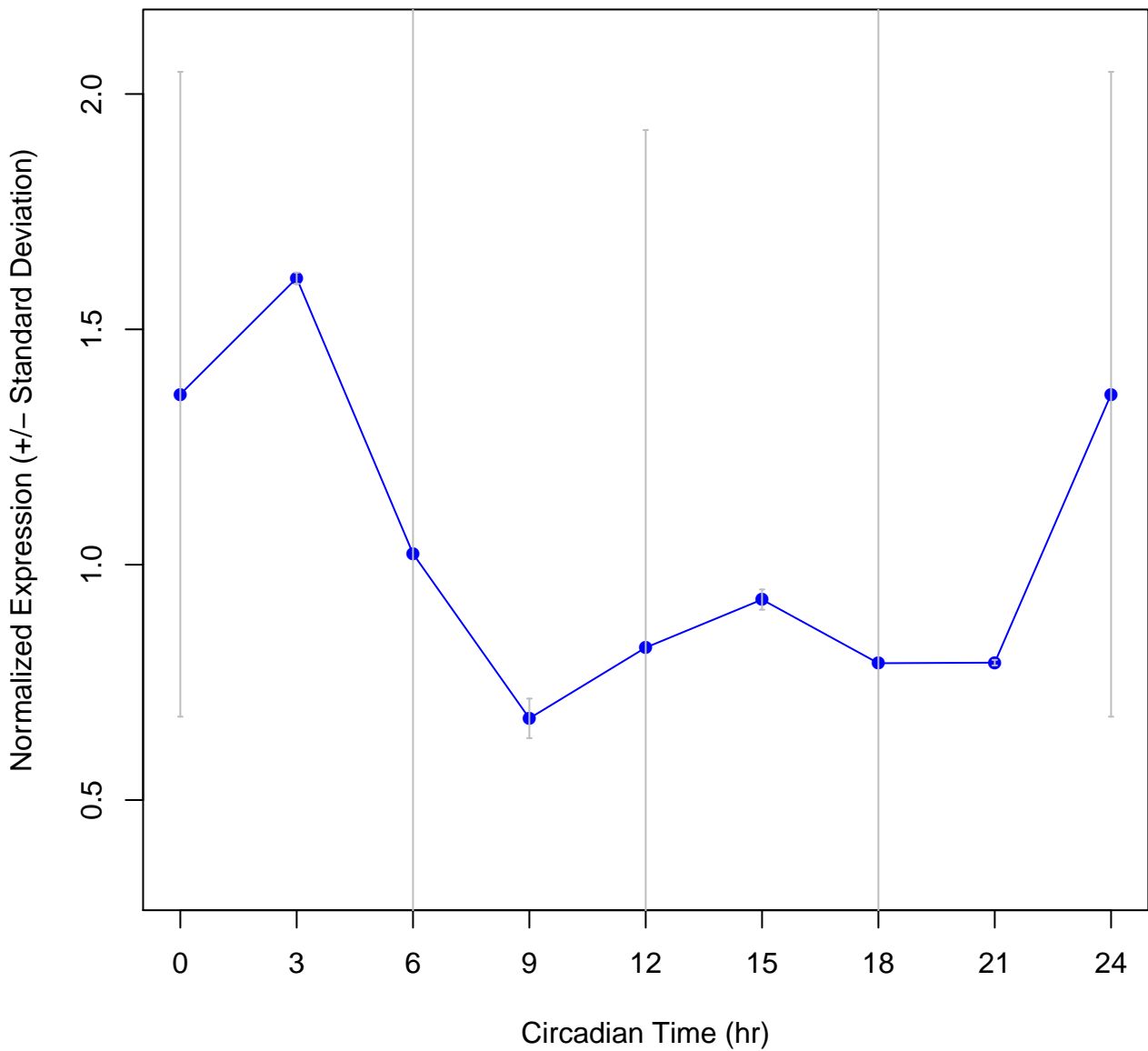
Supplement Figure 5 gna15



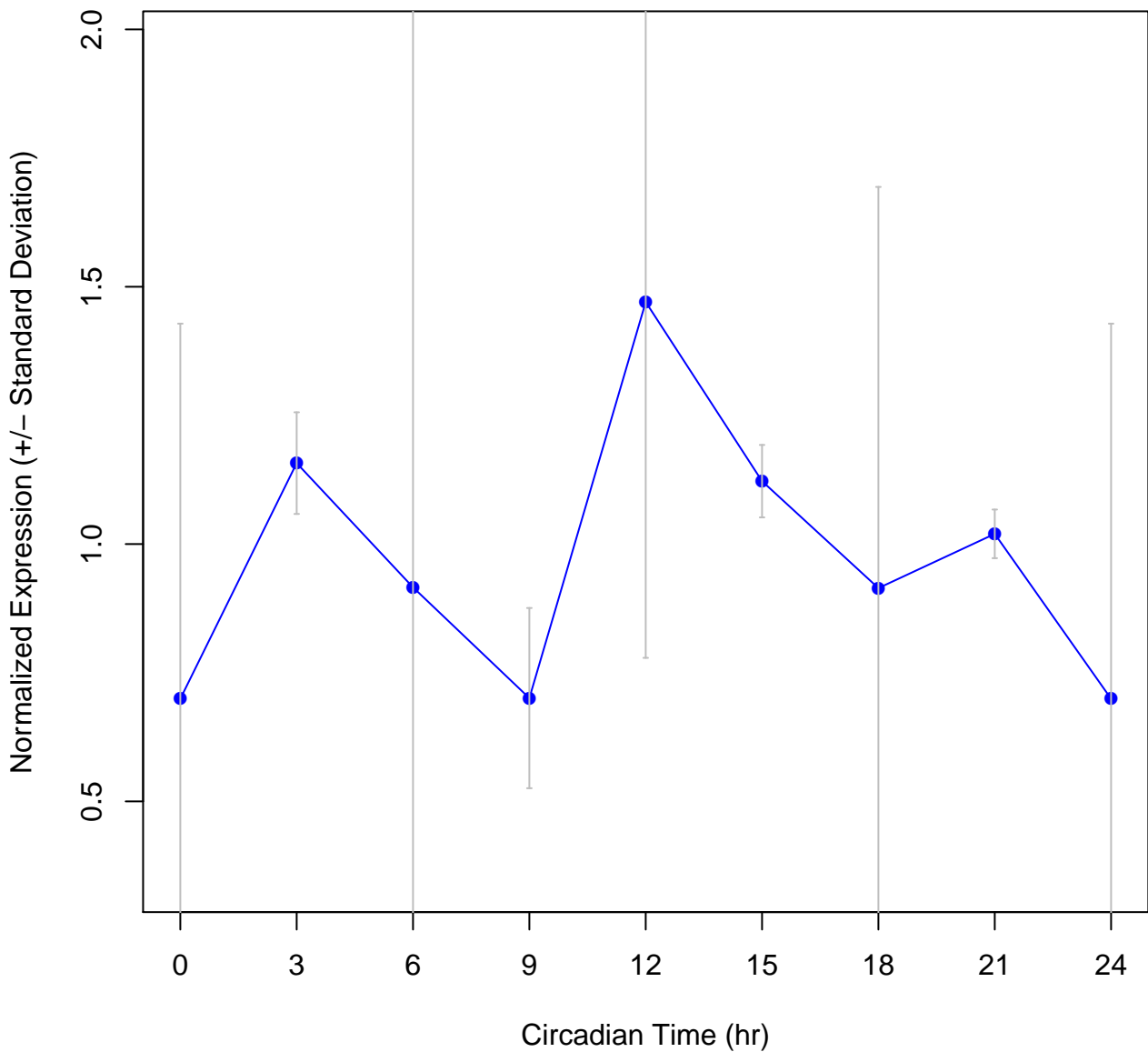
## Supplement Figure 5 grin1



Supplement Figure 5 grin2a

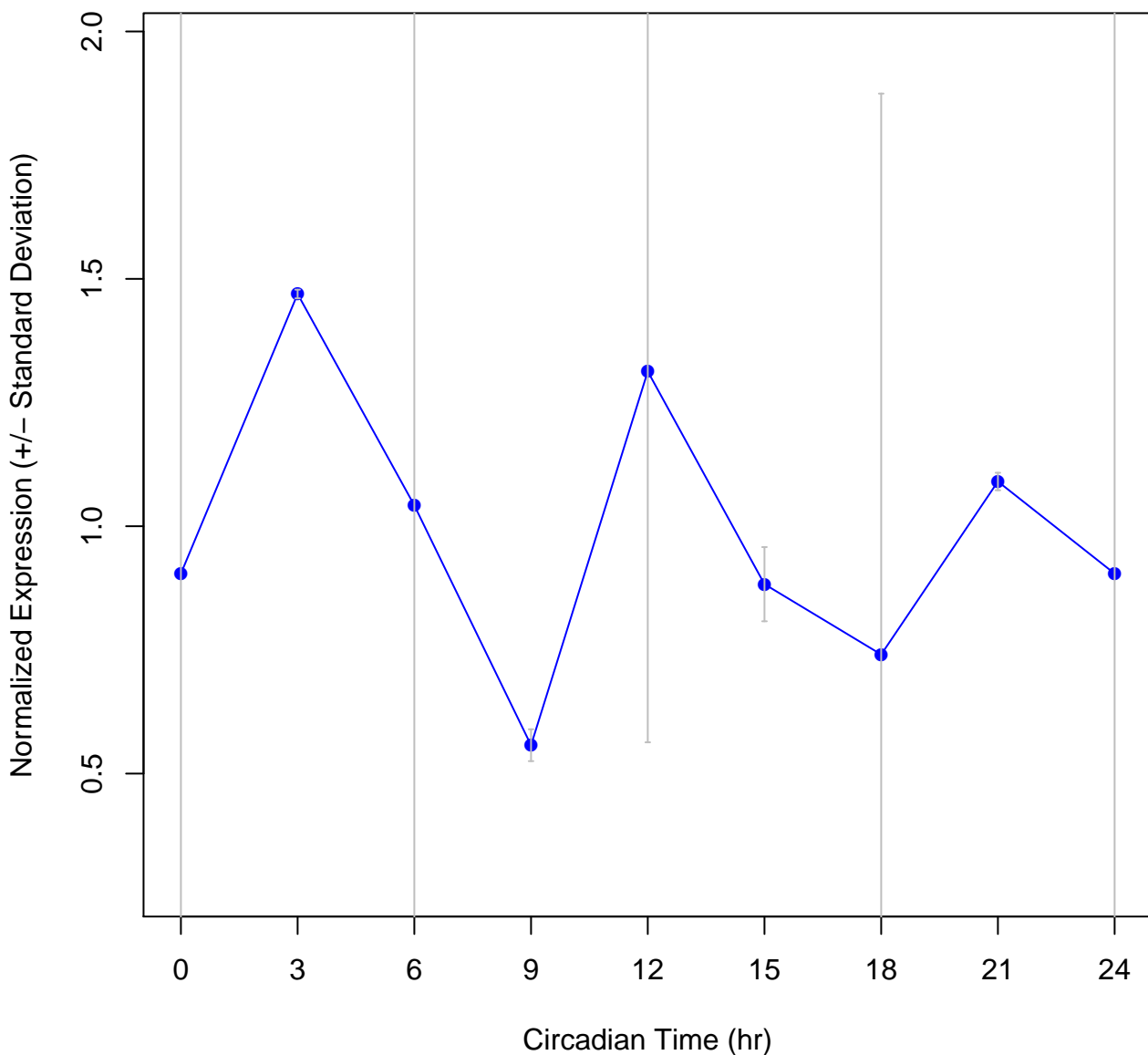


**Supplement Figure 5 hdac3**

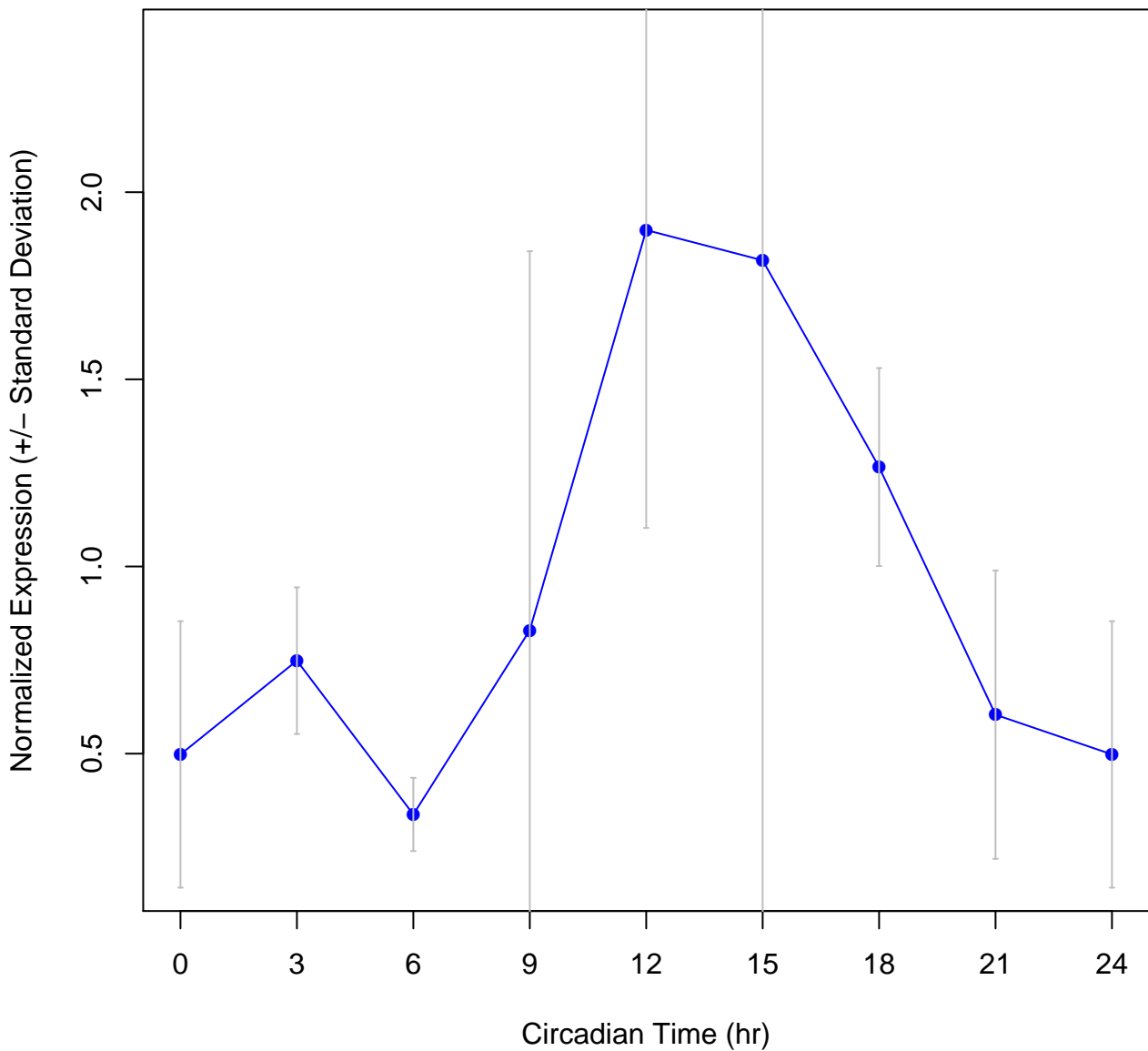




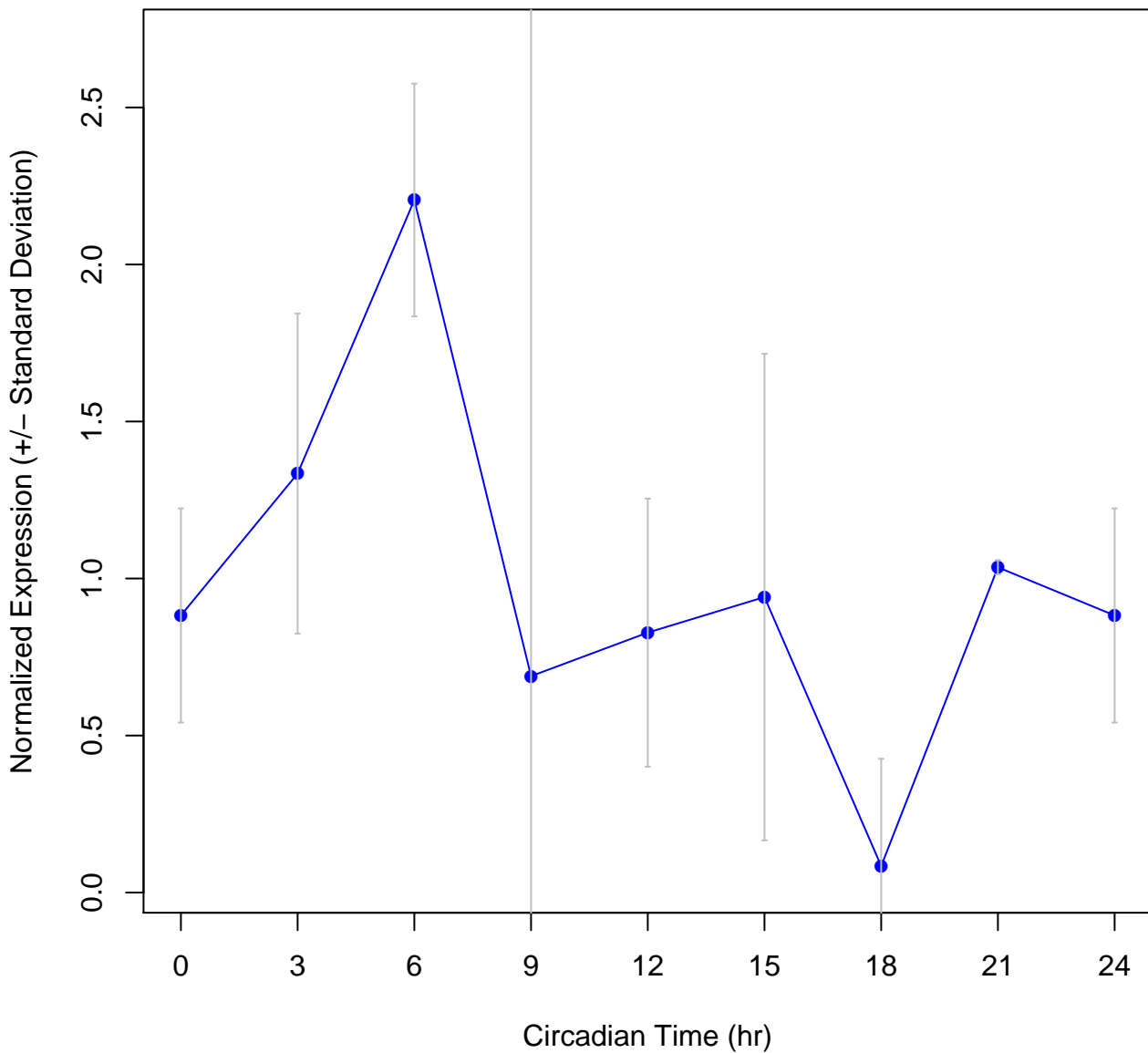
Supplement Figure 5 hmox1



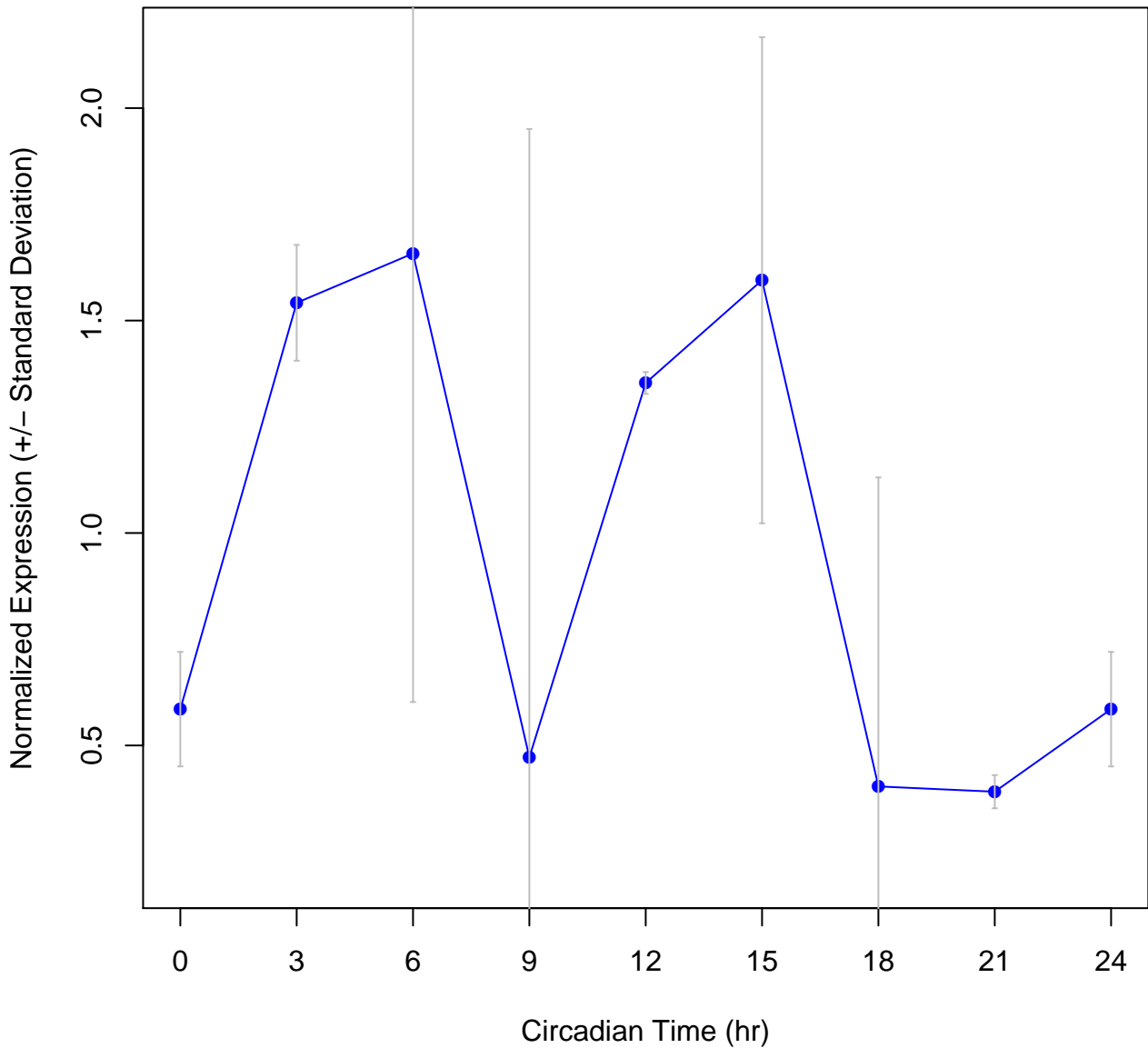
## Supplement Figure 5 hp



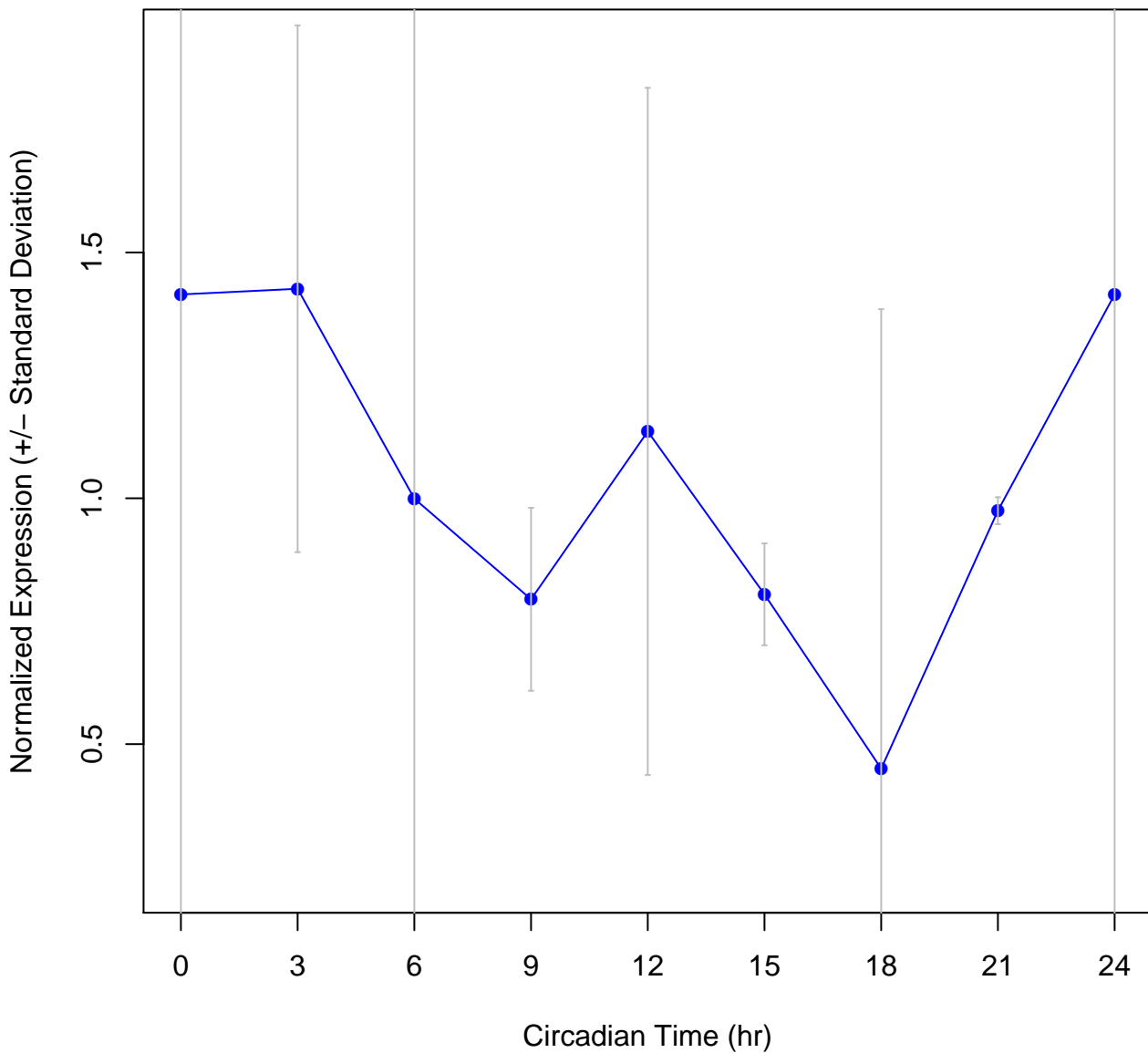
**Supplement Figure 5 hsp90aa1**



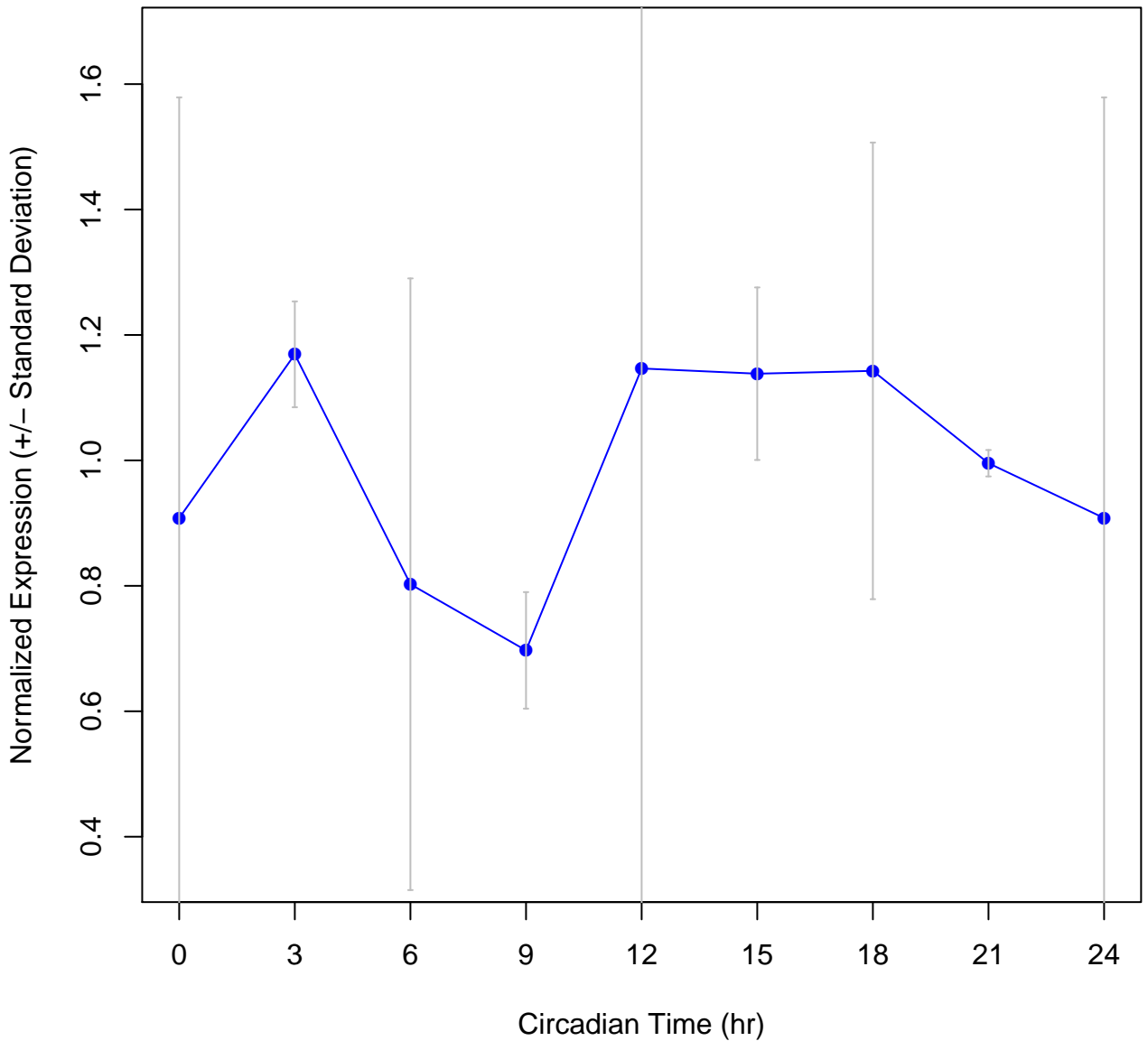
**Supplement Figure 5 hspa4**



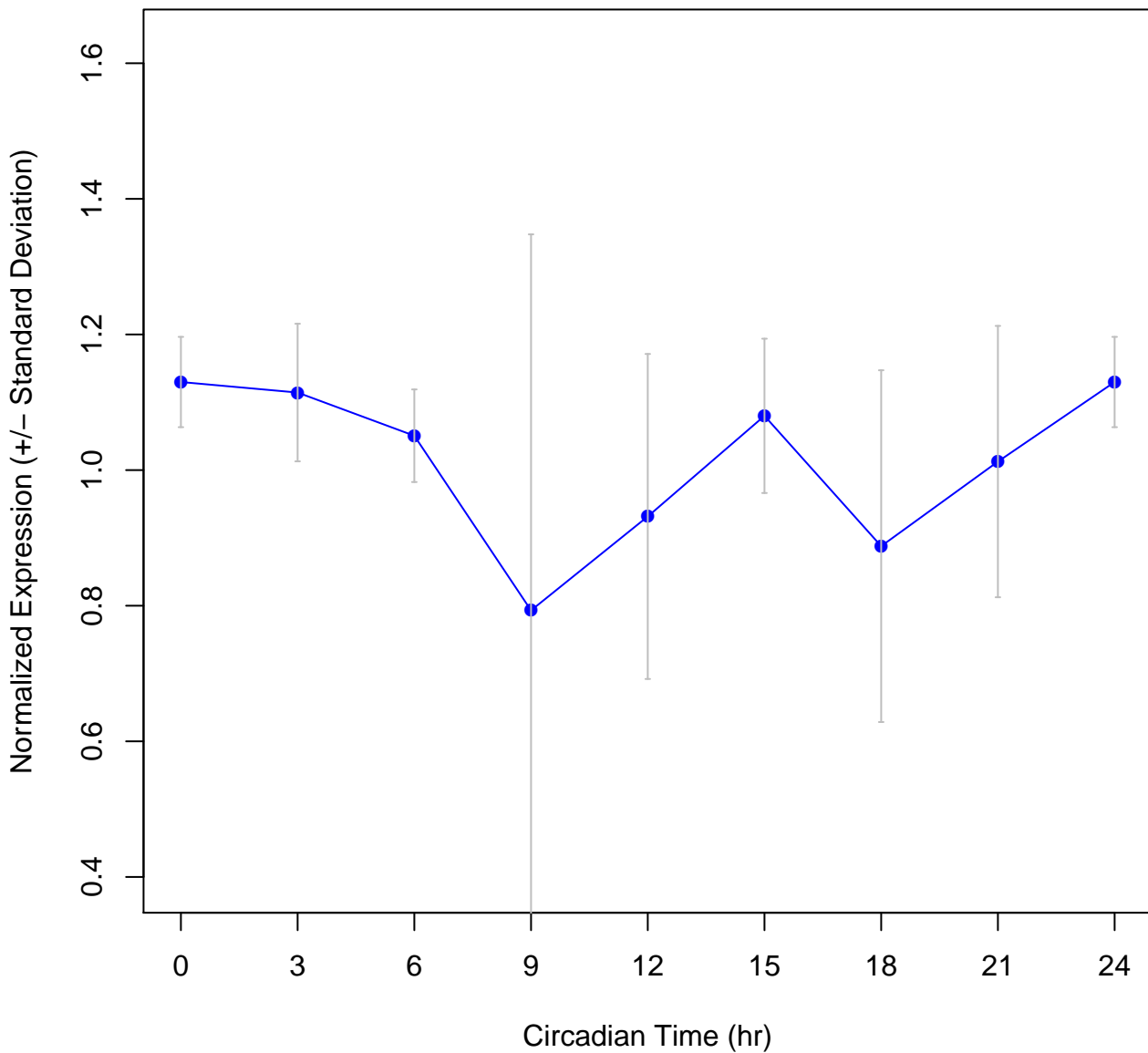
# Supplement Figure 5 hunk



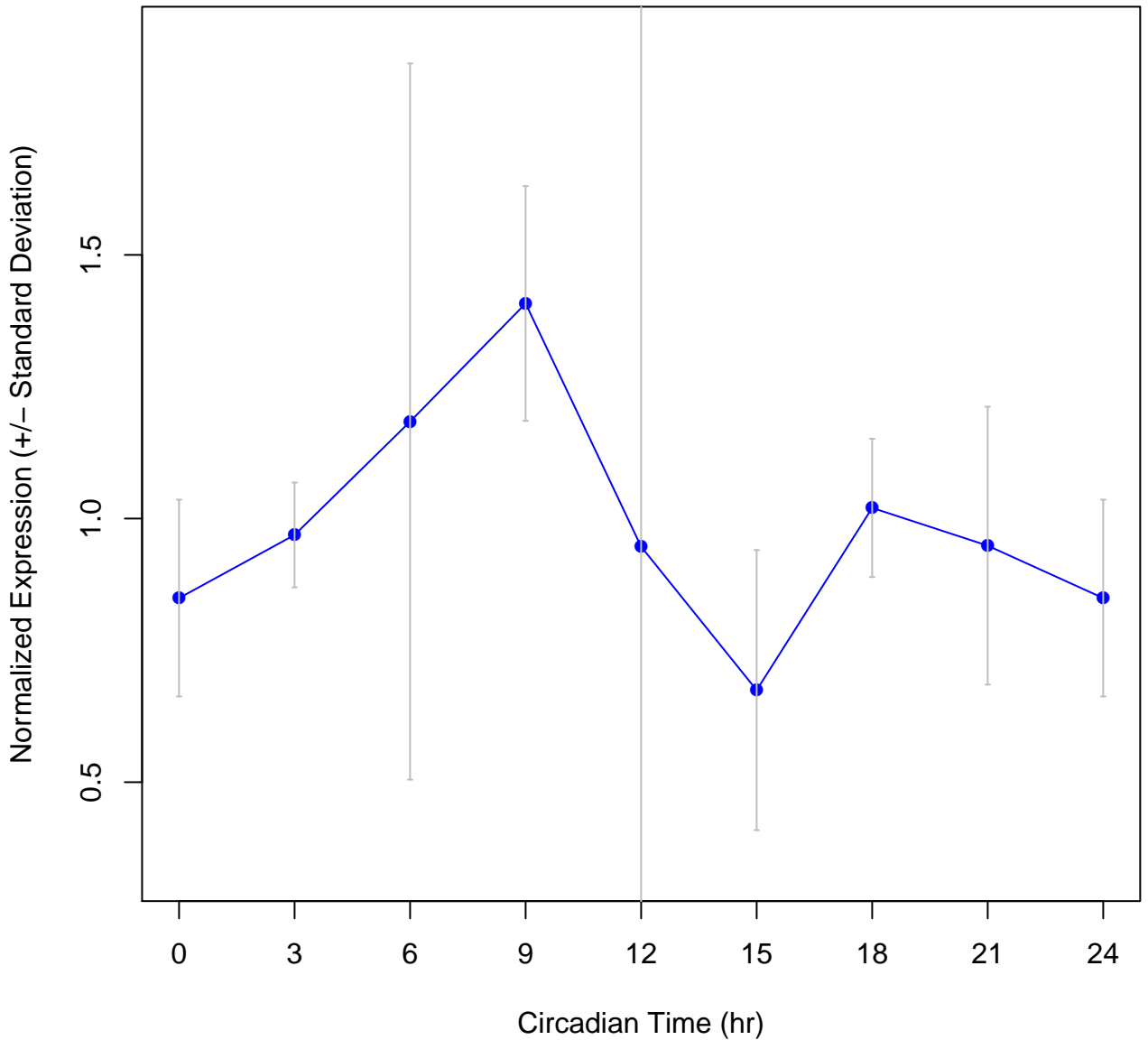
Supplement Figure 5 igf1



### Supplement Figure 5 ints9

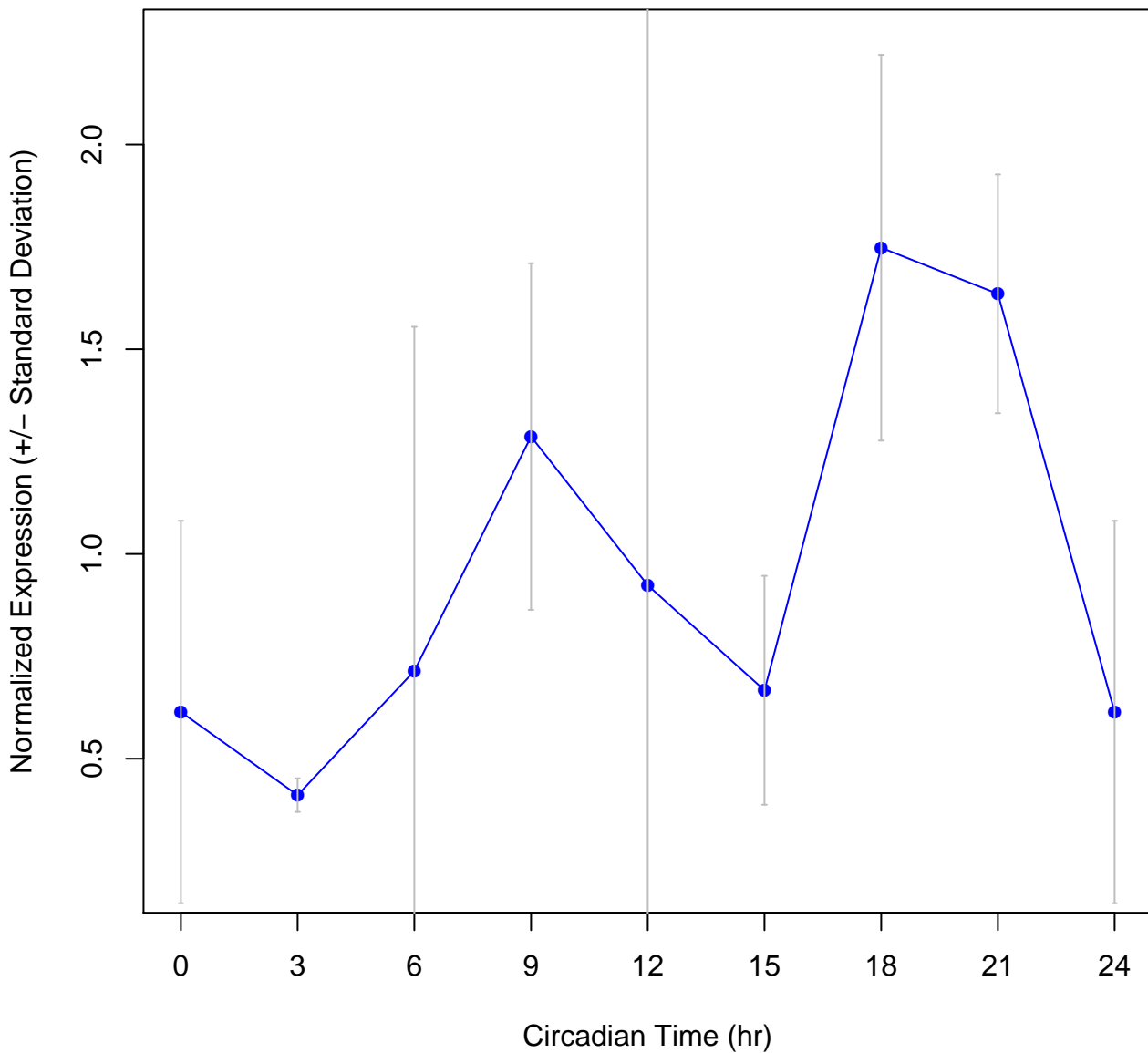


Supplement Figure 5 *irs1*

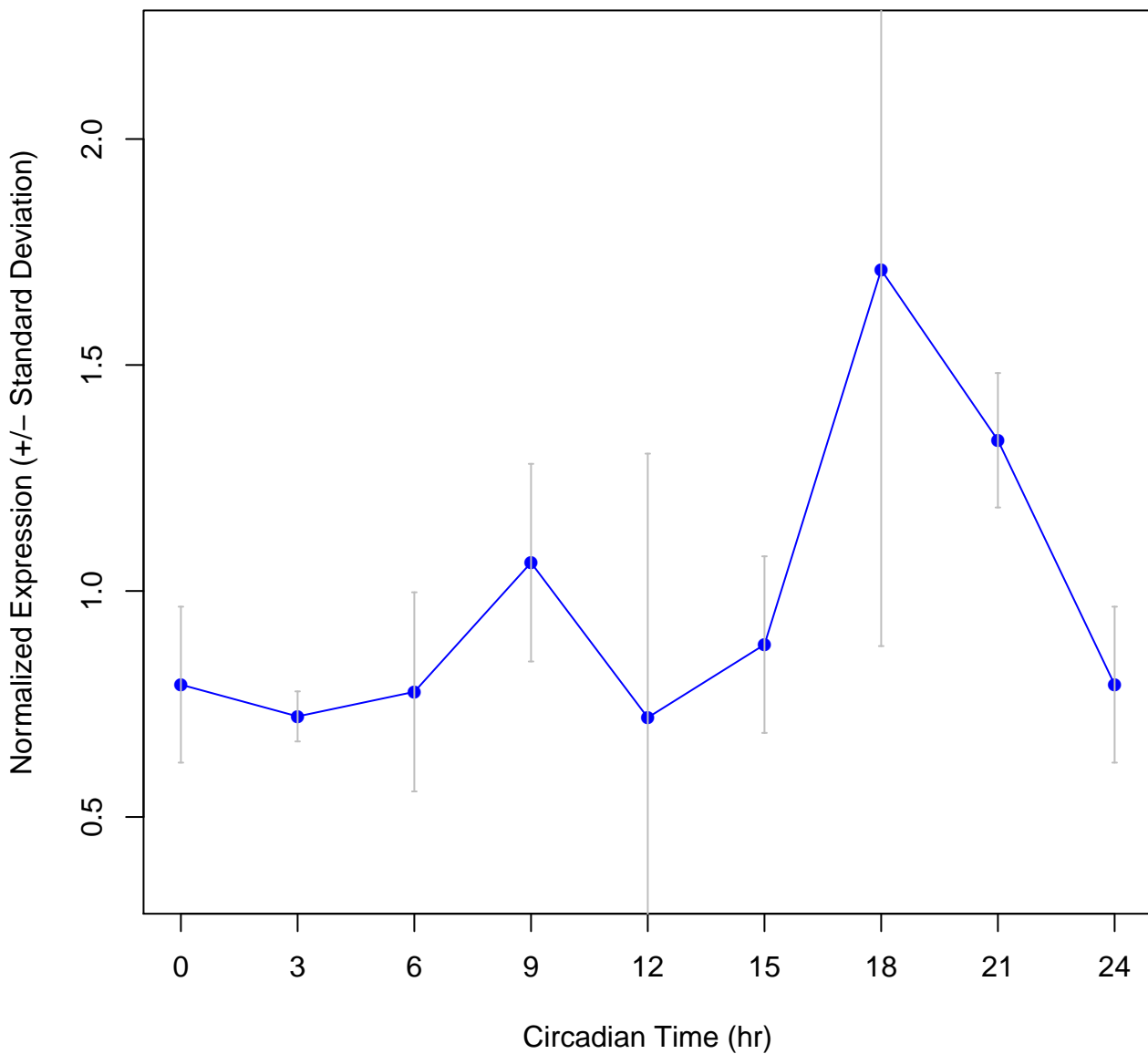




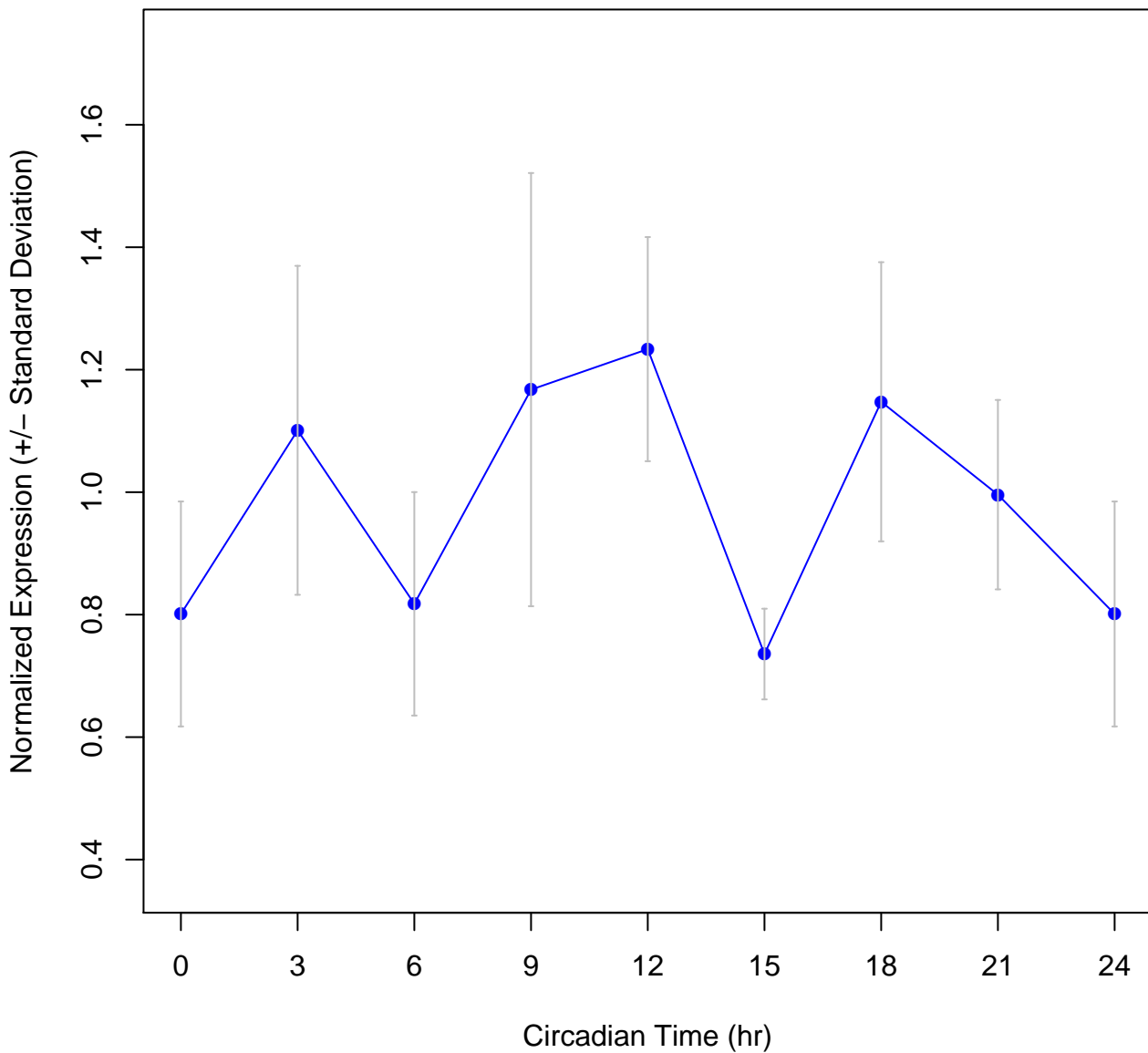
Supplement Figure 5 *irs2*



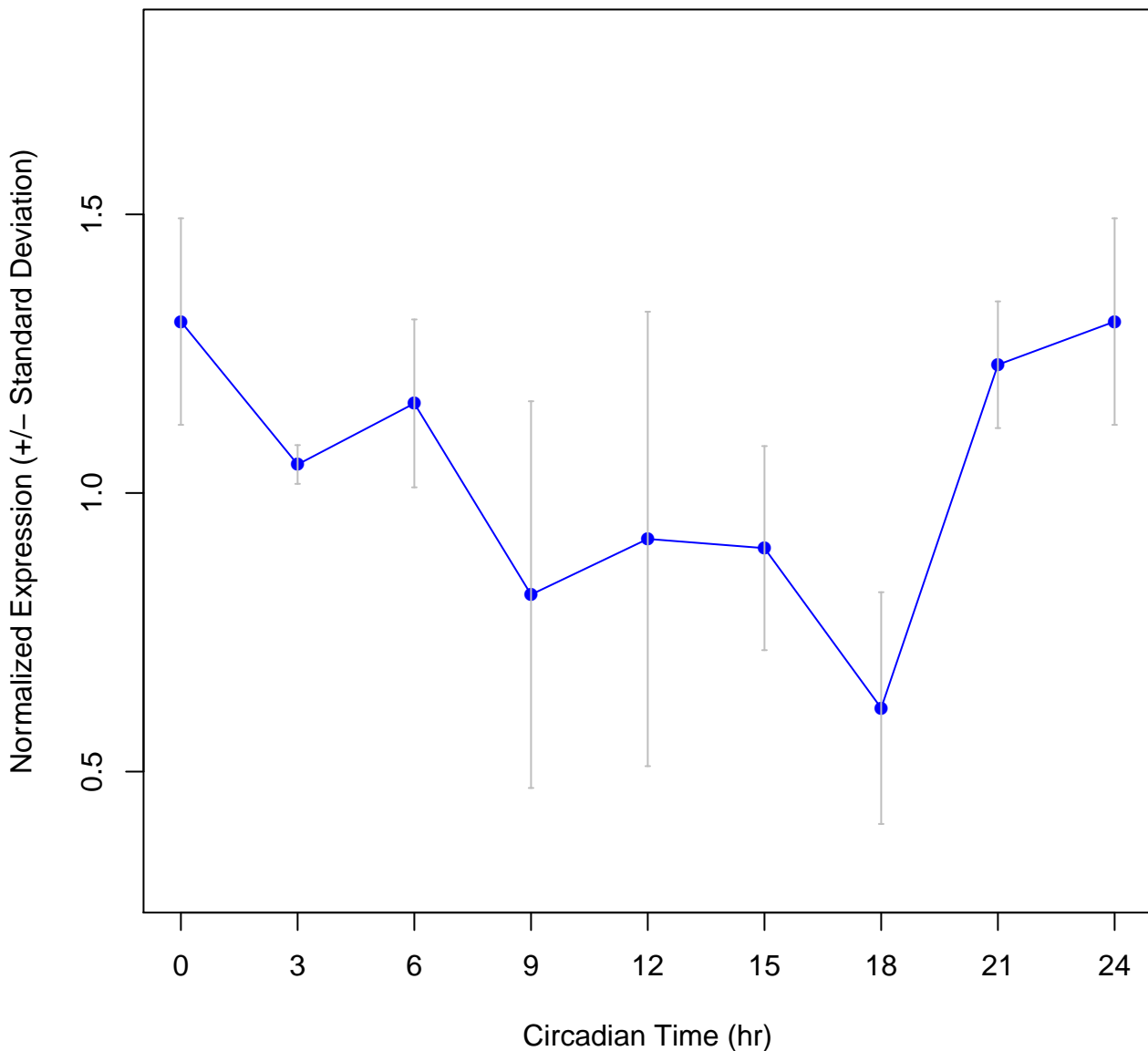
Supplement Figure 5 itpr1



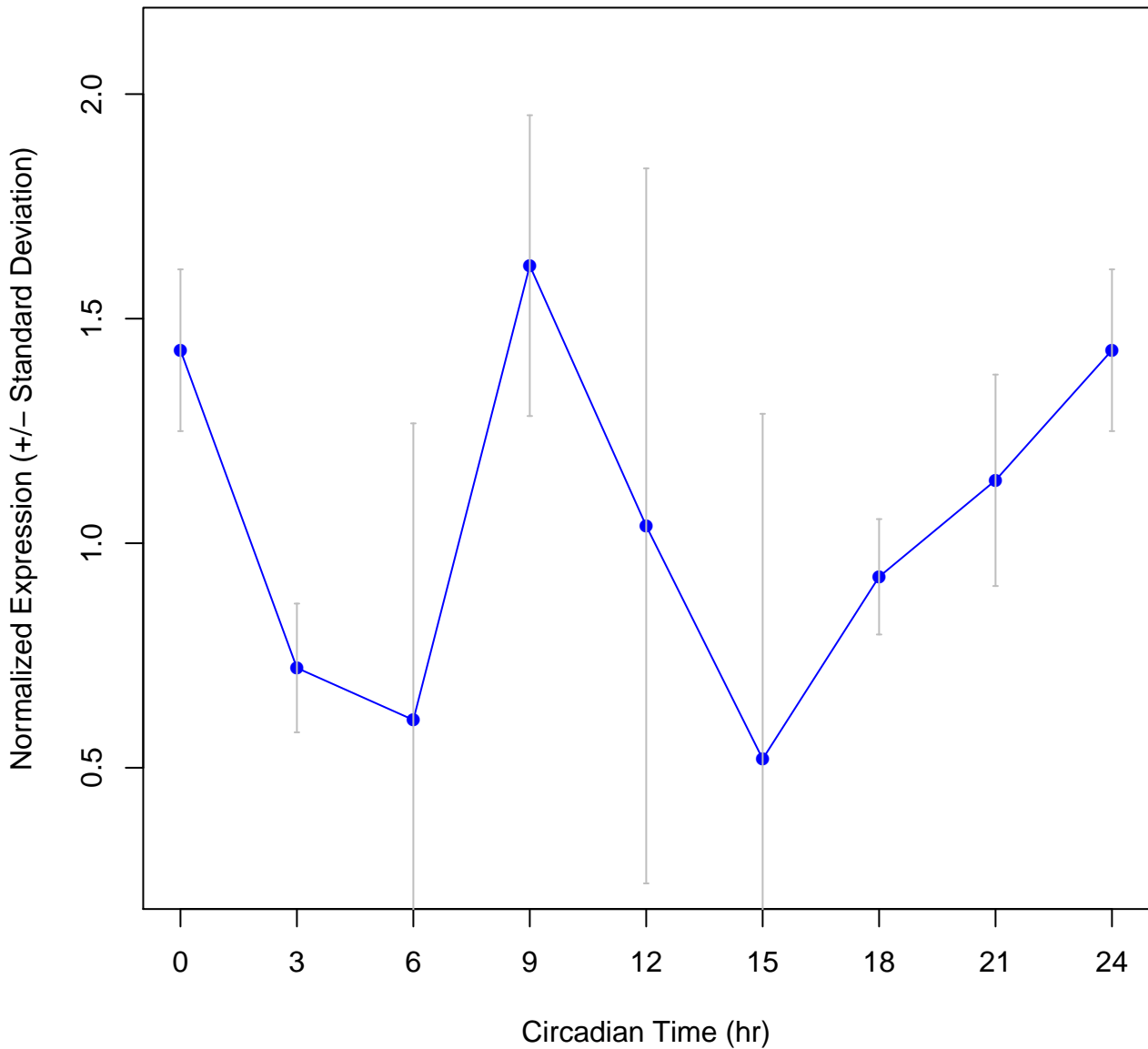
**Supplement Figure 5 itpr3**



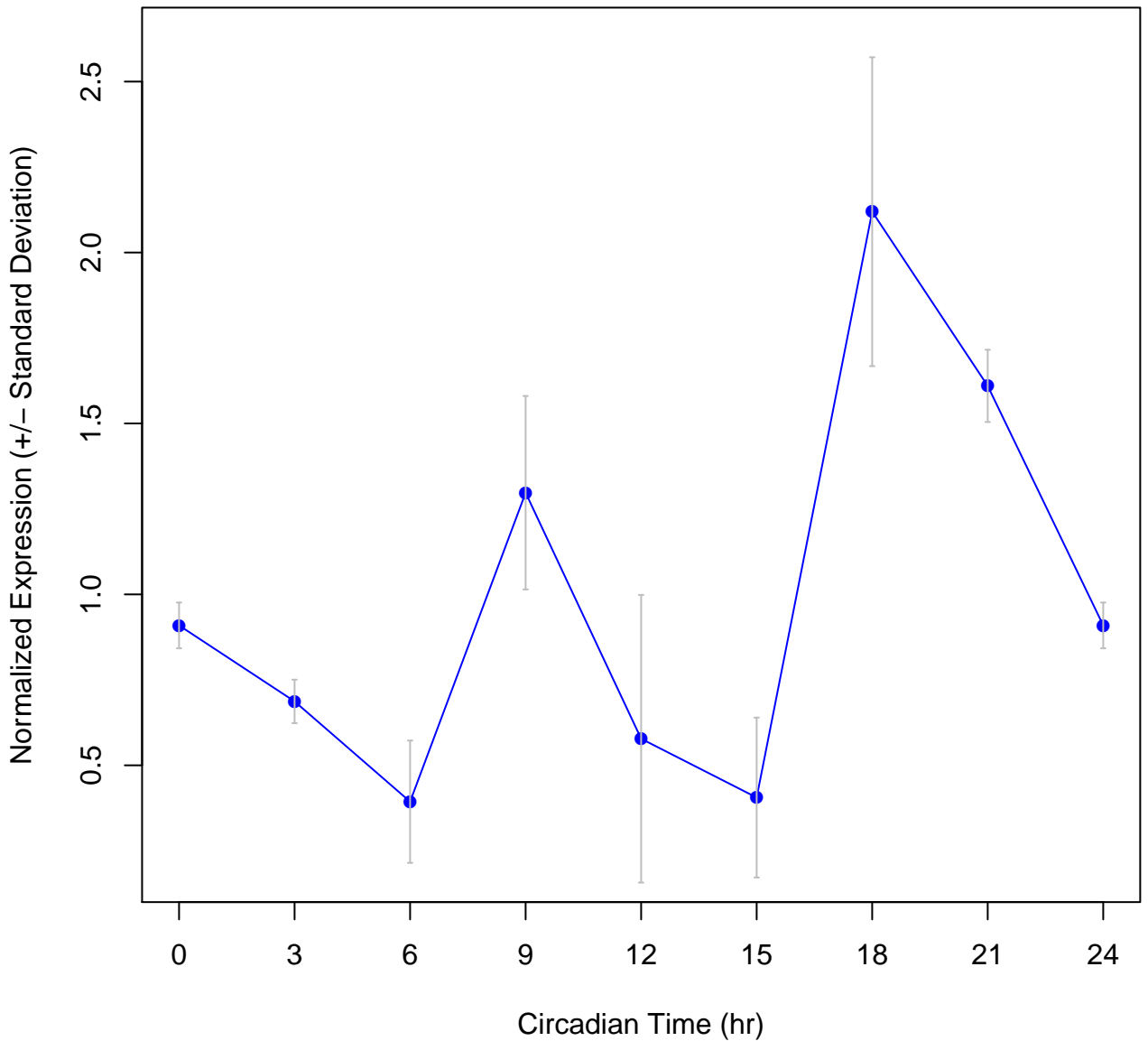
Supplement Figure 5 jun\_1



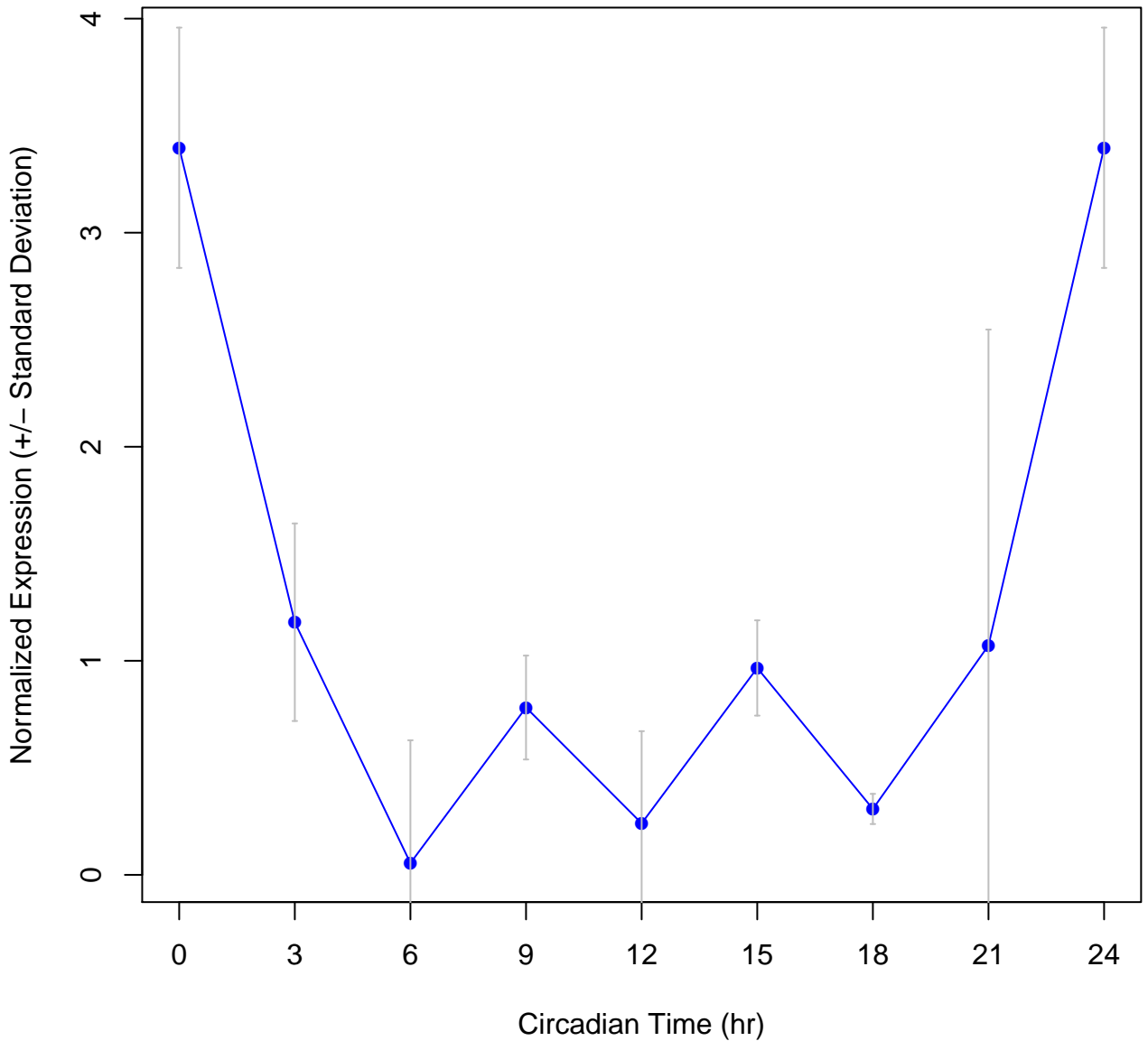
Supplement Figure 5 jun\_2



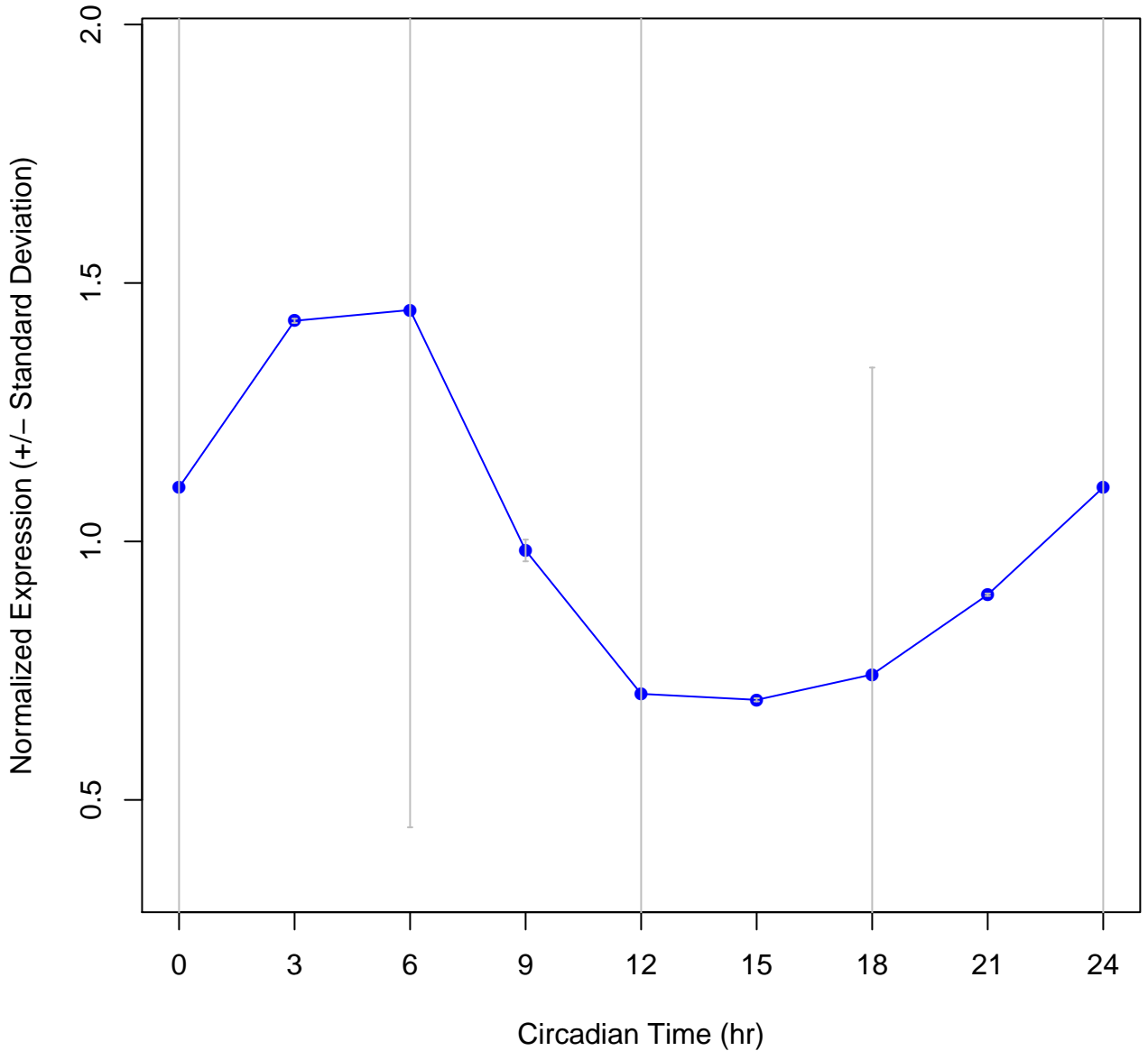
**Supplement Figure 5 kat2b**



## Supplement Figure 5 kifc1

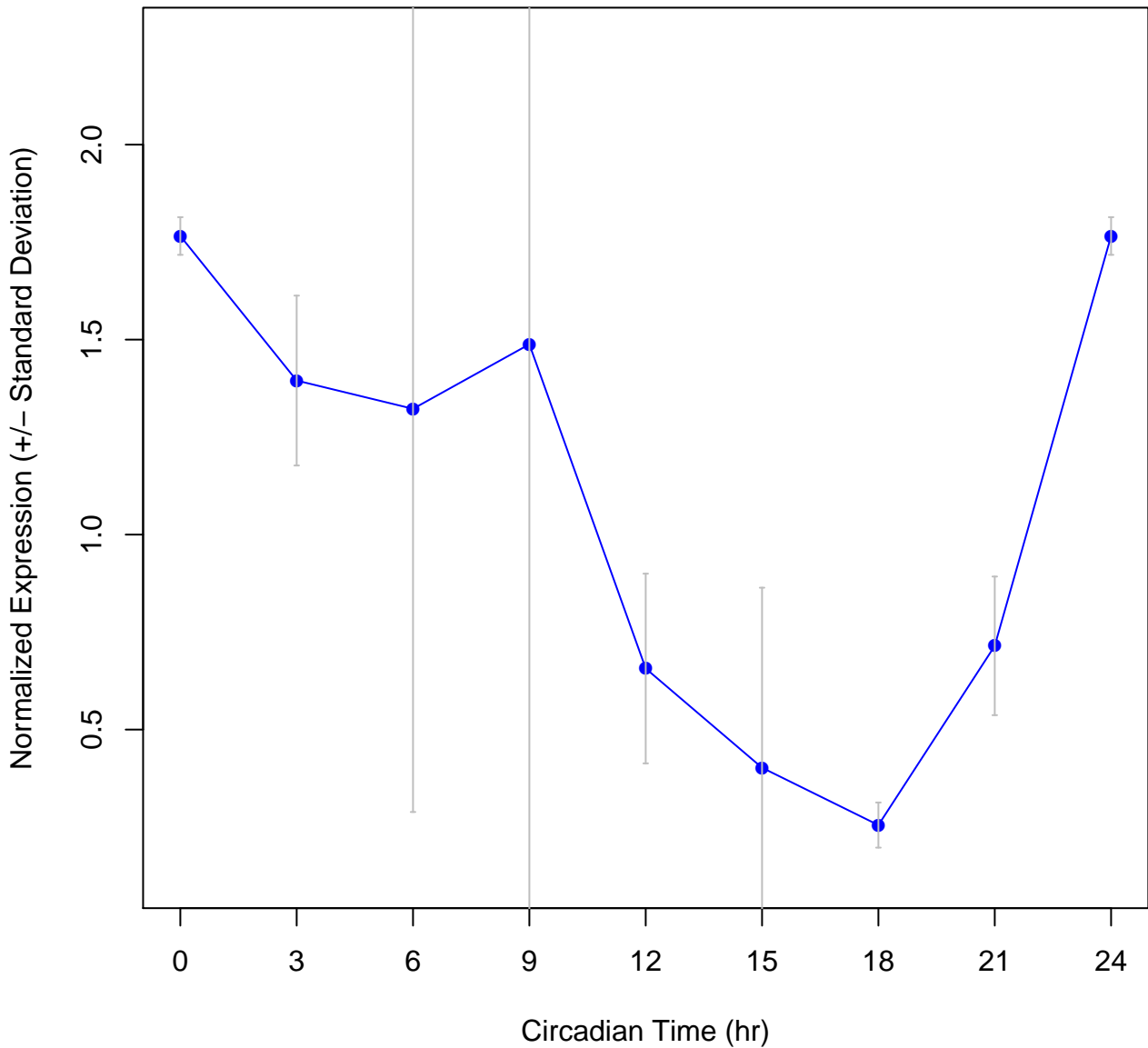


## Supplement Figure 5 kit

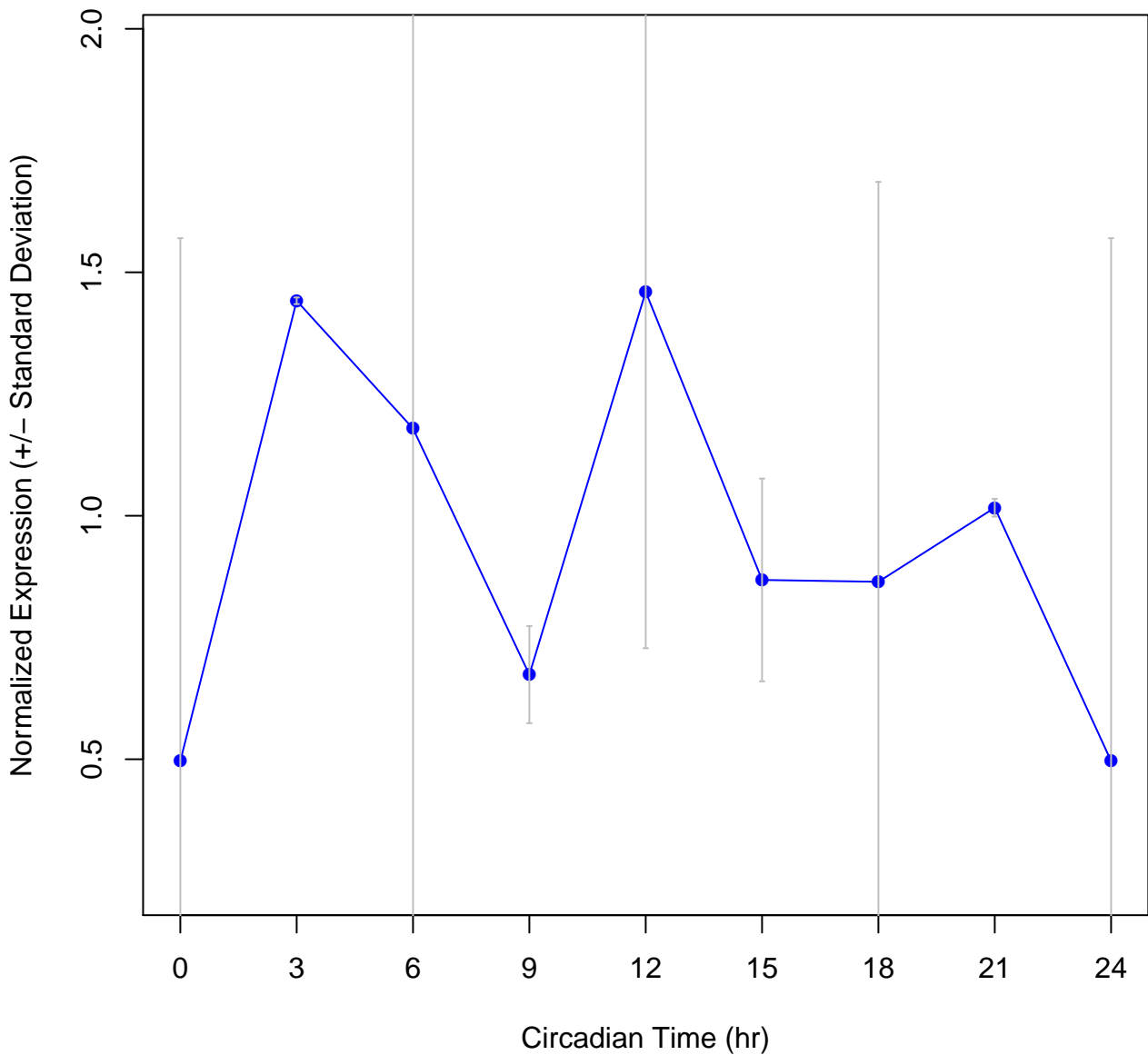




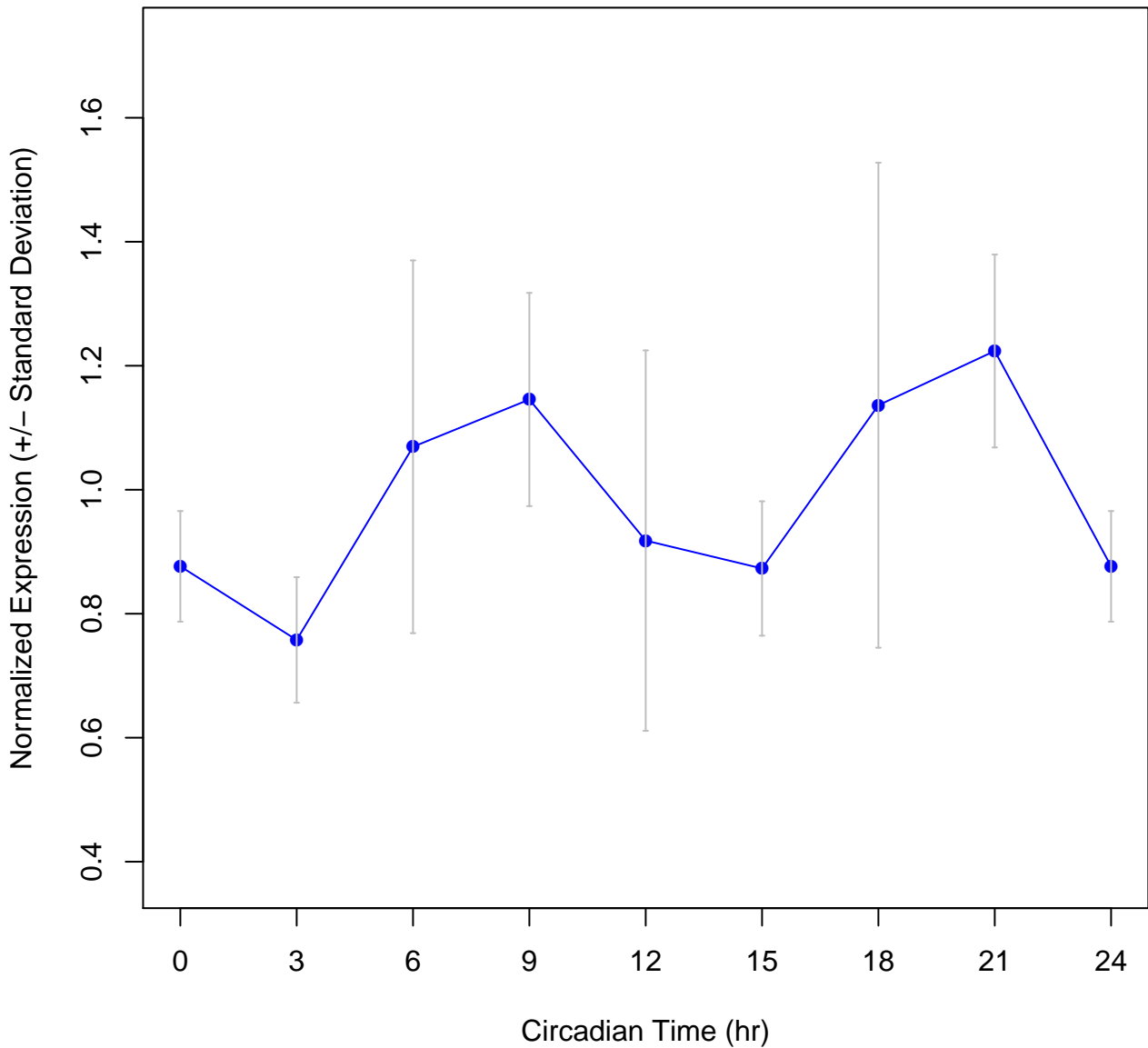
## Supplement Figure 5 klf10



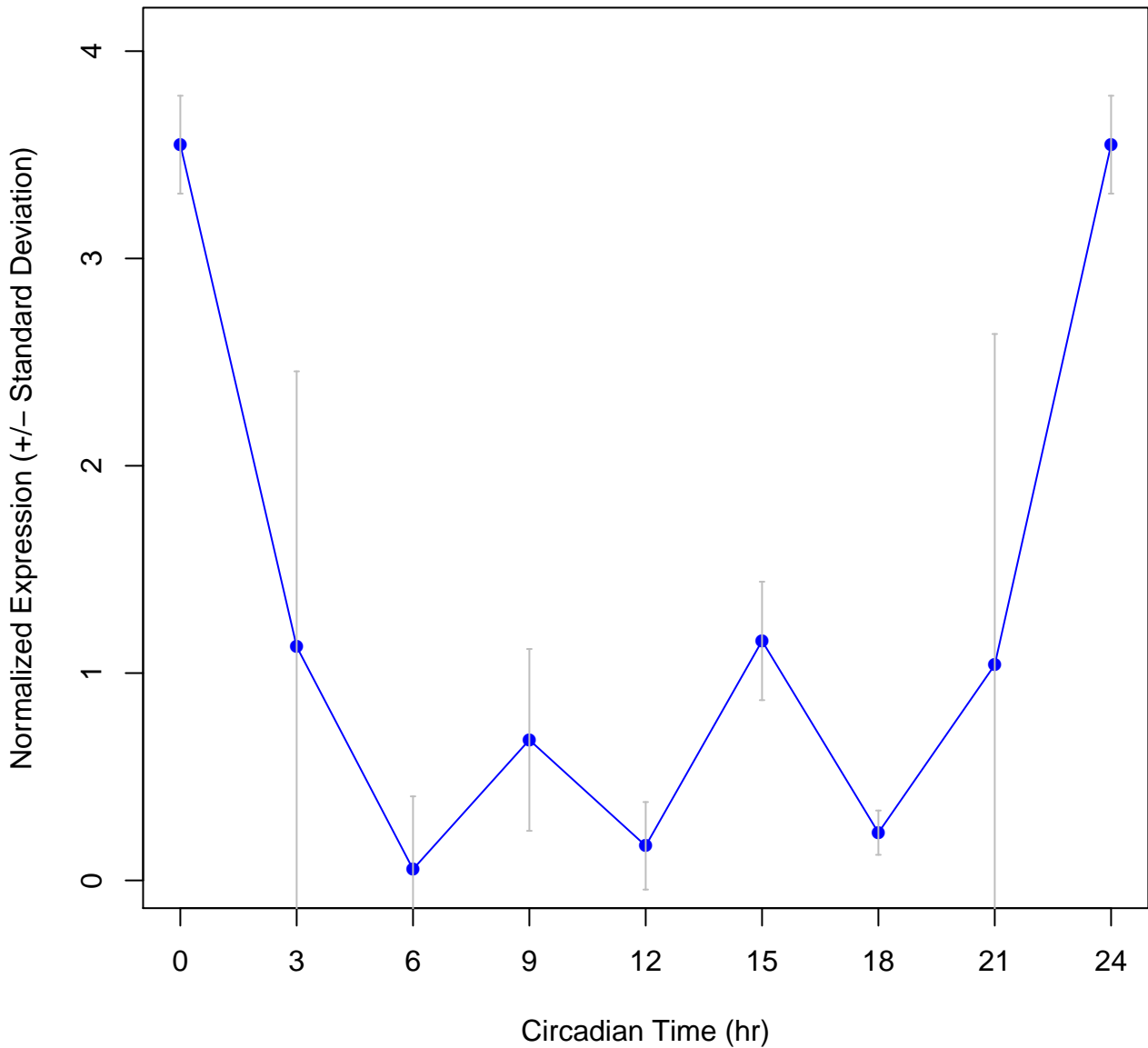
**Supplement Figure 5 klh138**



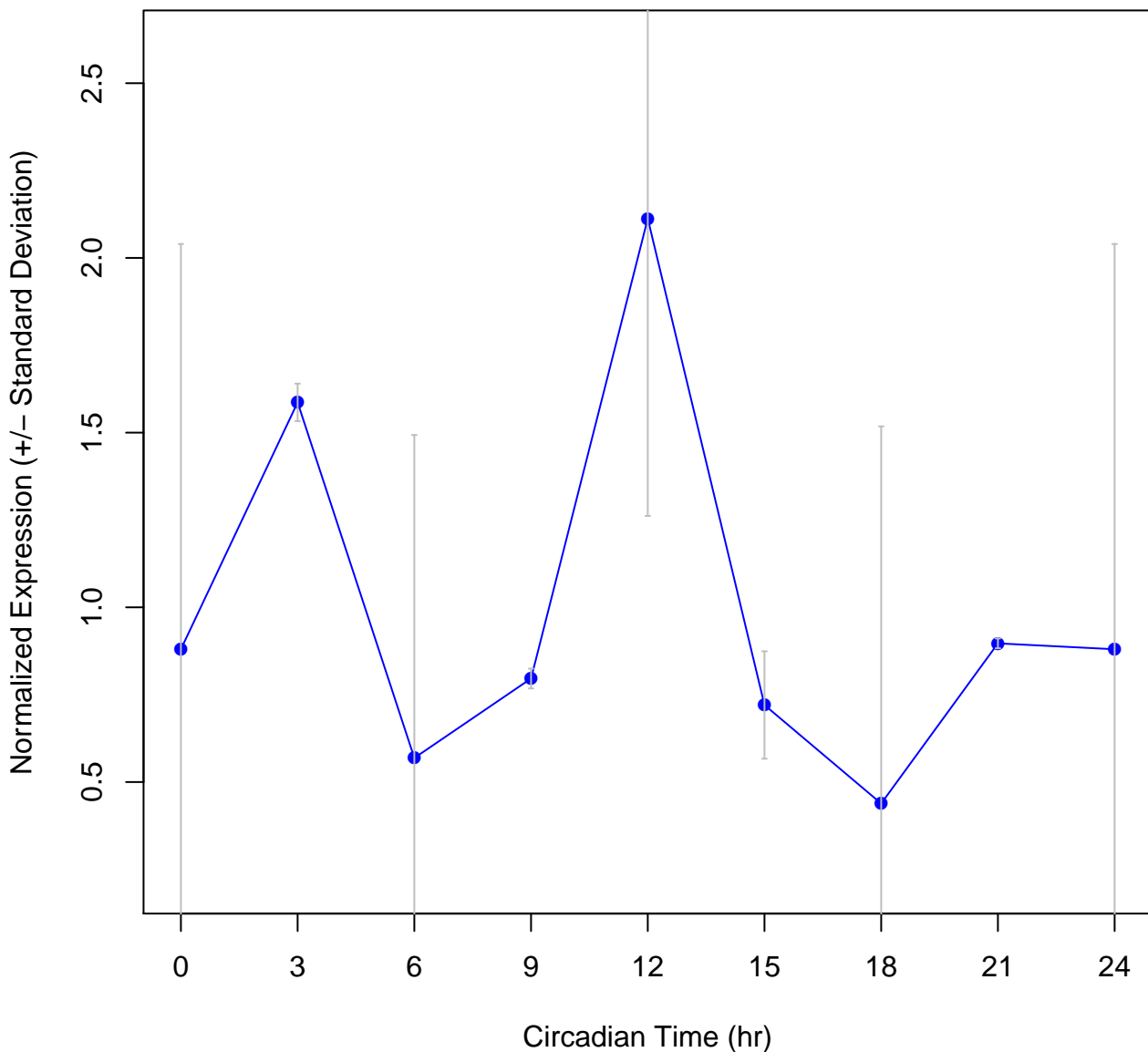
Supplement Figure 5 kmt2a



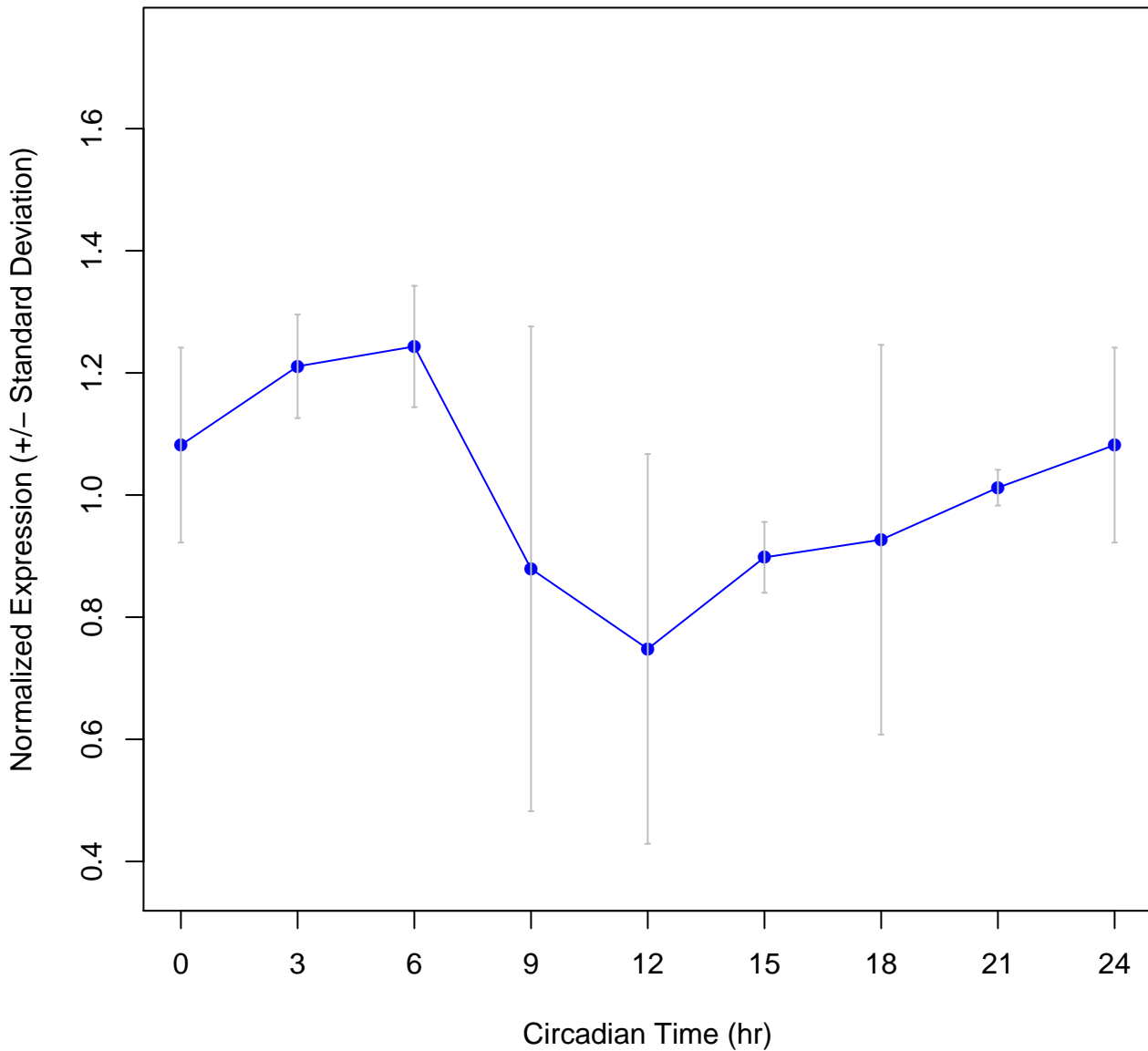
Supplement Figure 5 kpna2



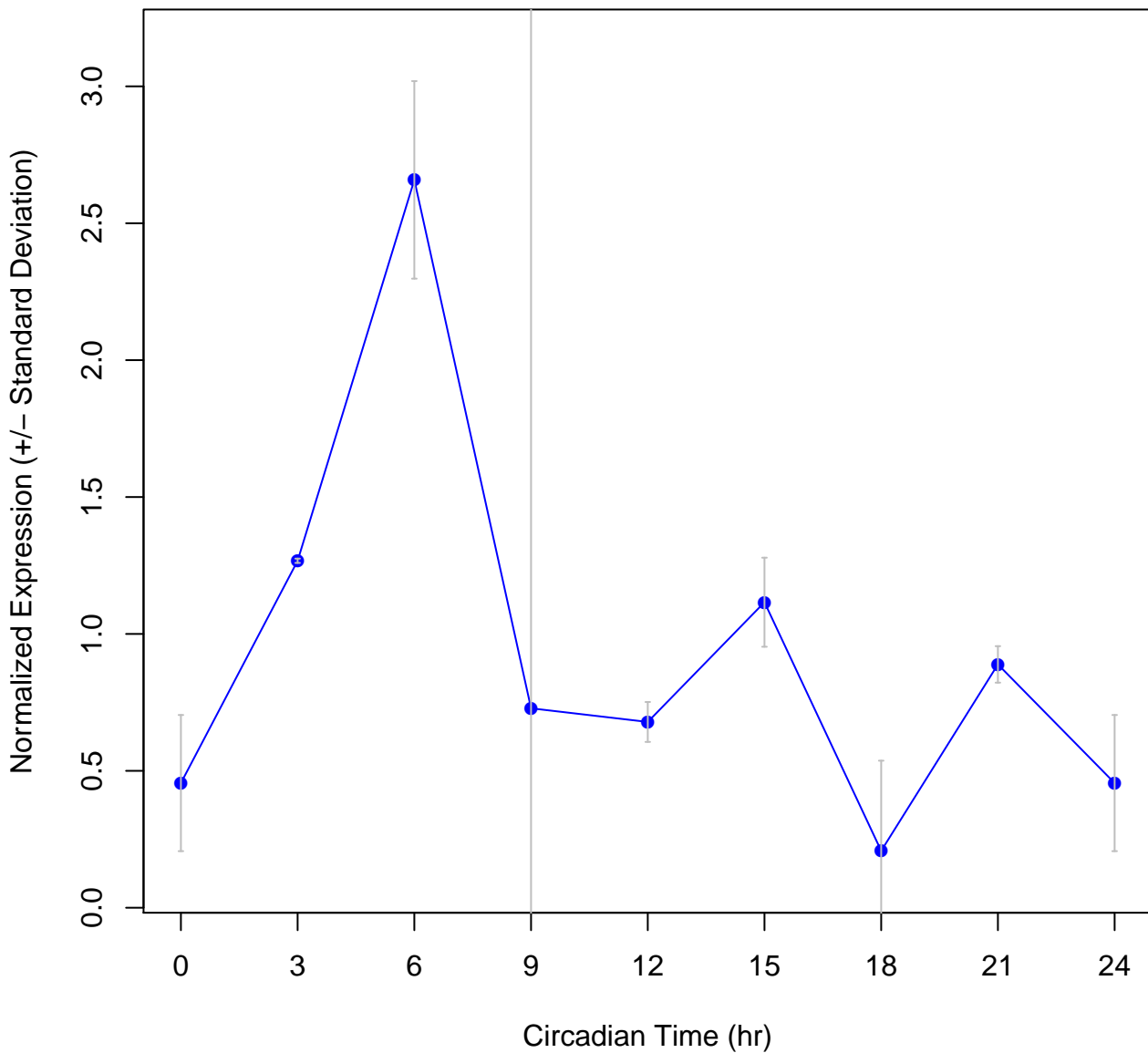
**Supplement Figure 5 lcp2**



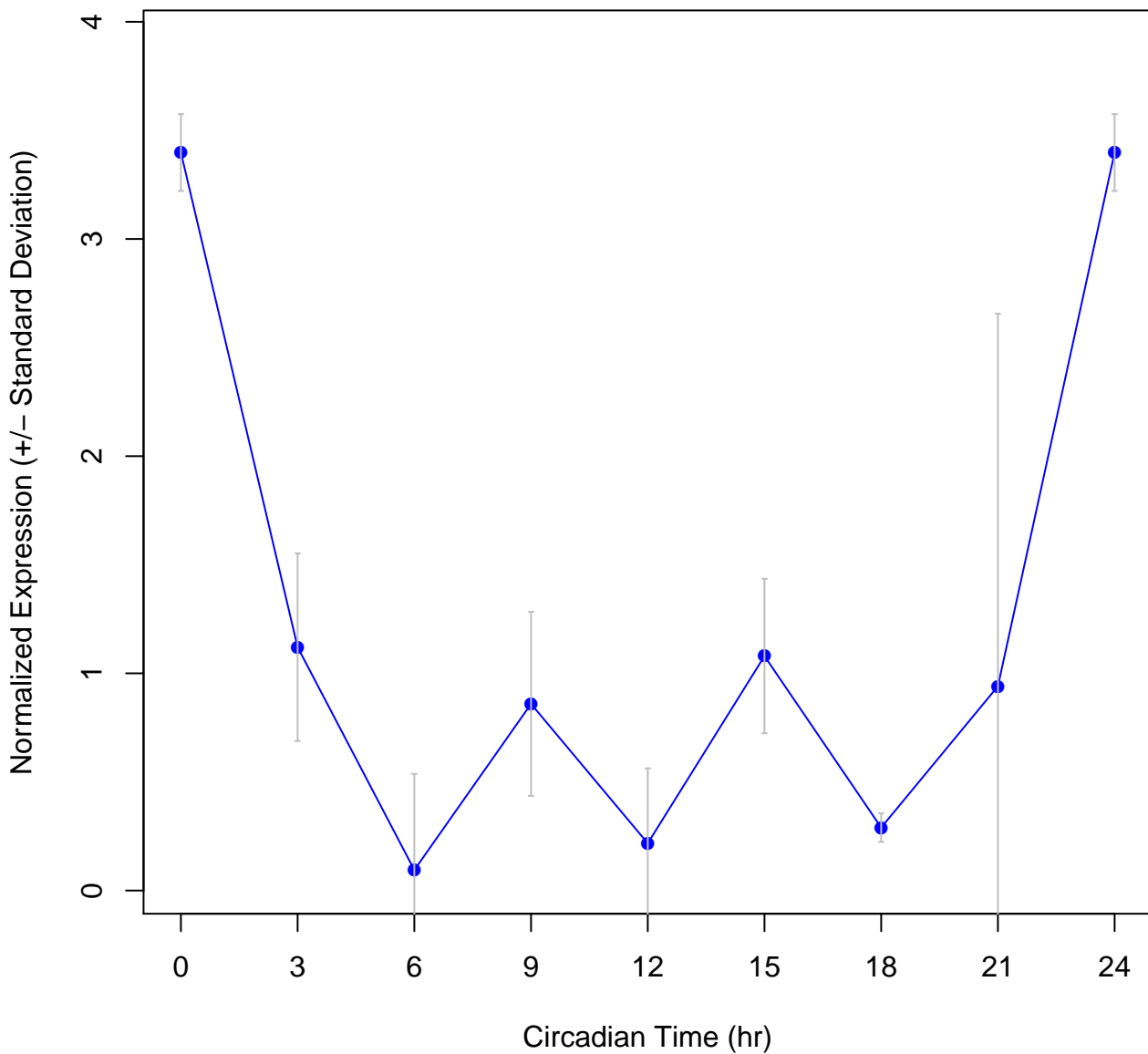
Supplement Figure 5 Ikb1



**Supplement Figure 5 Ipin1**

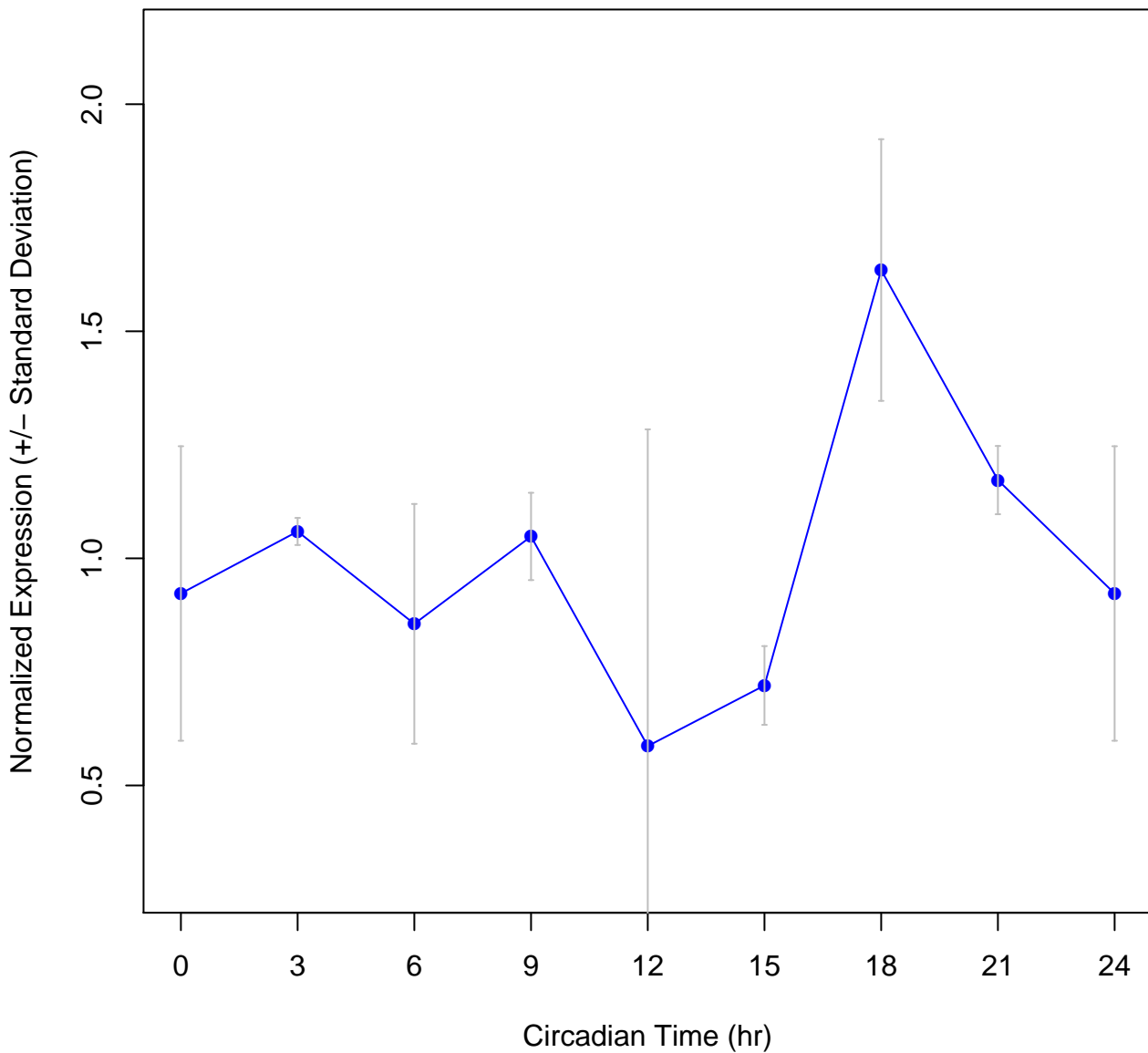


Supplement Figure 5 mad211

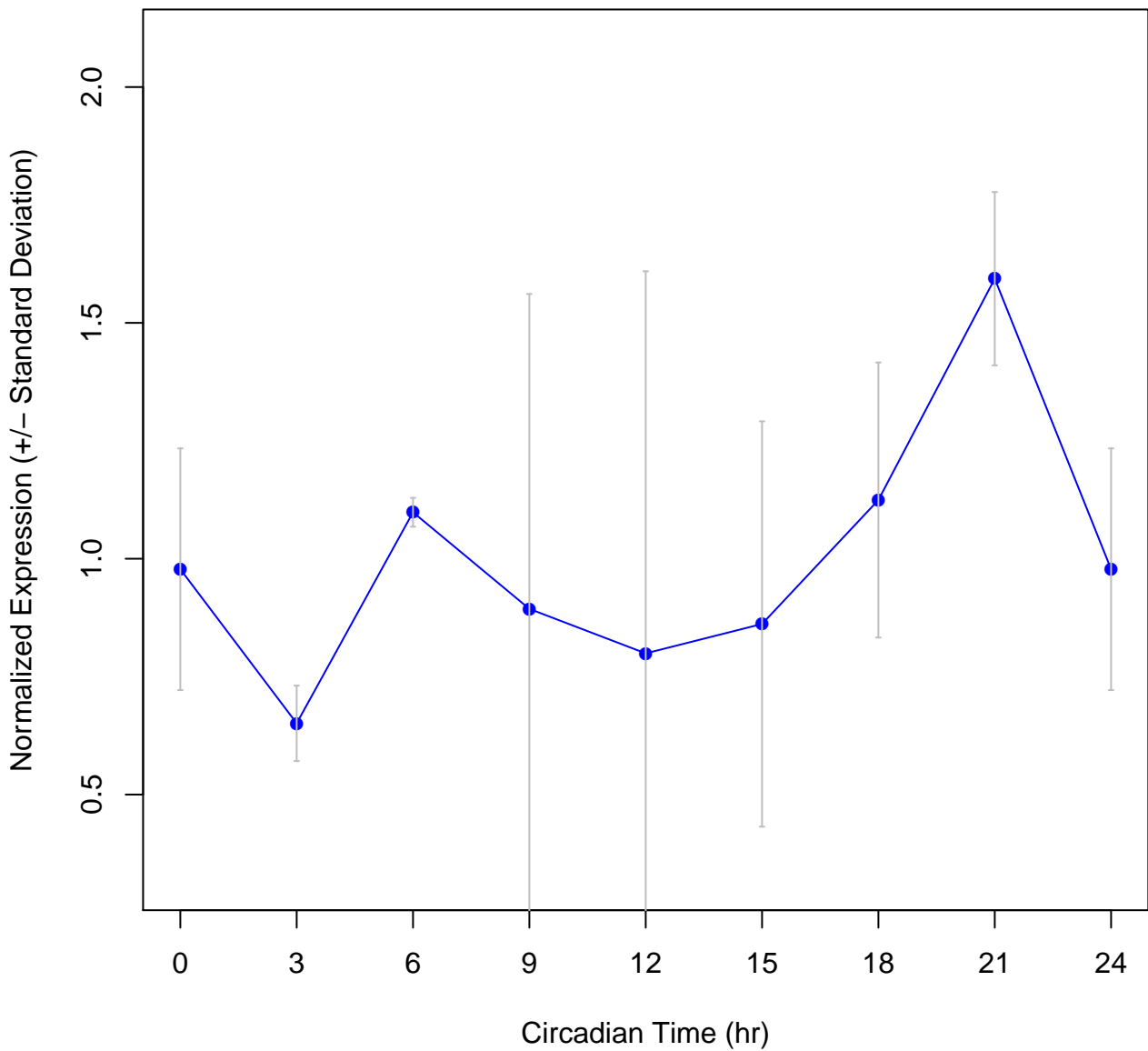




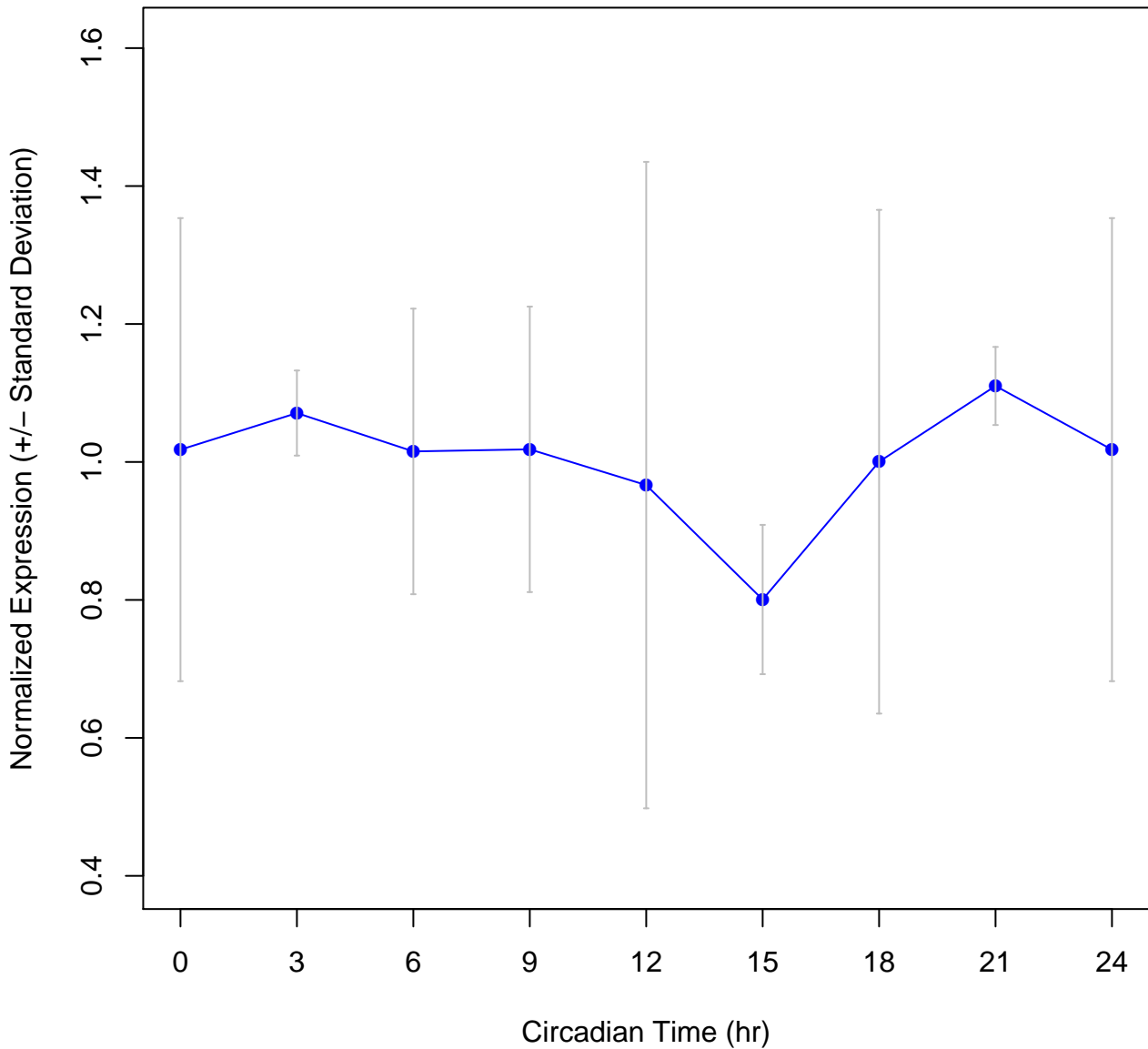
Supplement Figure 5 map2k1



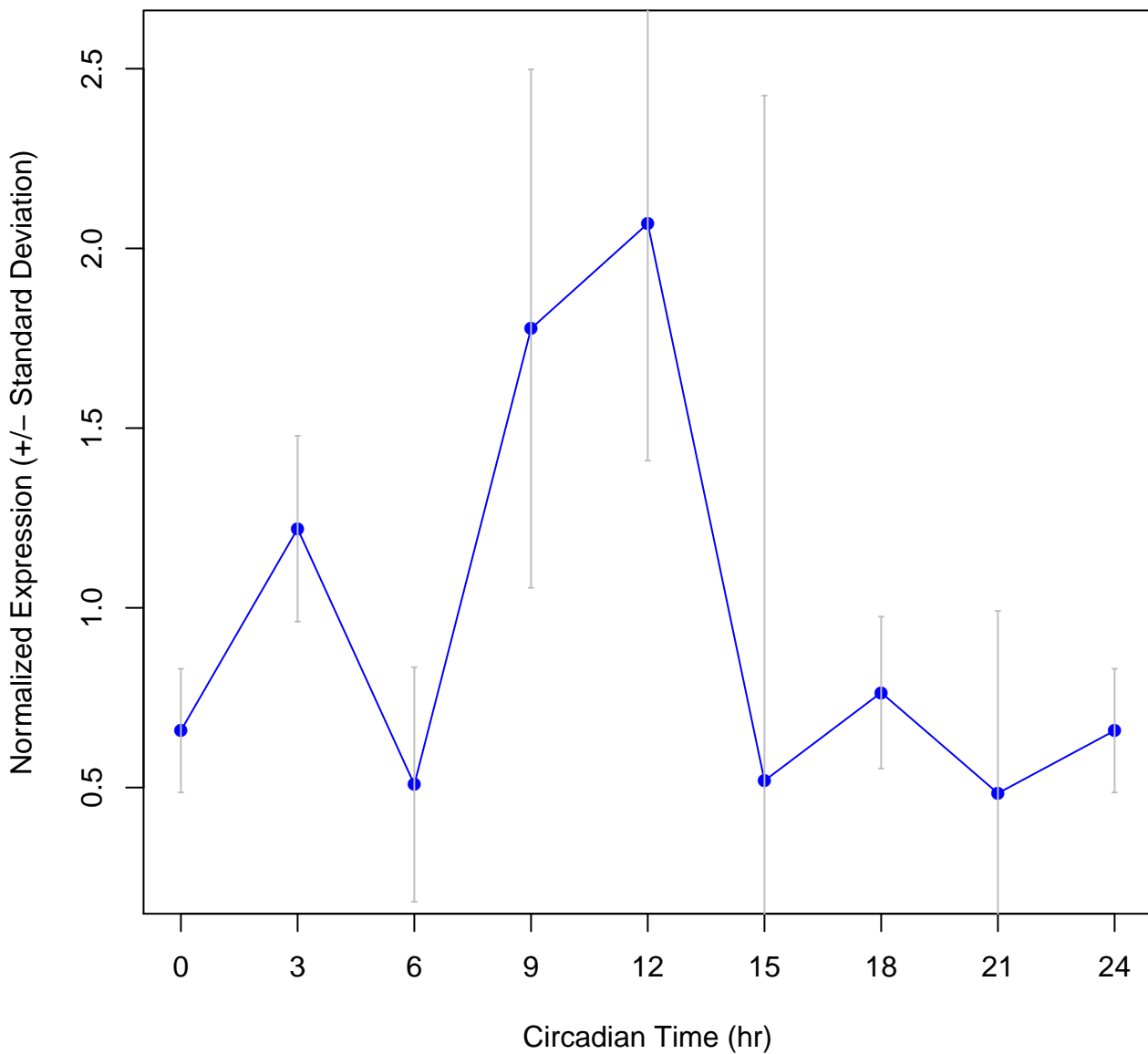
Supplement Figure 5 map2k6



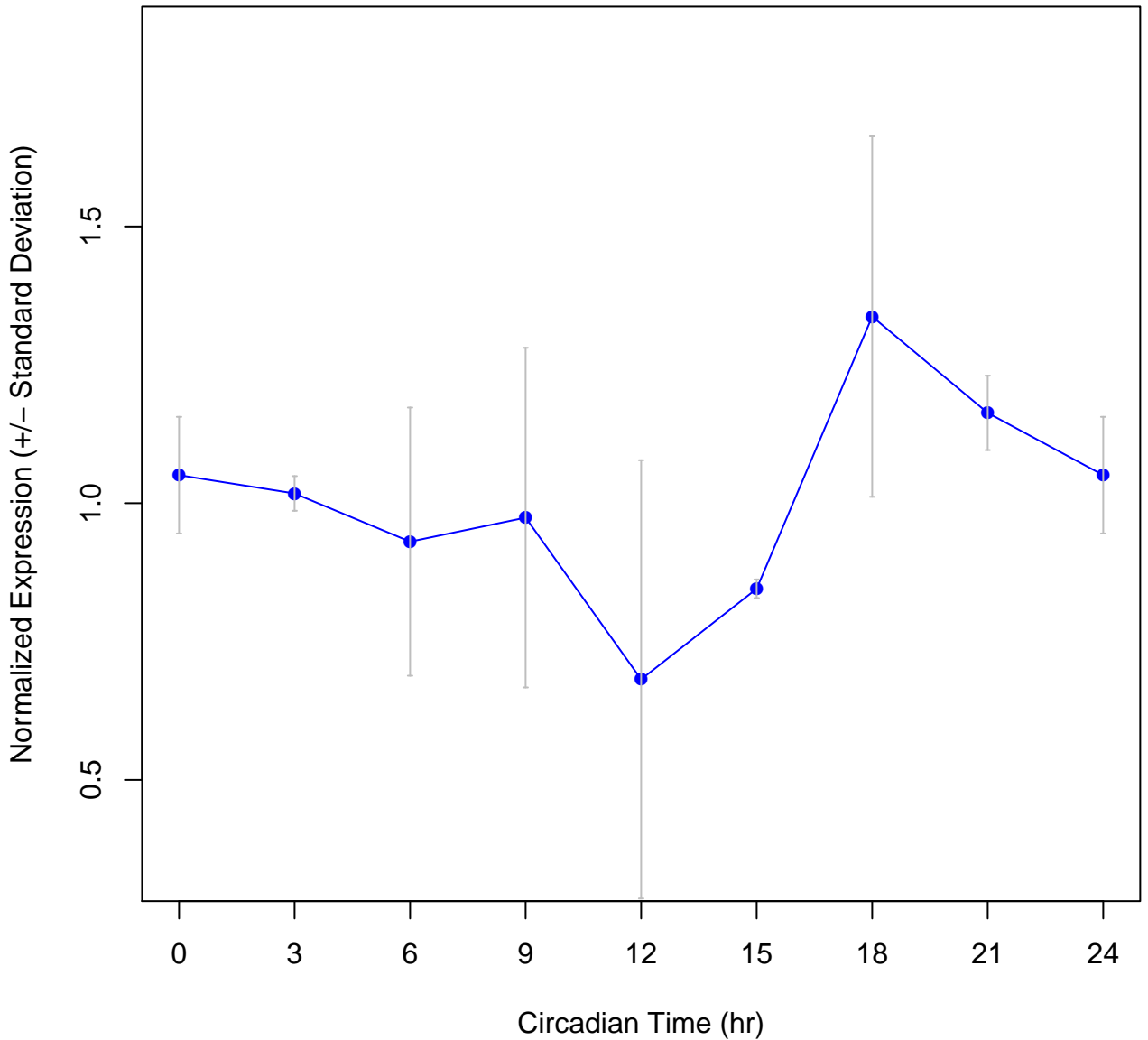
## Supplement Figure 5 mcl1



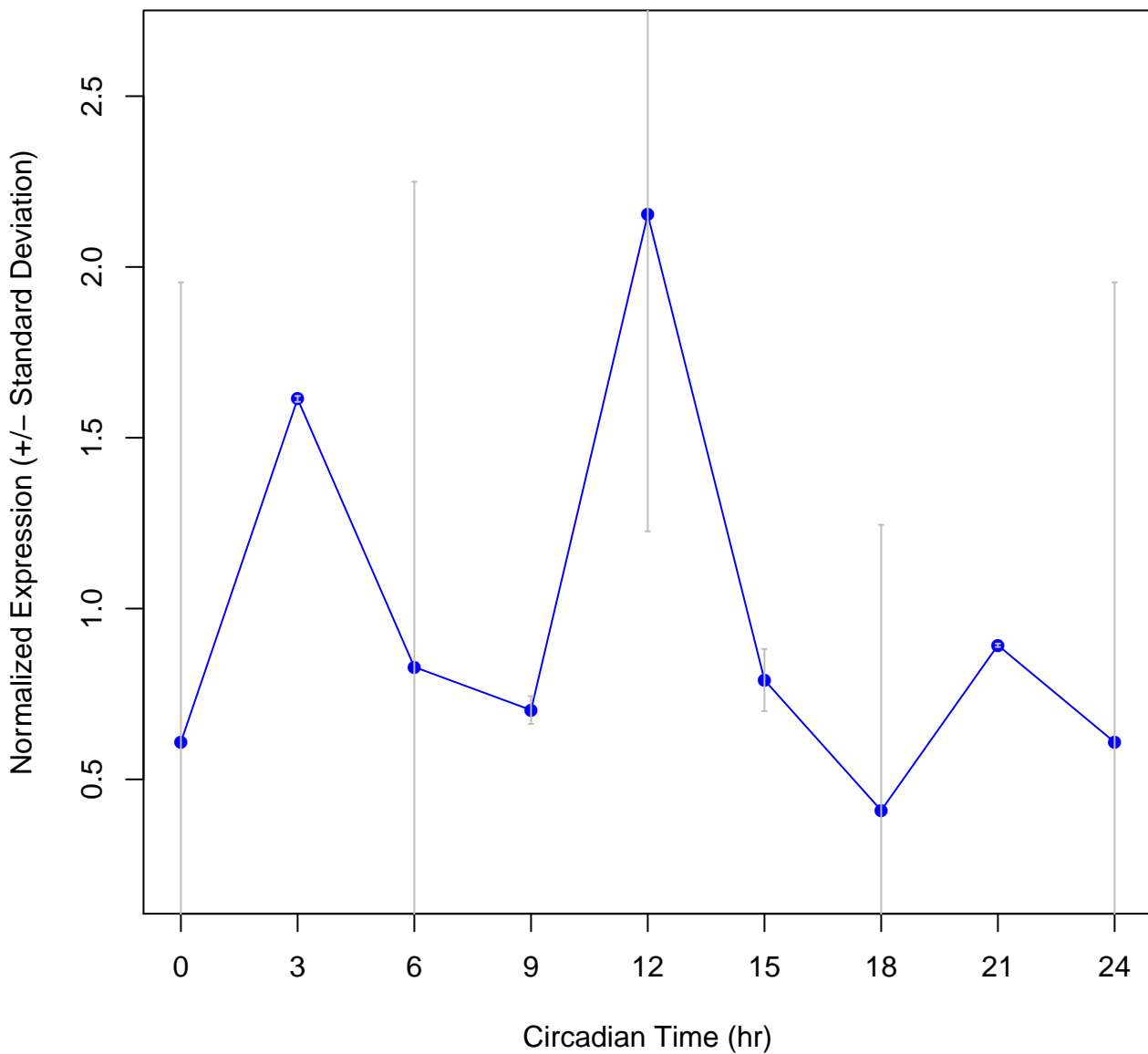
Supplement Figure 5 me1



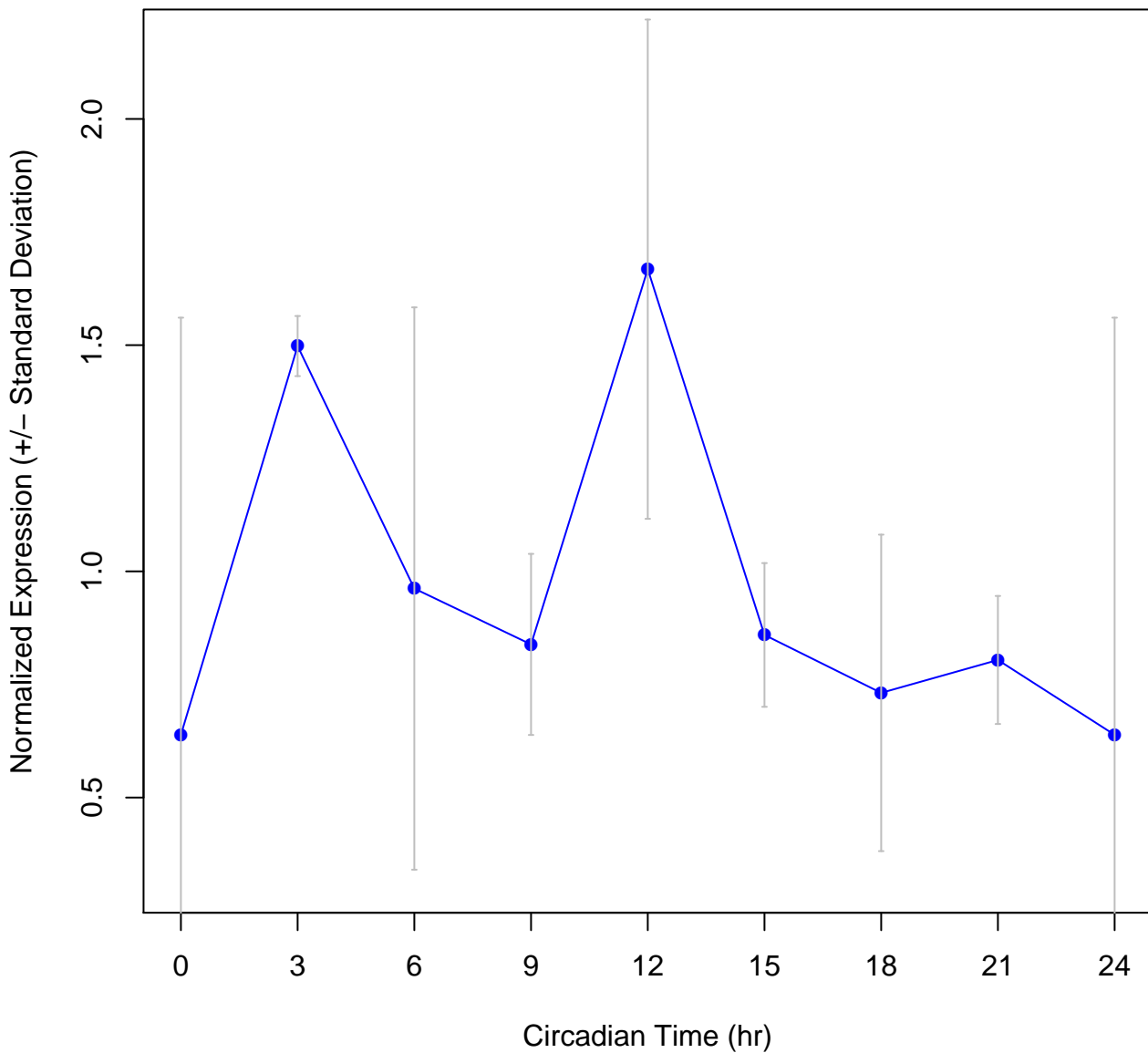
Supplement Figure 5 mgst1



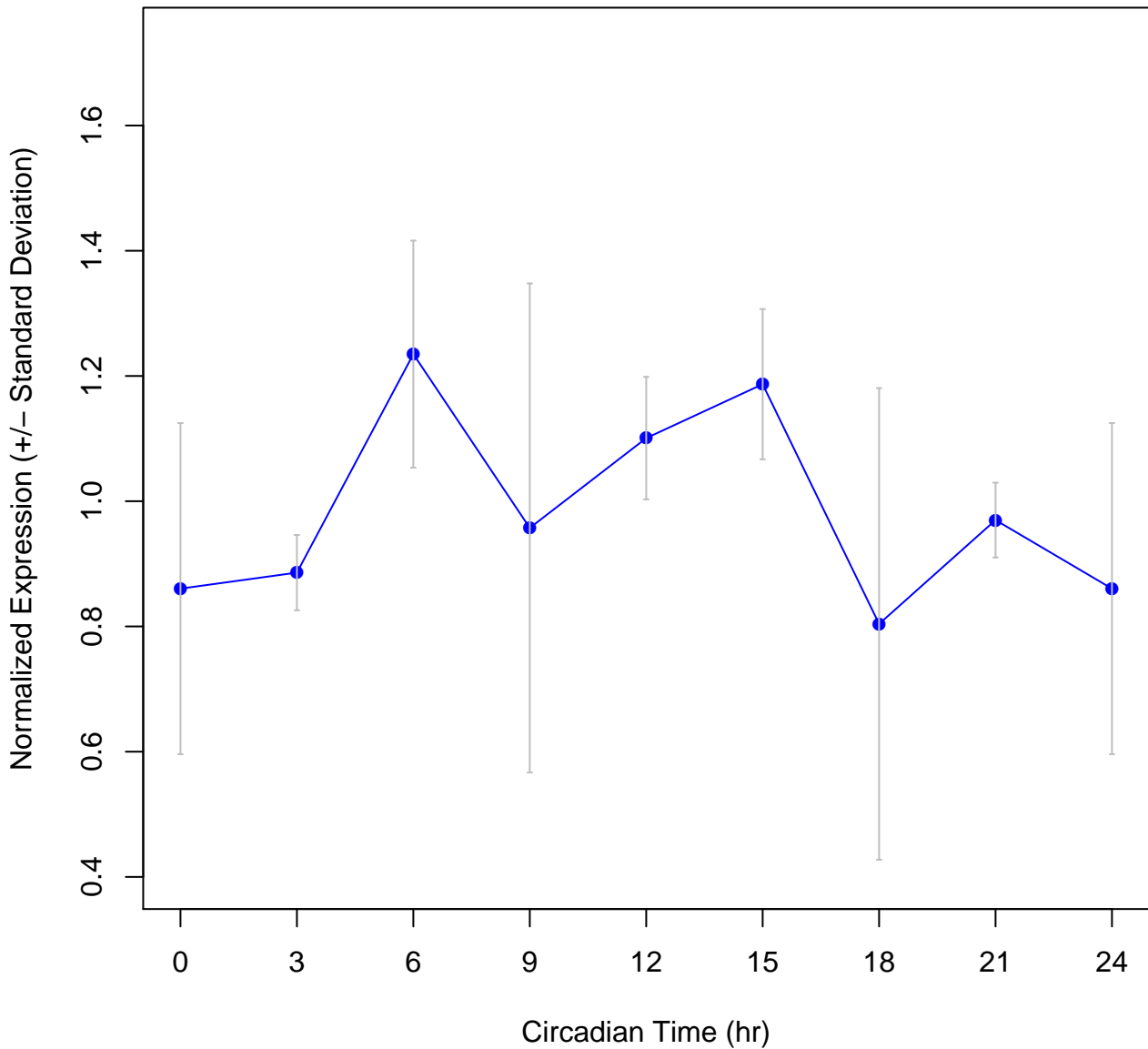
Supplement Figure 5 mitf



**Supplement Figure 5 mtcl**

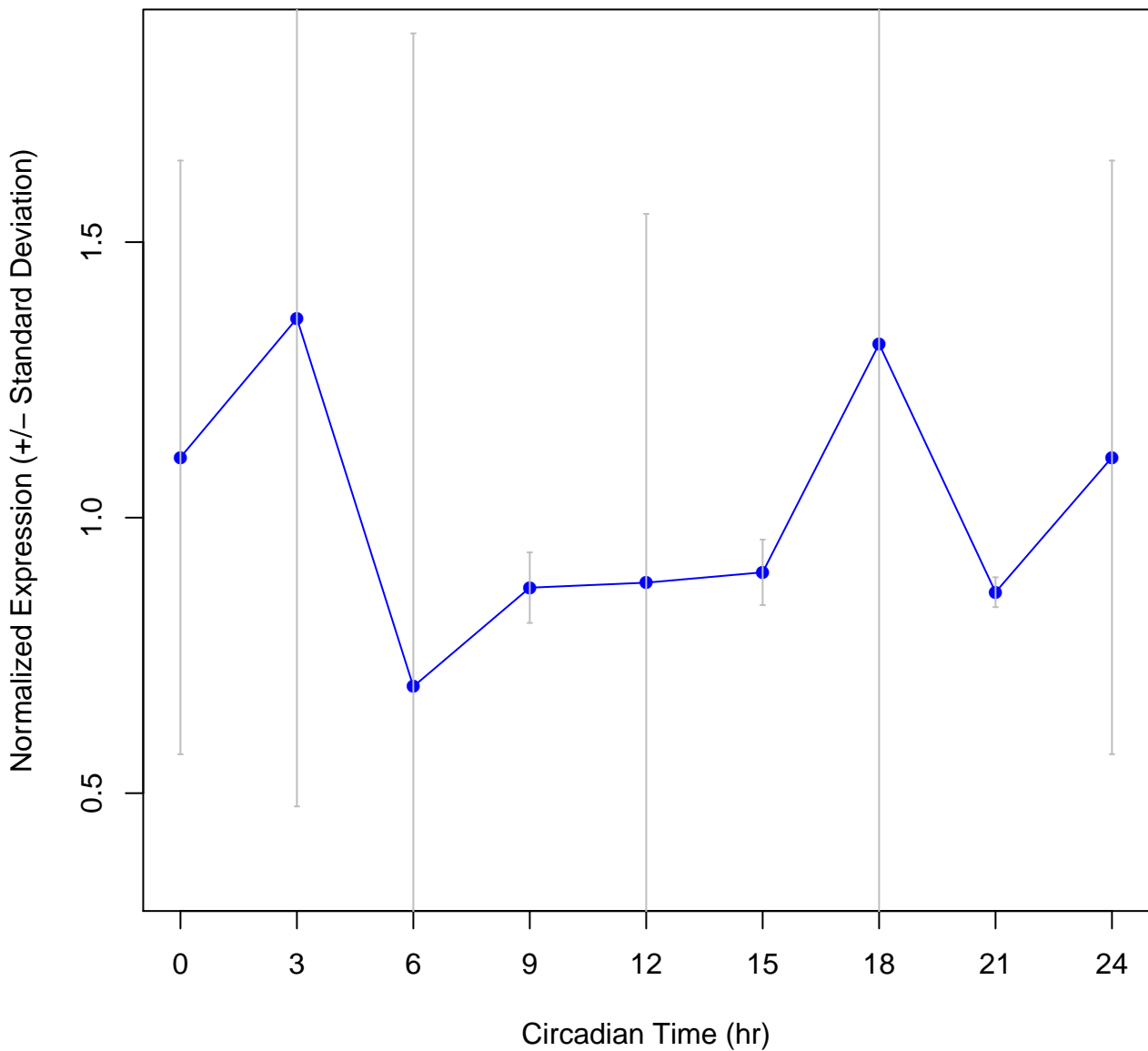


## Supplement Figure 5 mtor

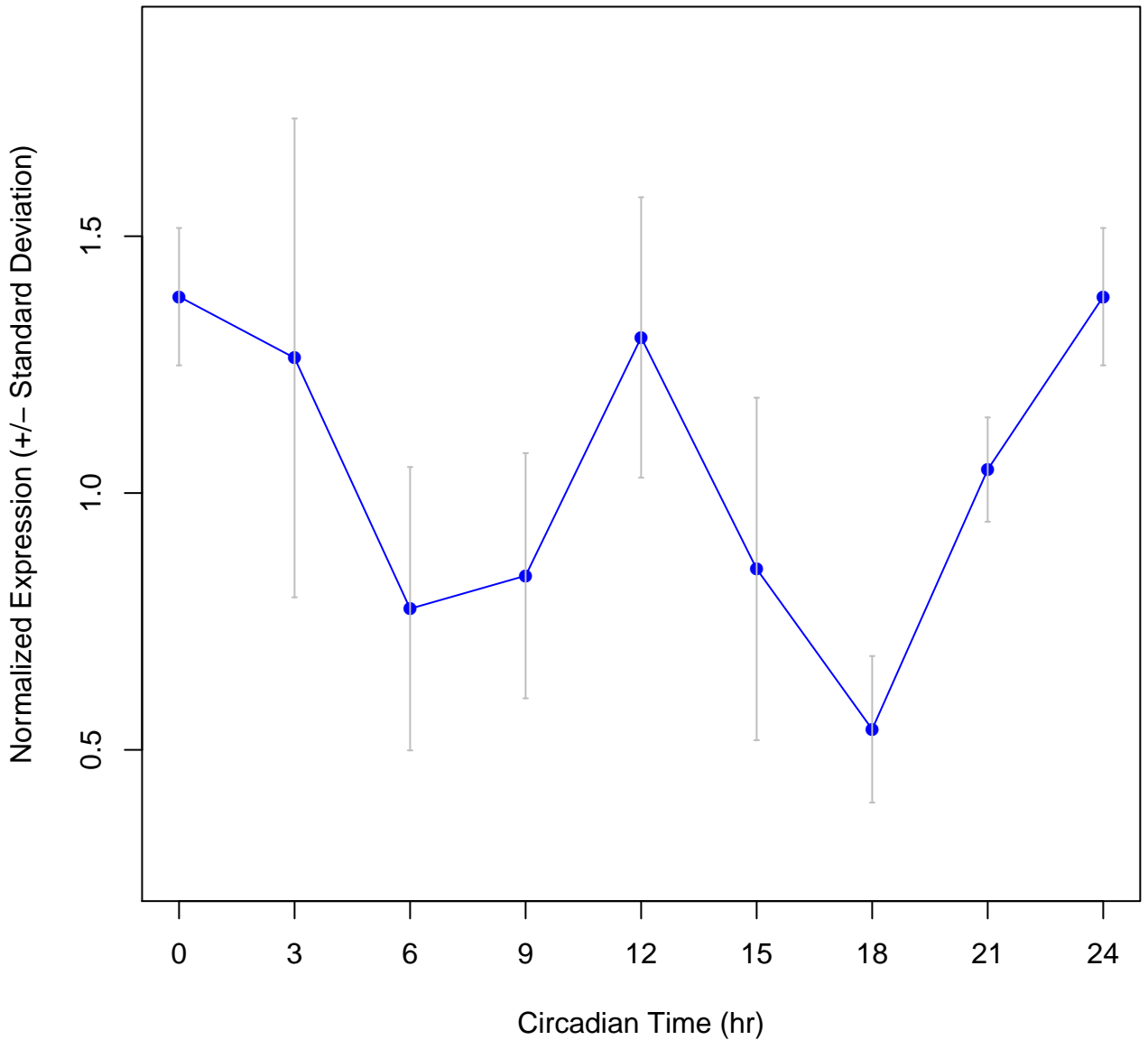




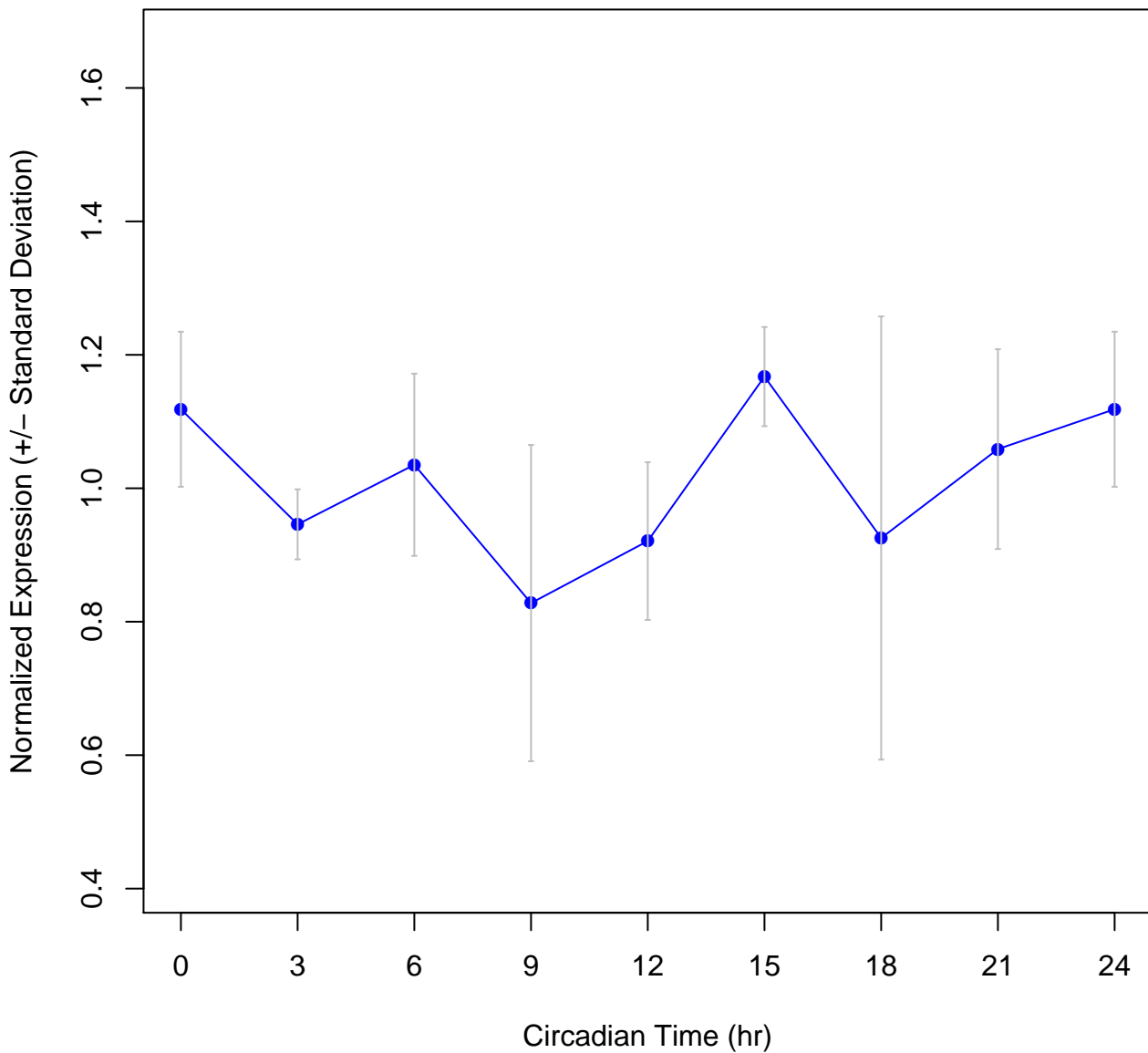
## Supplement Figure 5 myh14



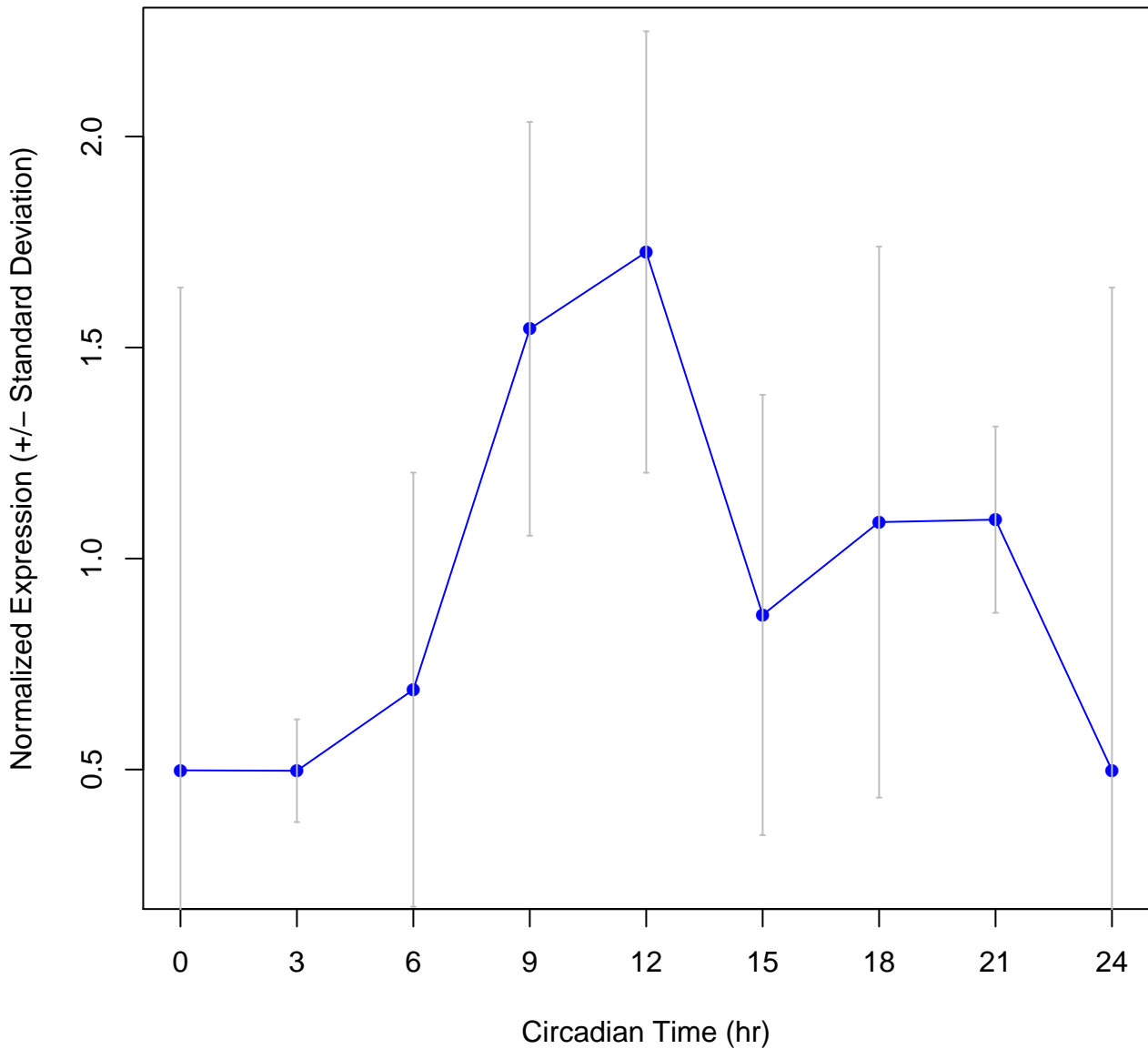
Supplement Figure 5 myl2b



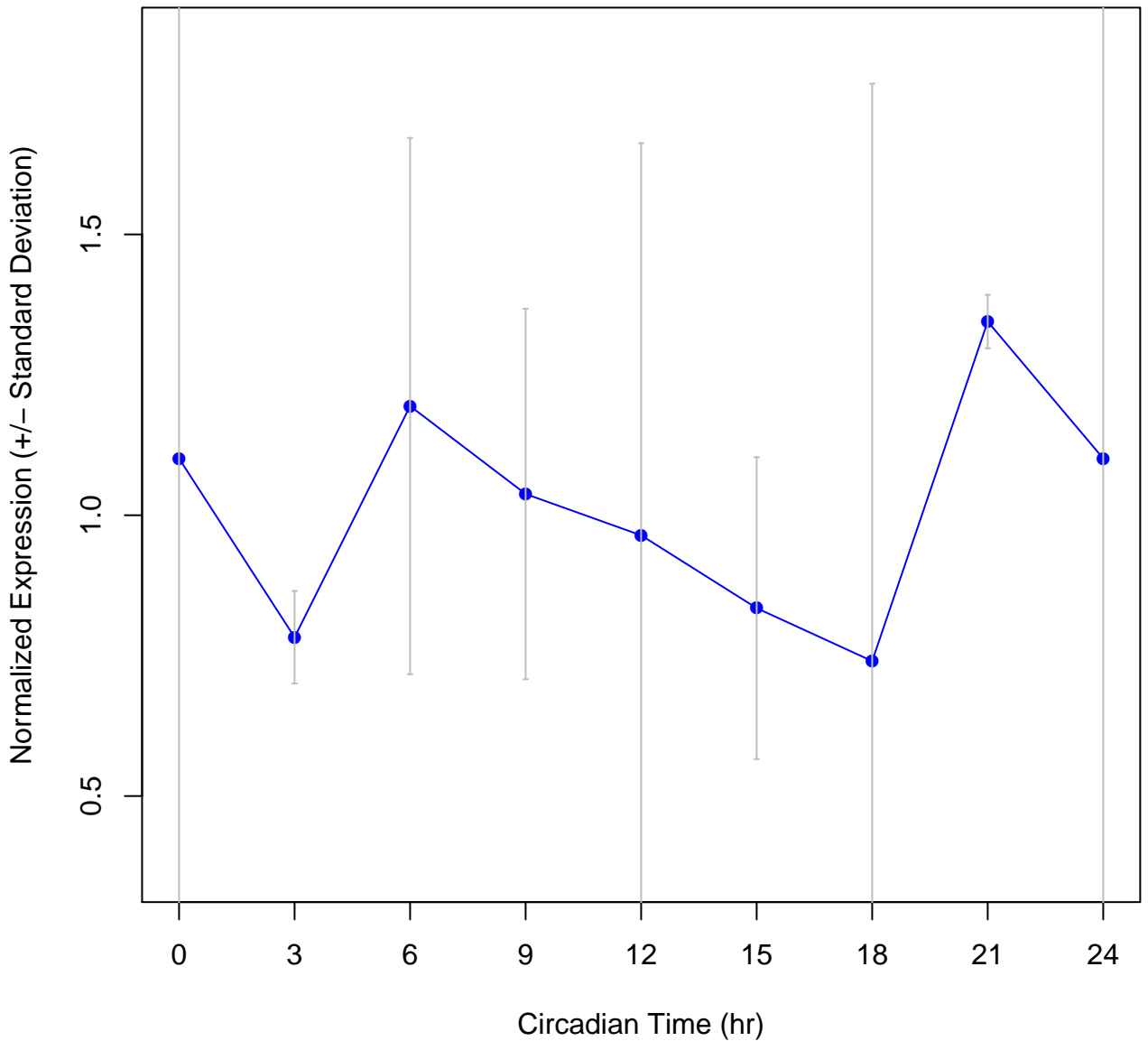
**Supplement Figure 5 nadsyn1**



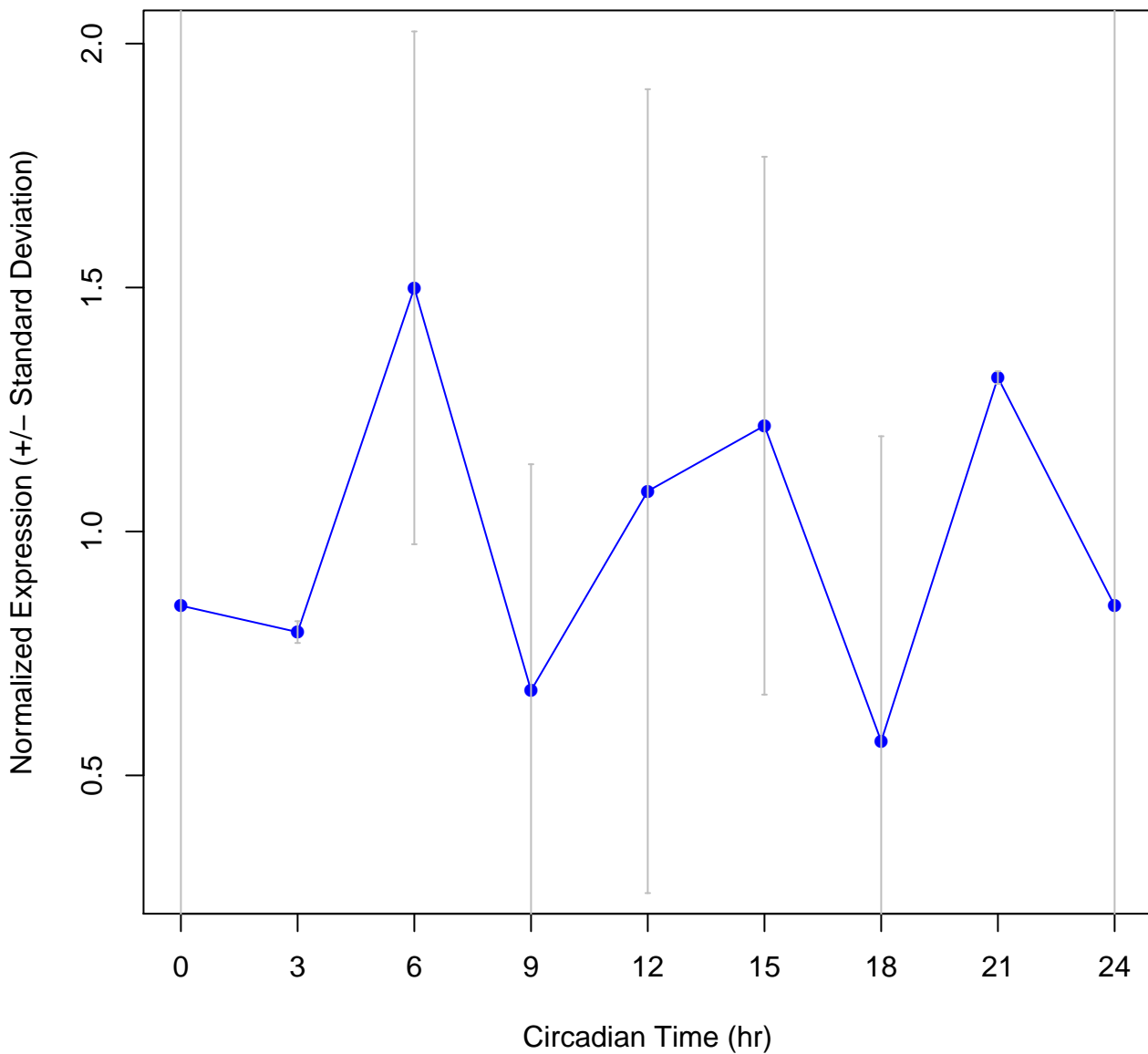
**Supplement Figure 5 ncor1**



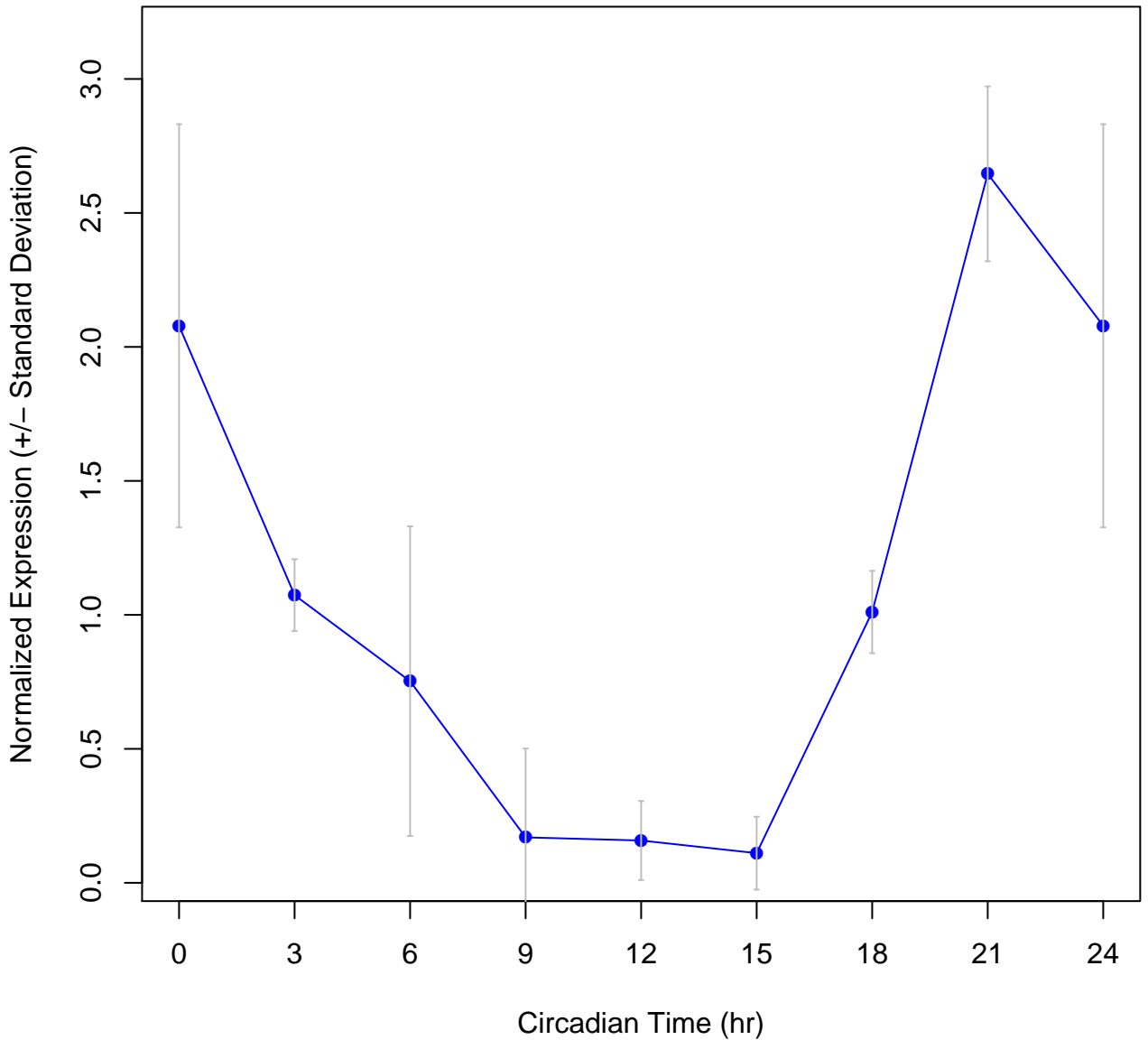
Supplement Figure 5 ncor2



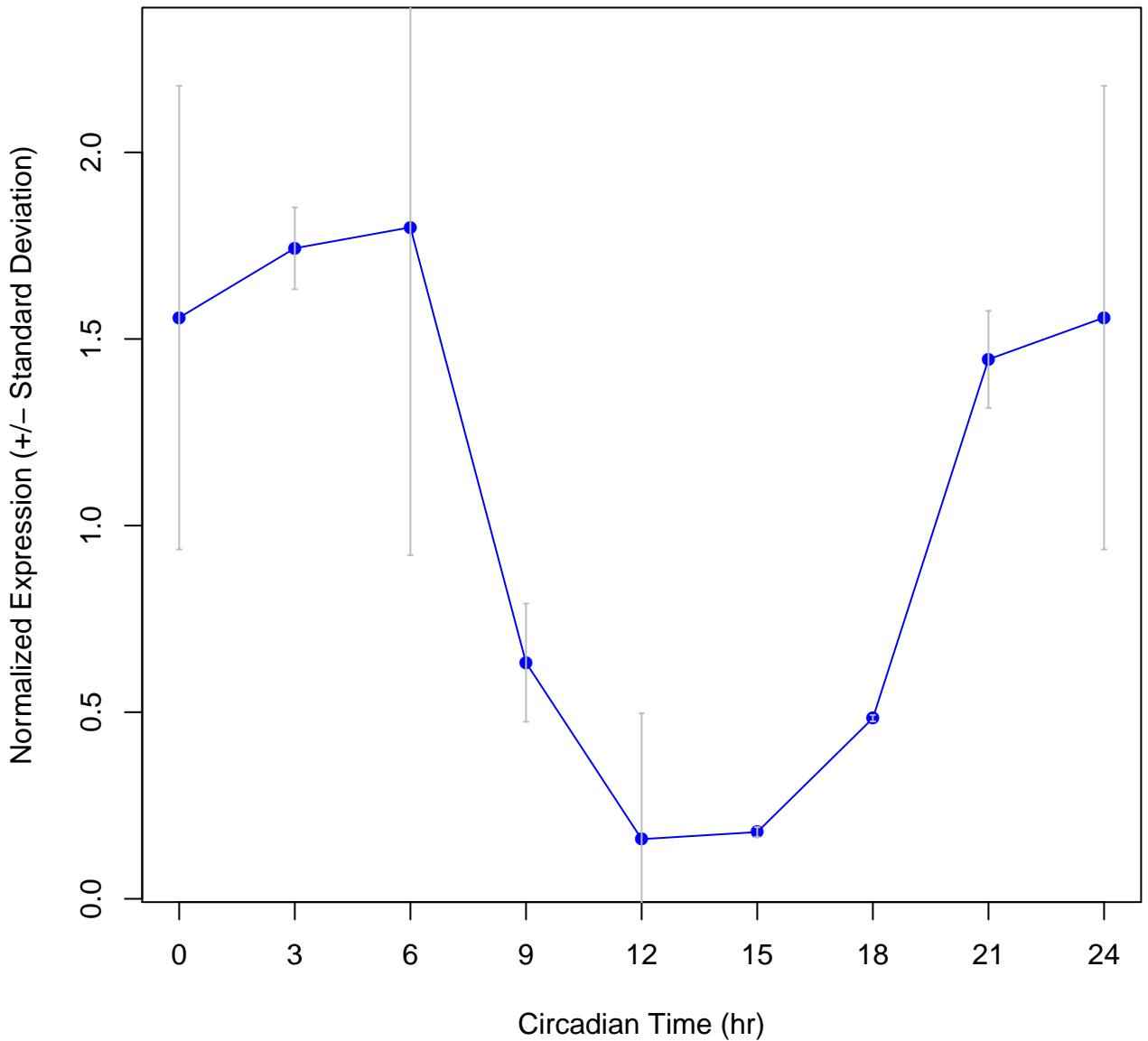
## Supplement Figure 5 nos2



Supplement Figure 5 nr1d1

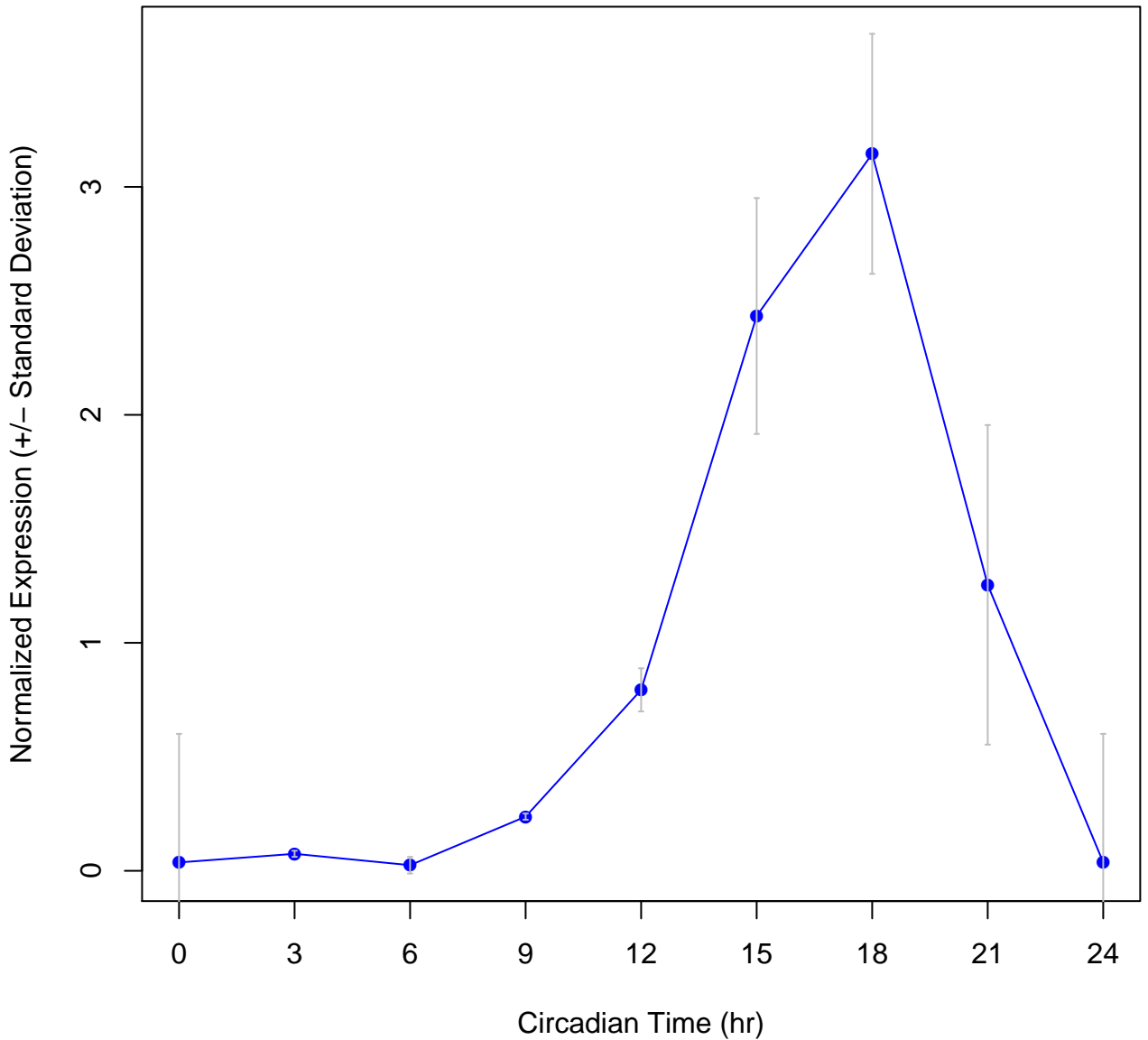


Supplement Figure 5 nr1d2

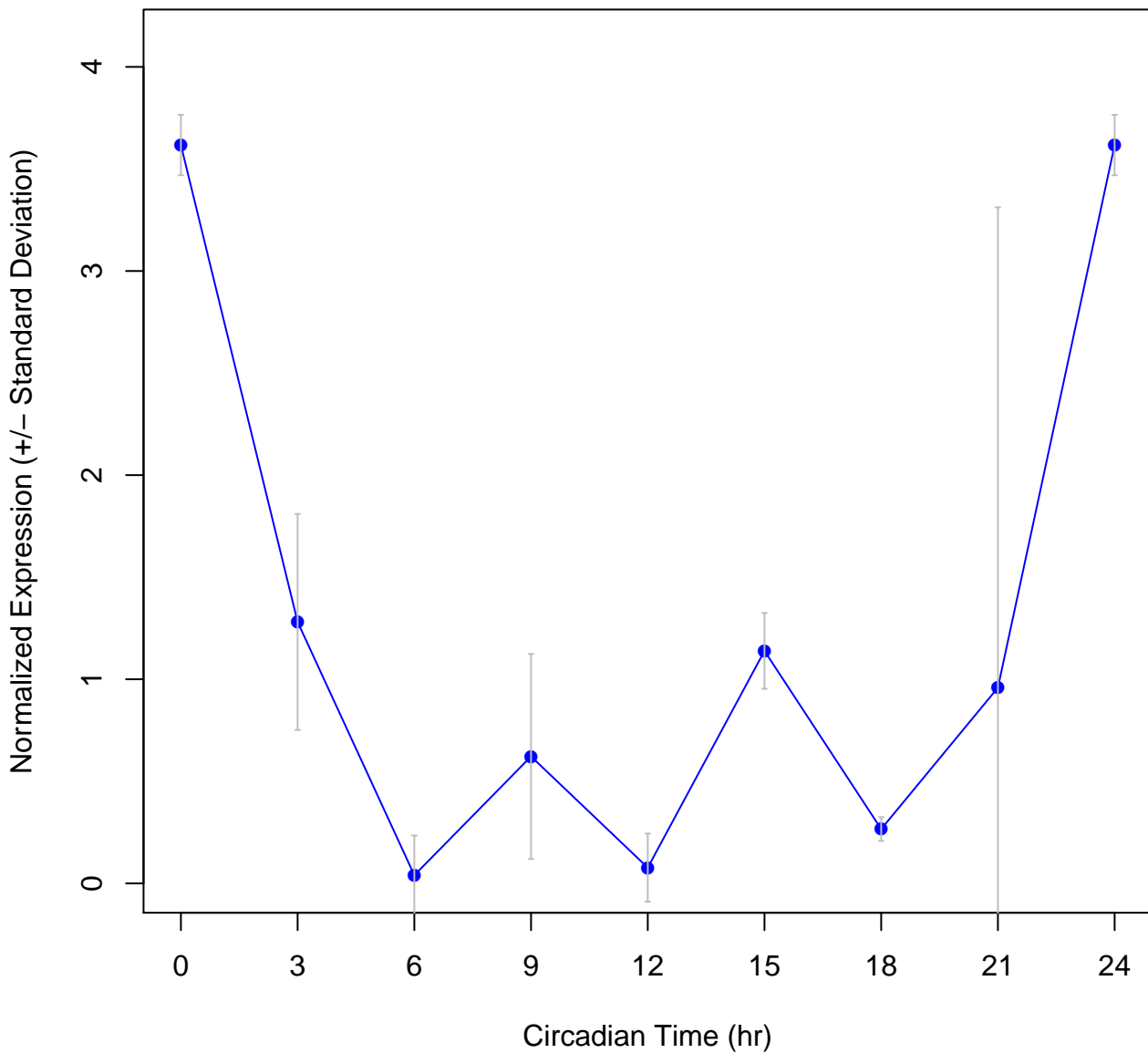




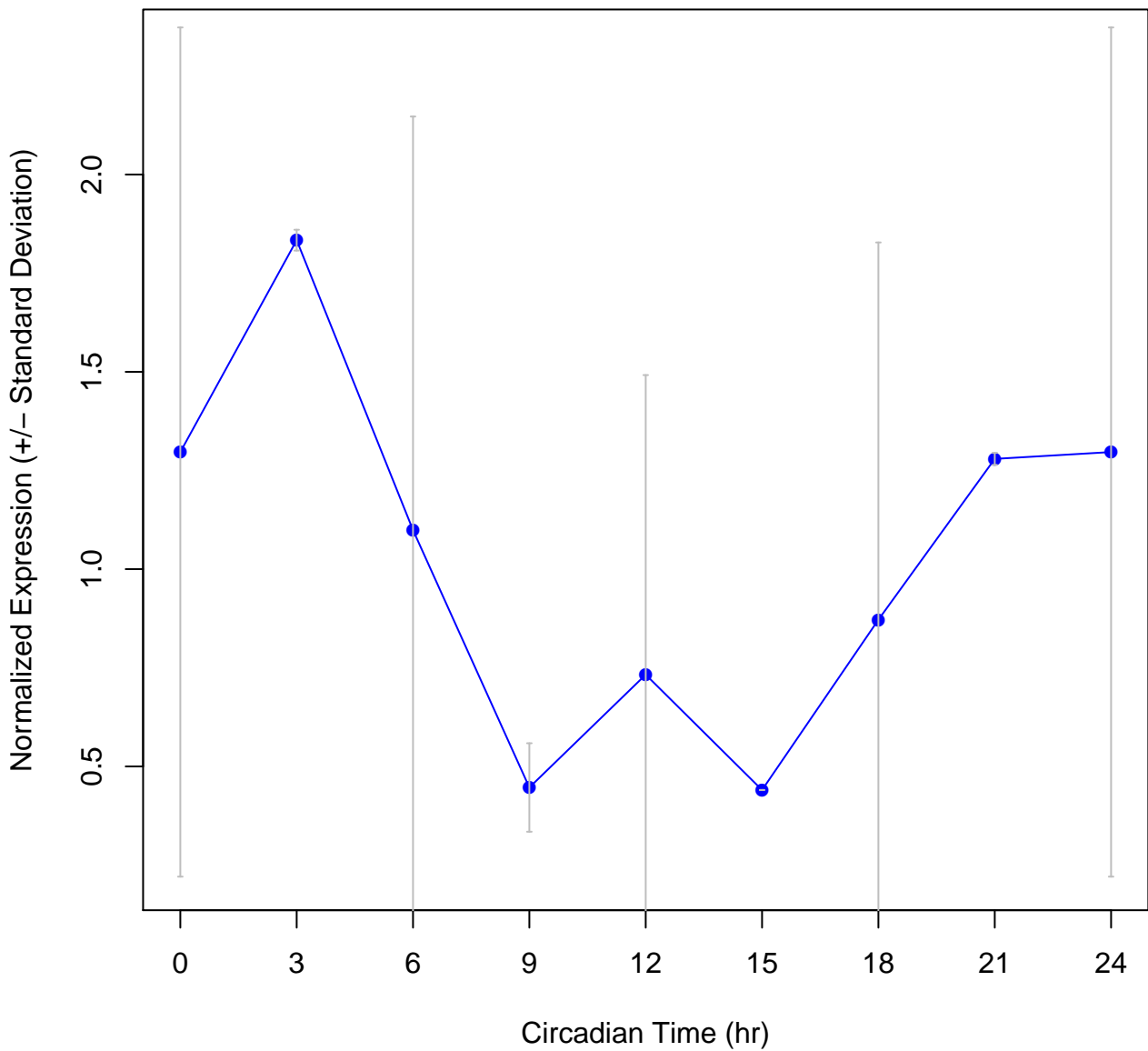
Supplement Figure 5 nr1d4



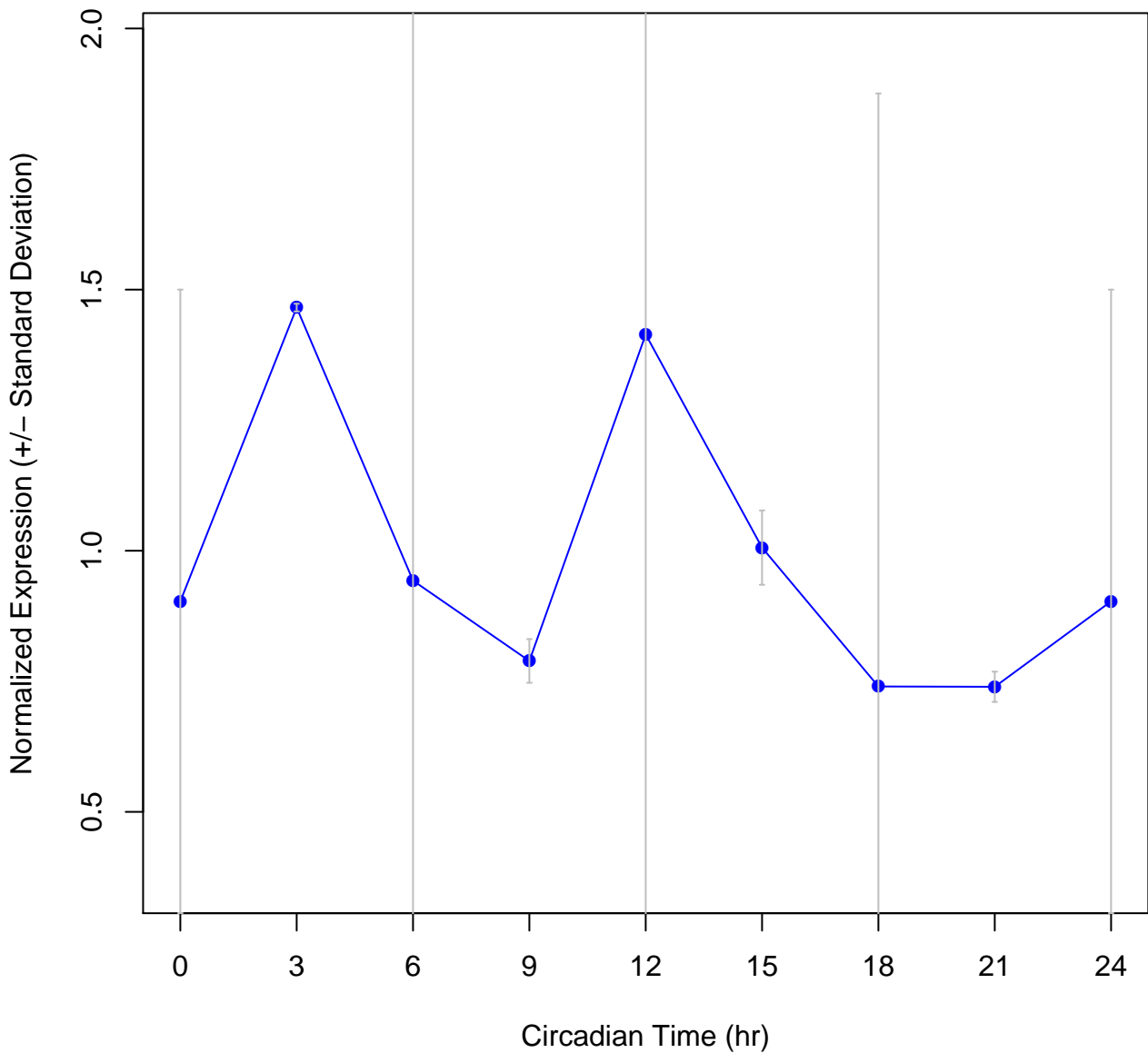
Supplement Figure 5 numa1



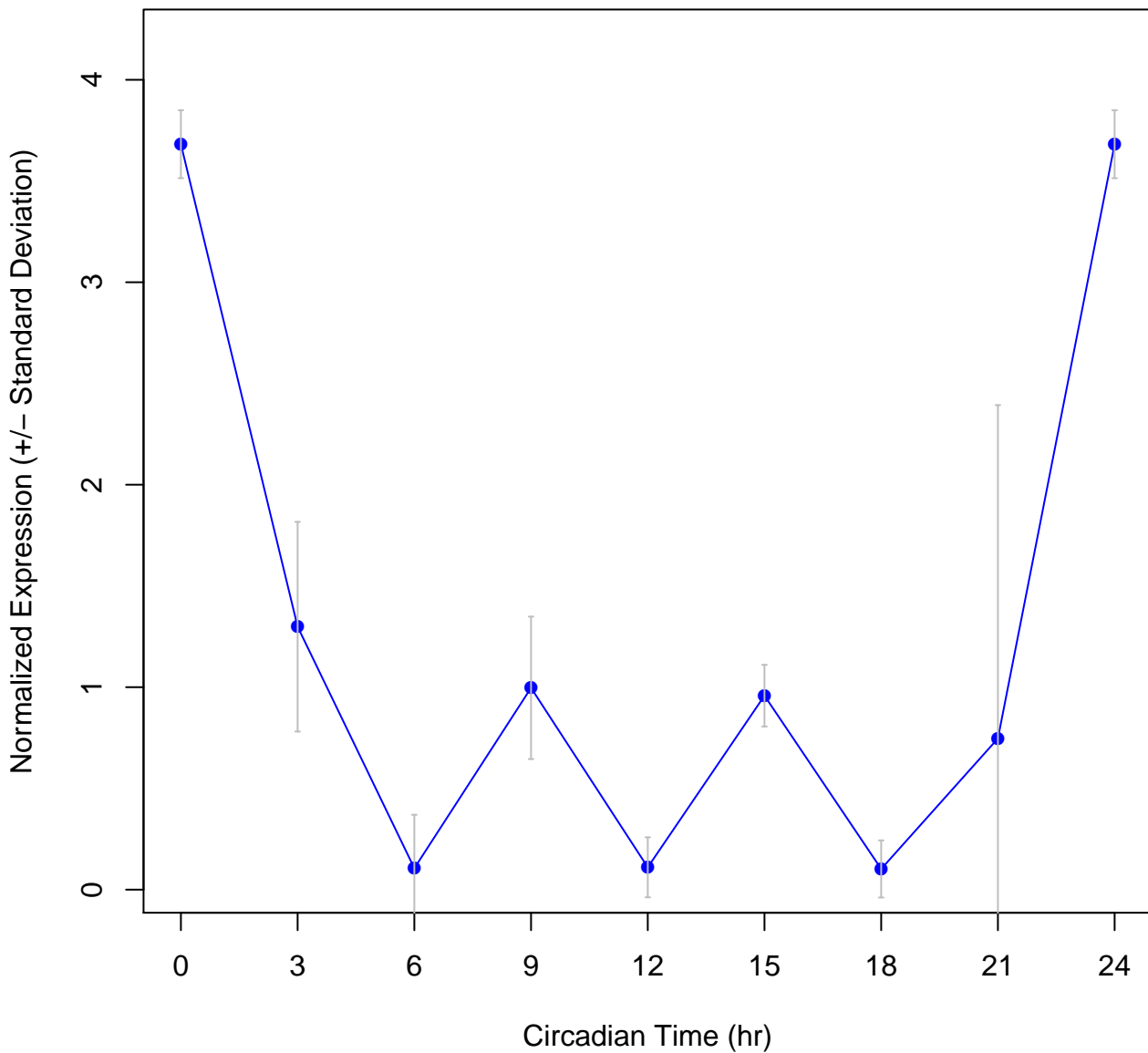
Supplement Figure 5 opn1sw



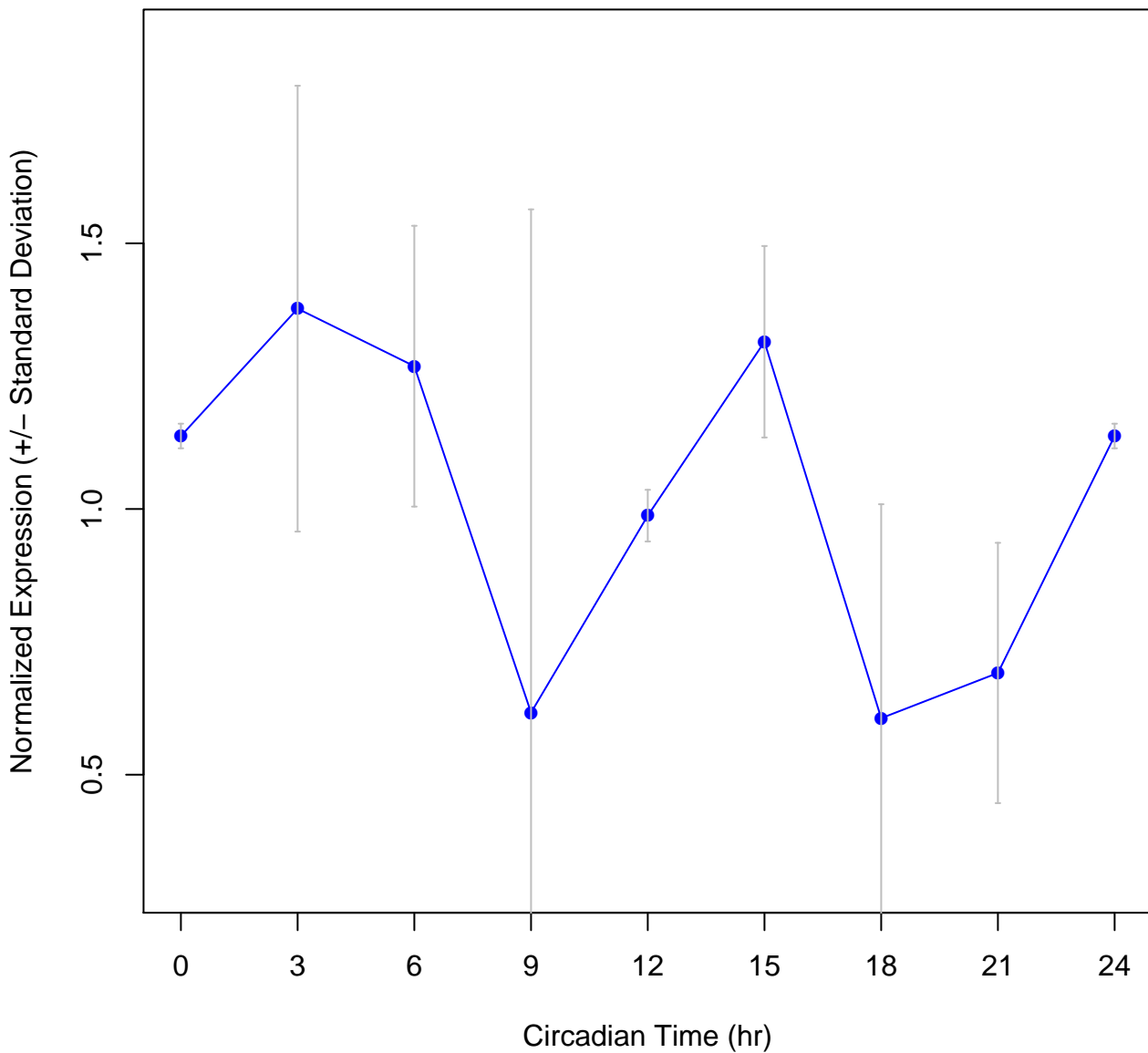
**Supplement Figure 5 pacap**



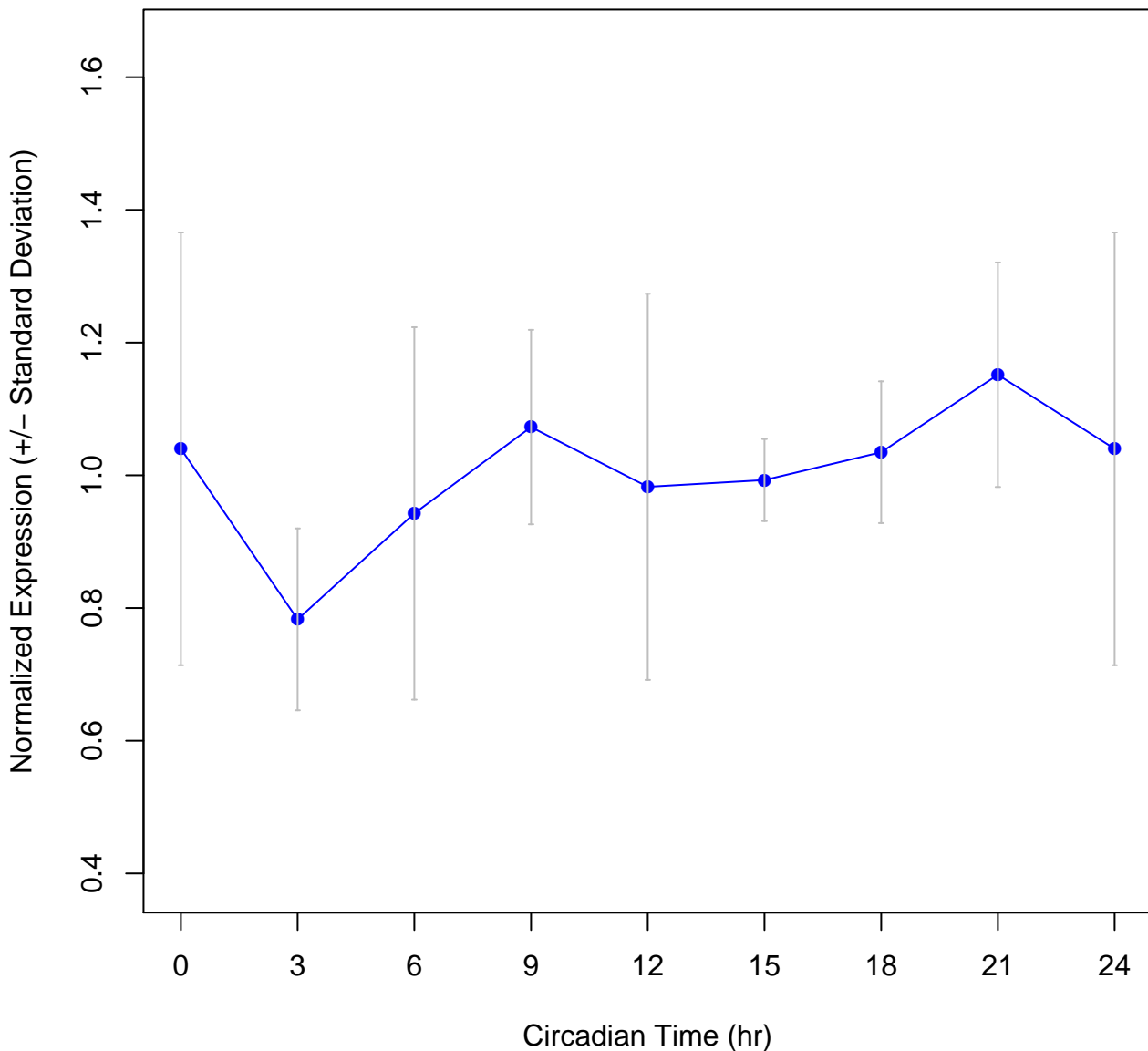
Supplement Figure 5 parpbp



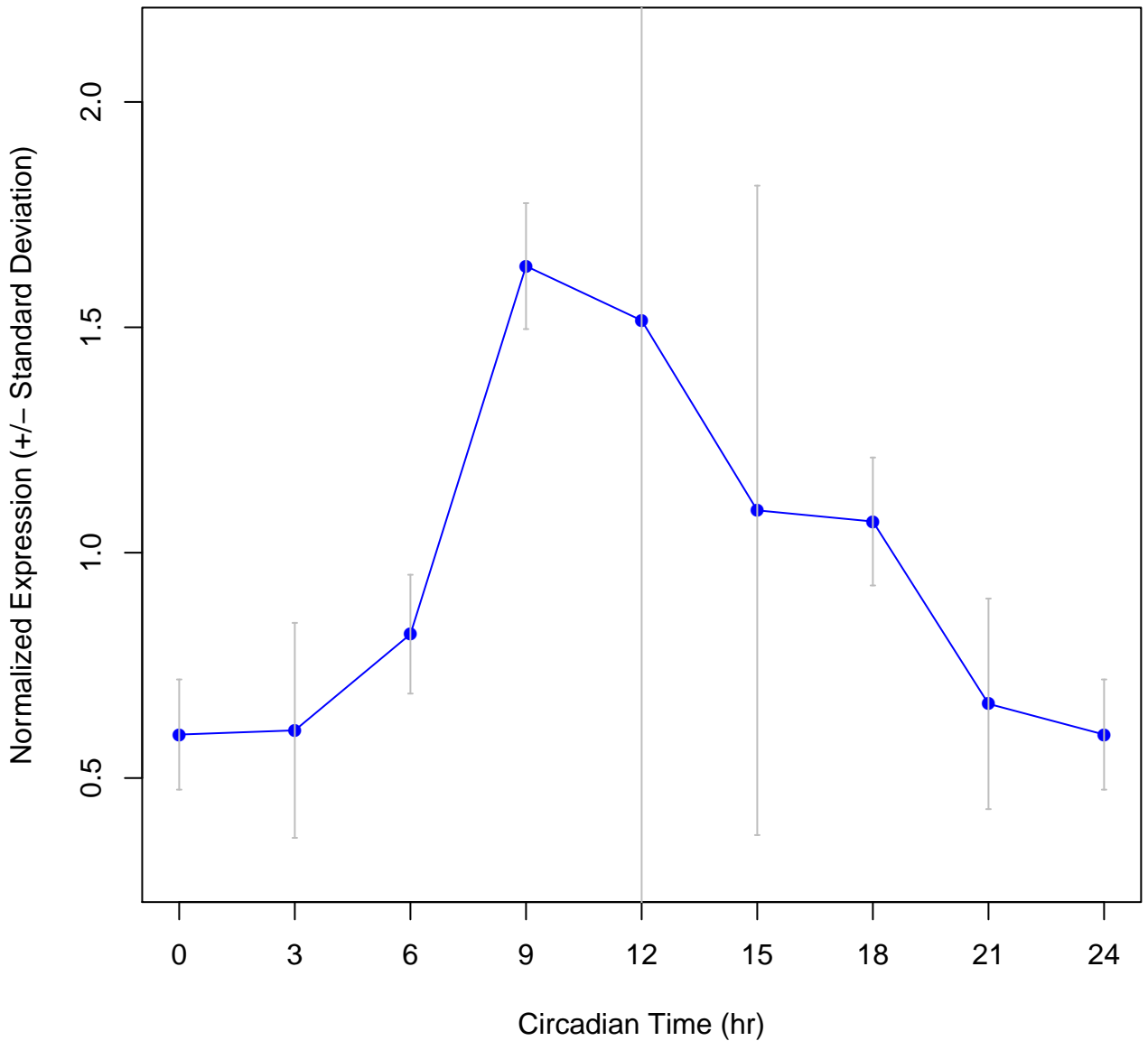
Supplement Figure 5 pcna



Supplement Figure 5 pcp4

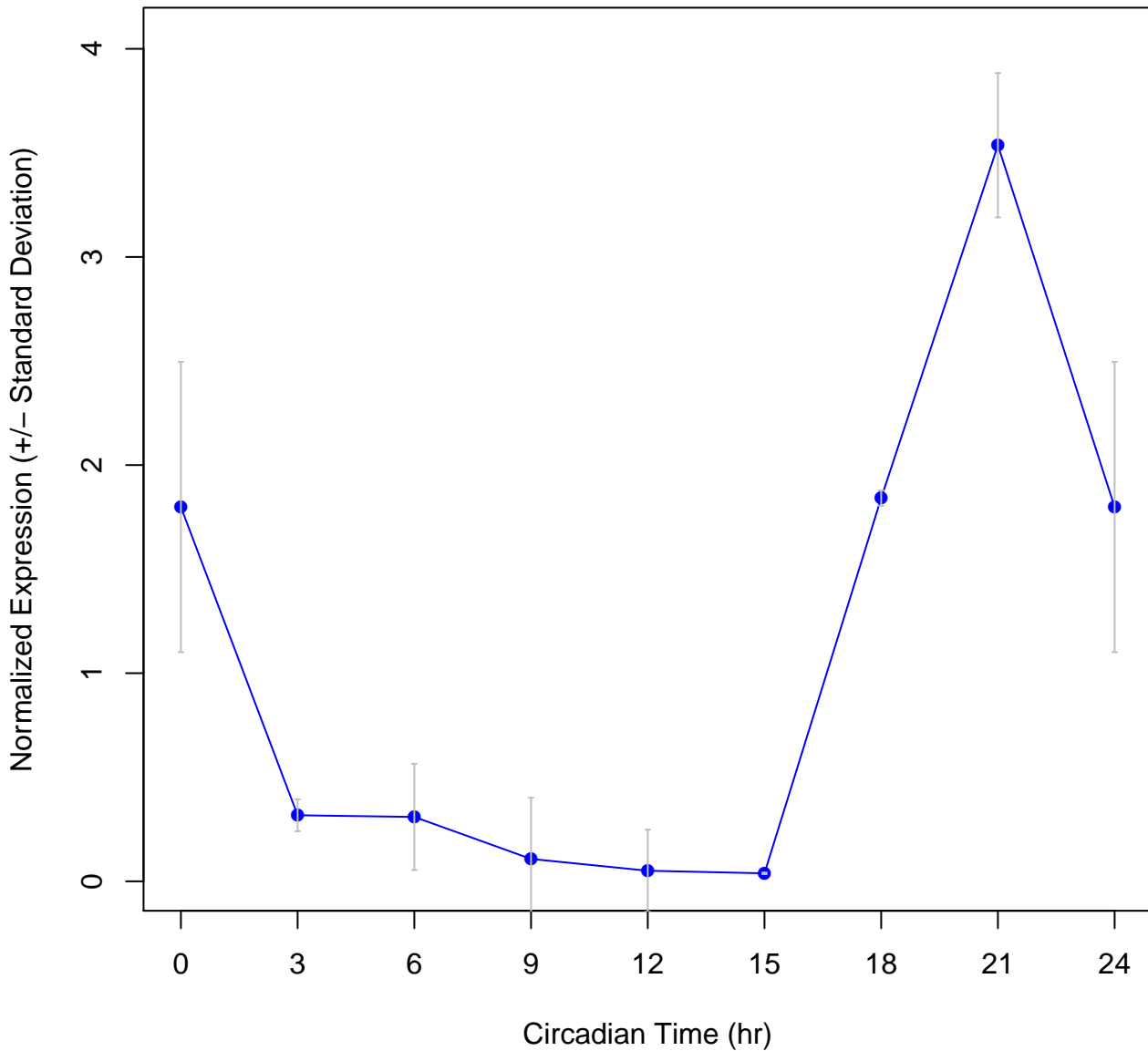


Supplement Figure 5 pdgfc

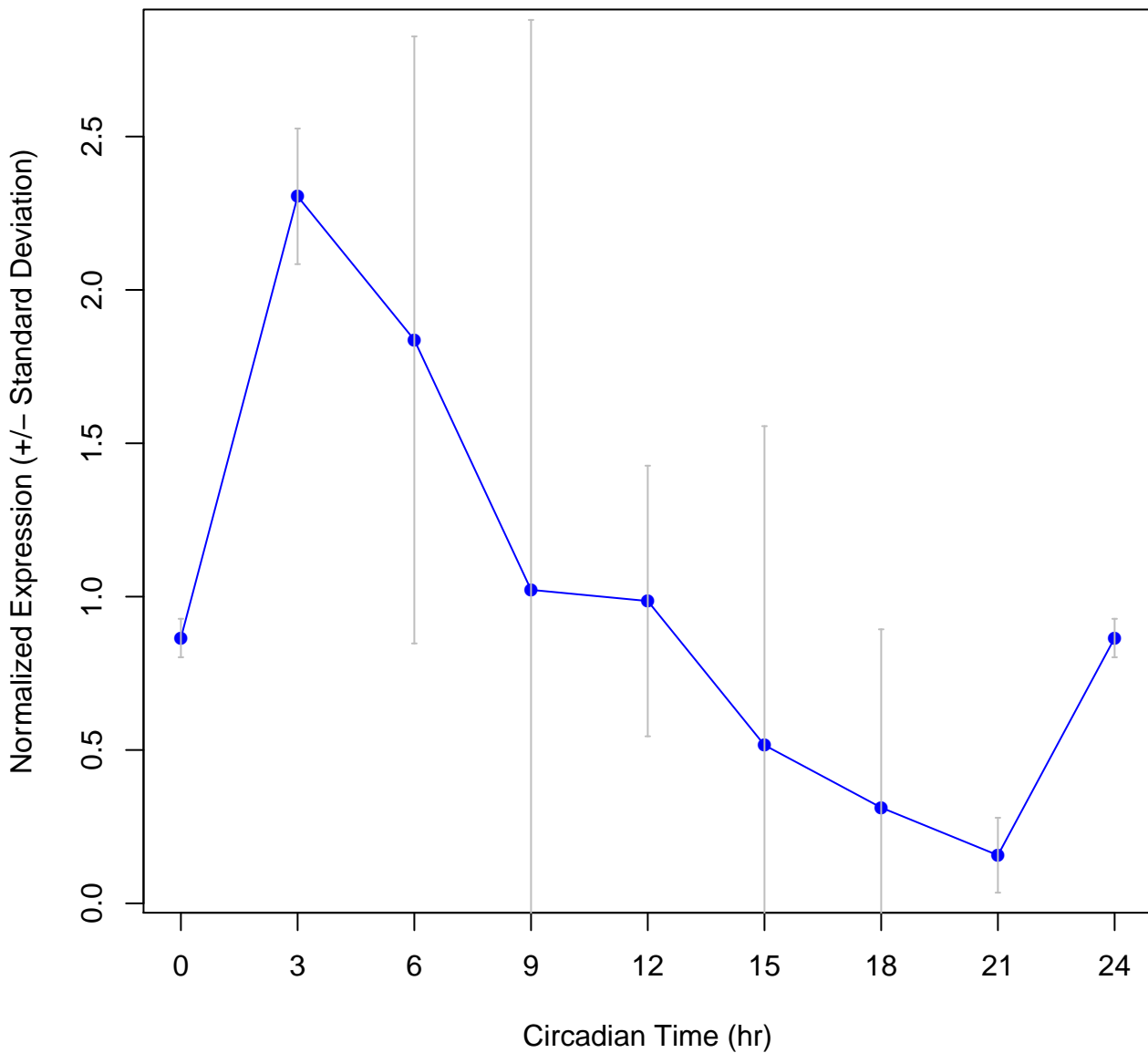




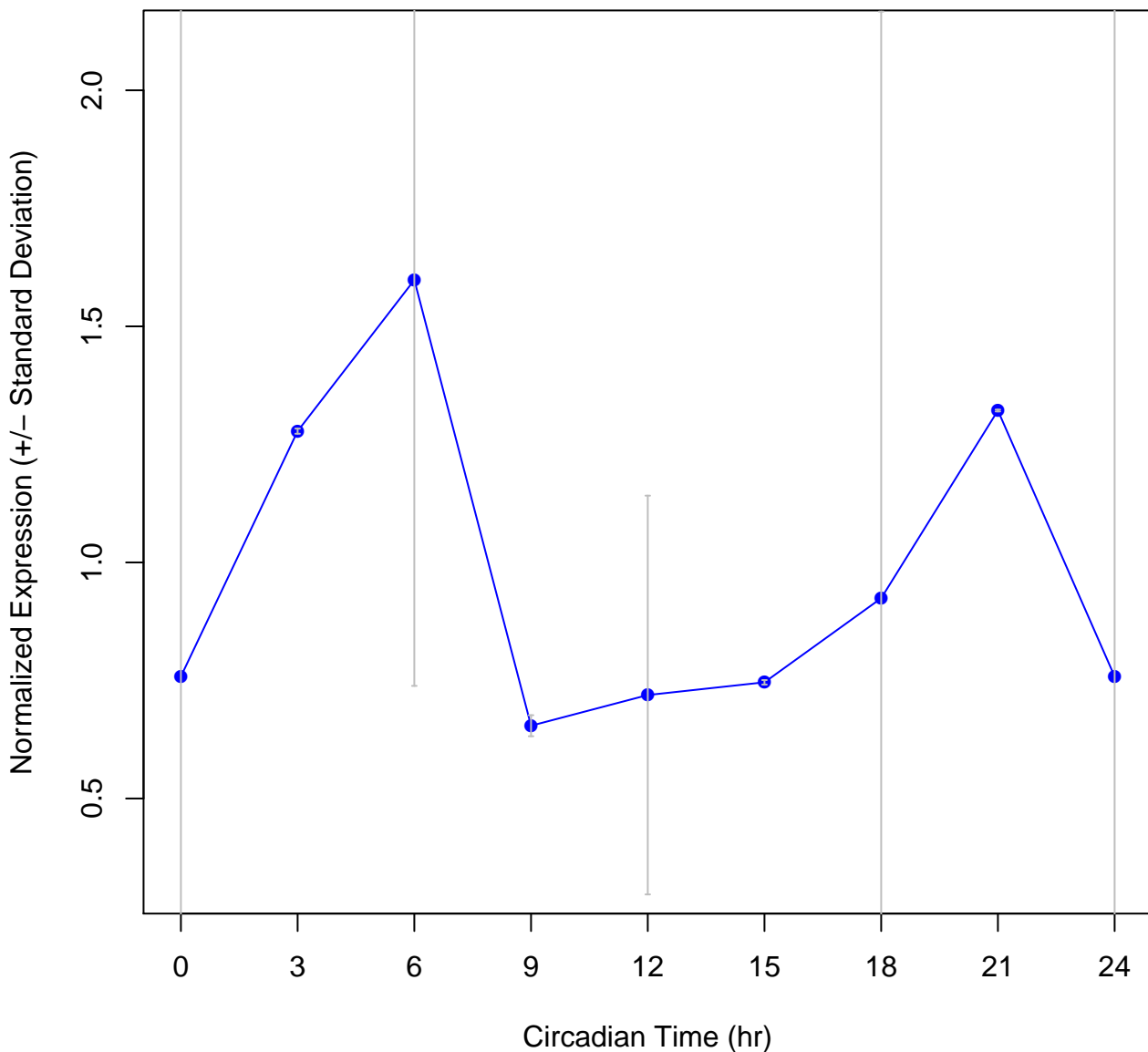
Supplement Figure 5 per1



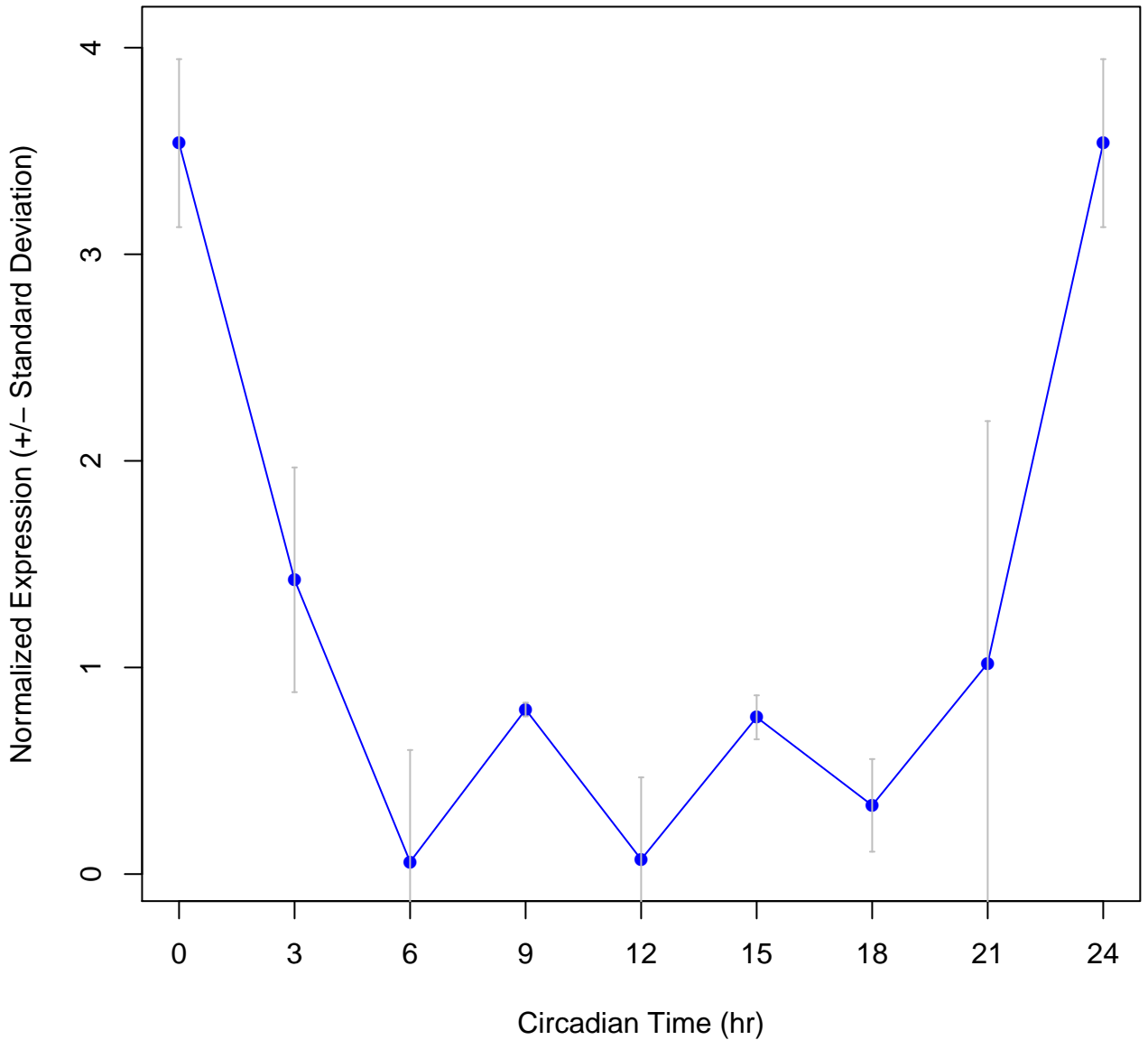
Supplement Figure 5 per2



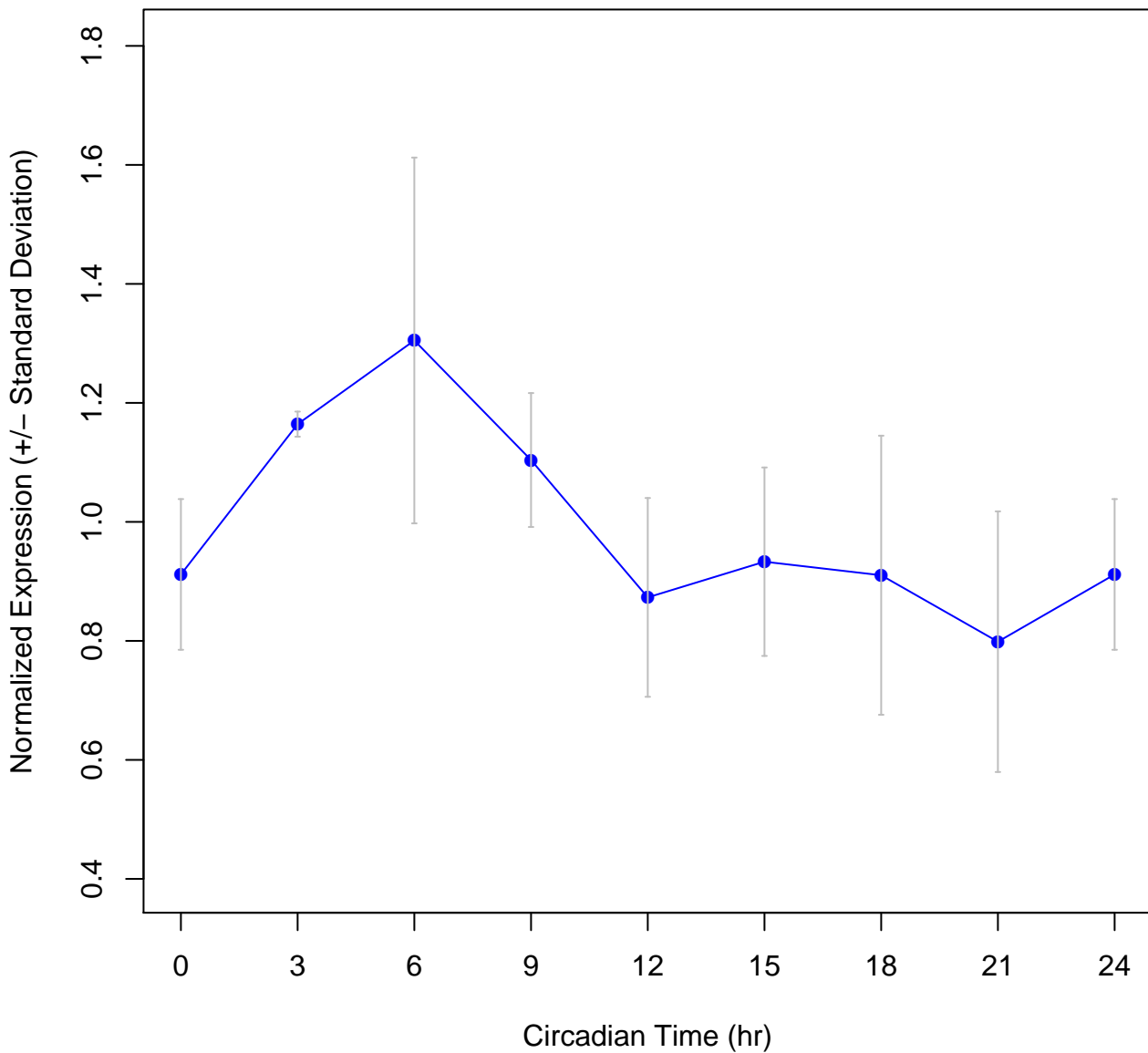
Supplement Figure 5 pfkfb1



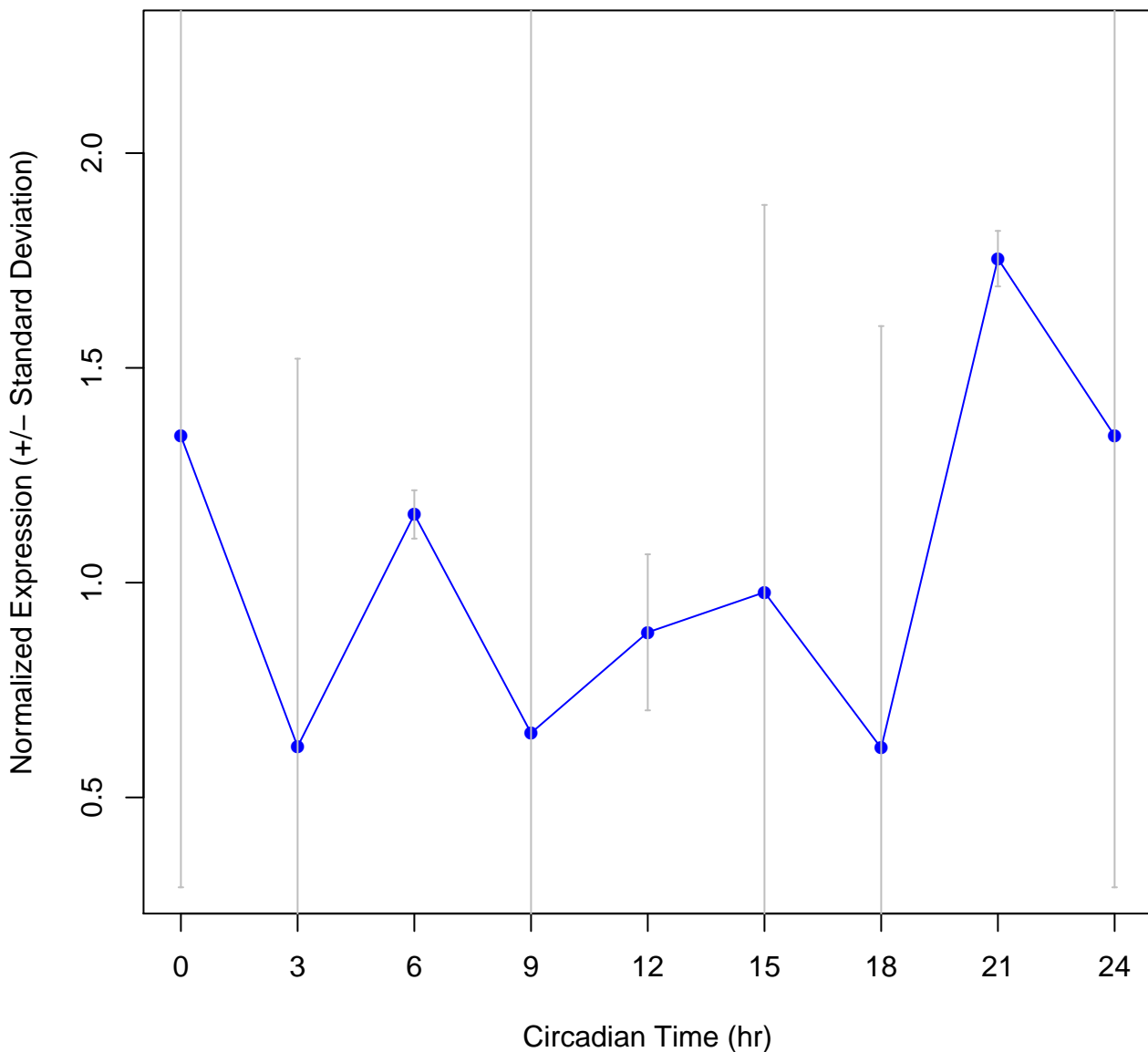
Supplement Figure 5 pif1



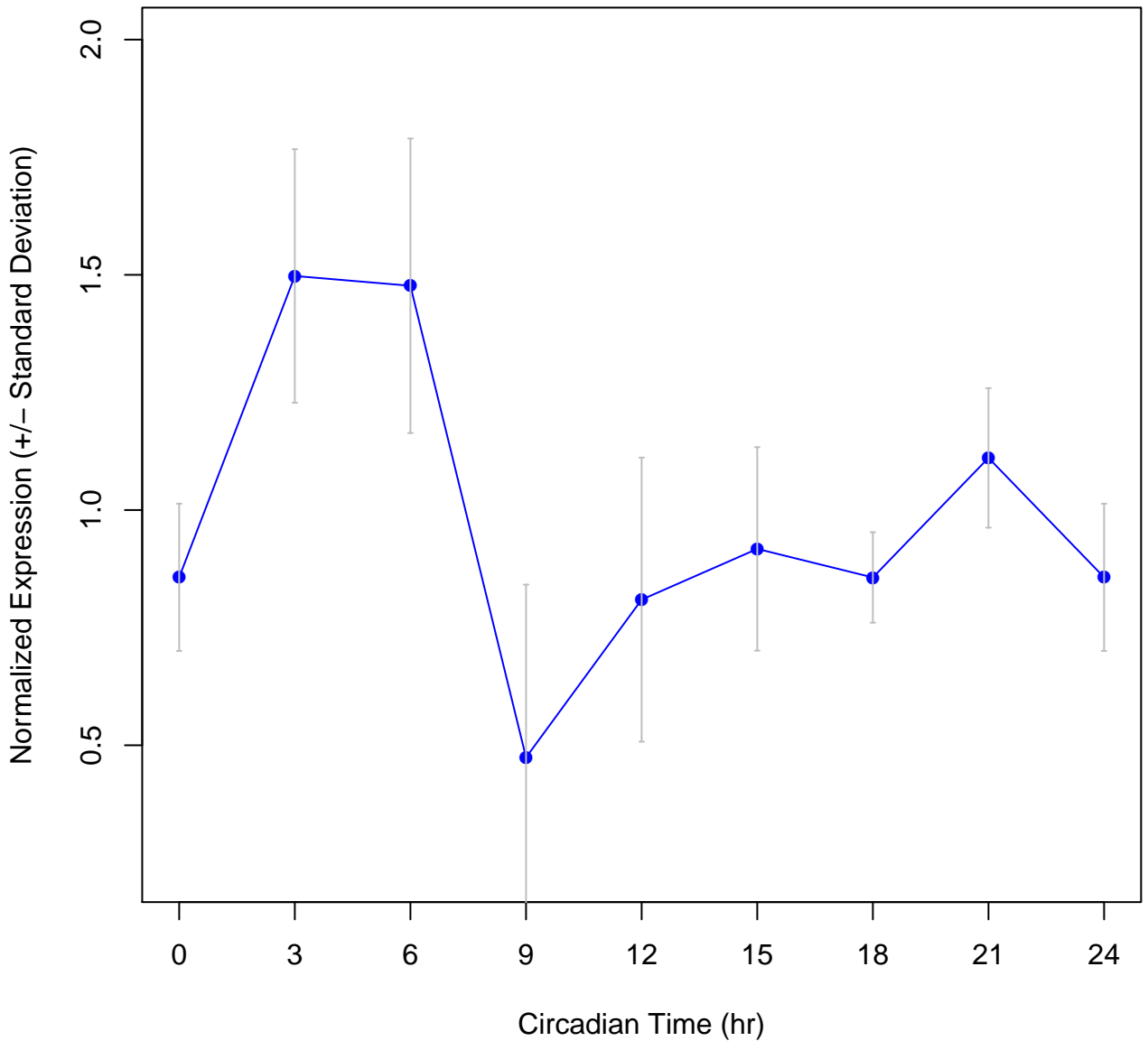
Supplement Figure 5 pik3c2b



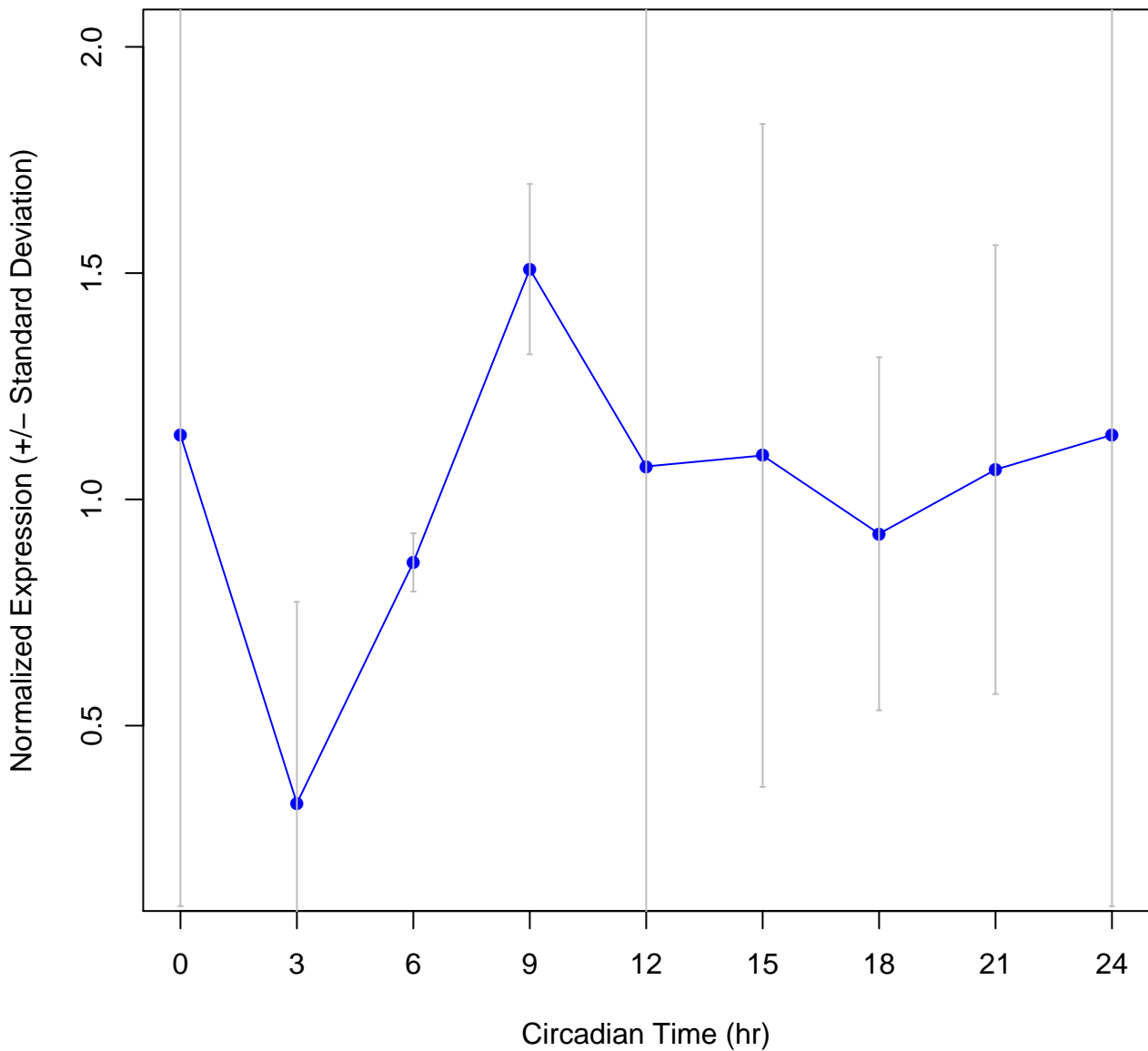
Supplement Figure 5 pkmyt1



Supplement Figure 5 plcb1

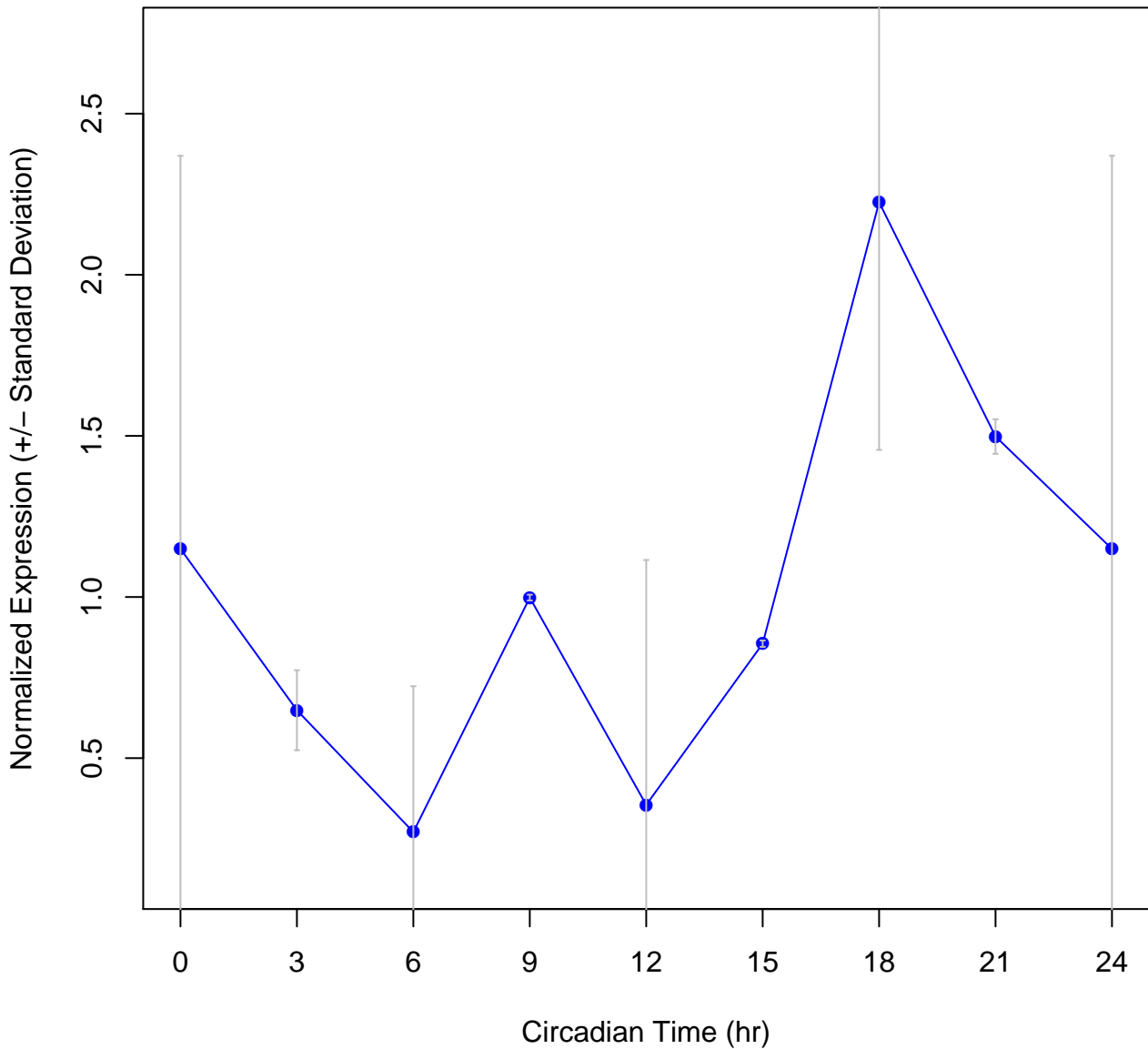


# Supplement Figure 5 *plcd1*

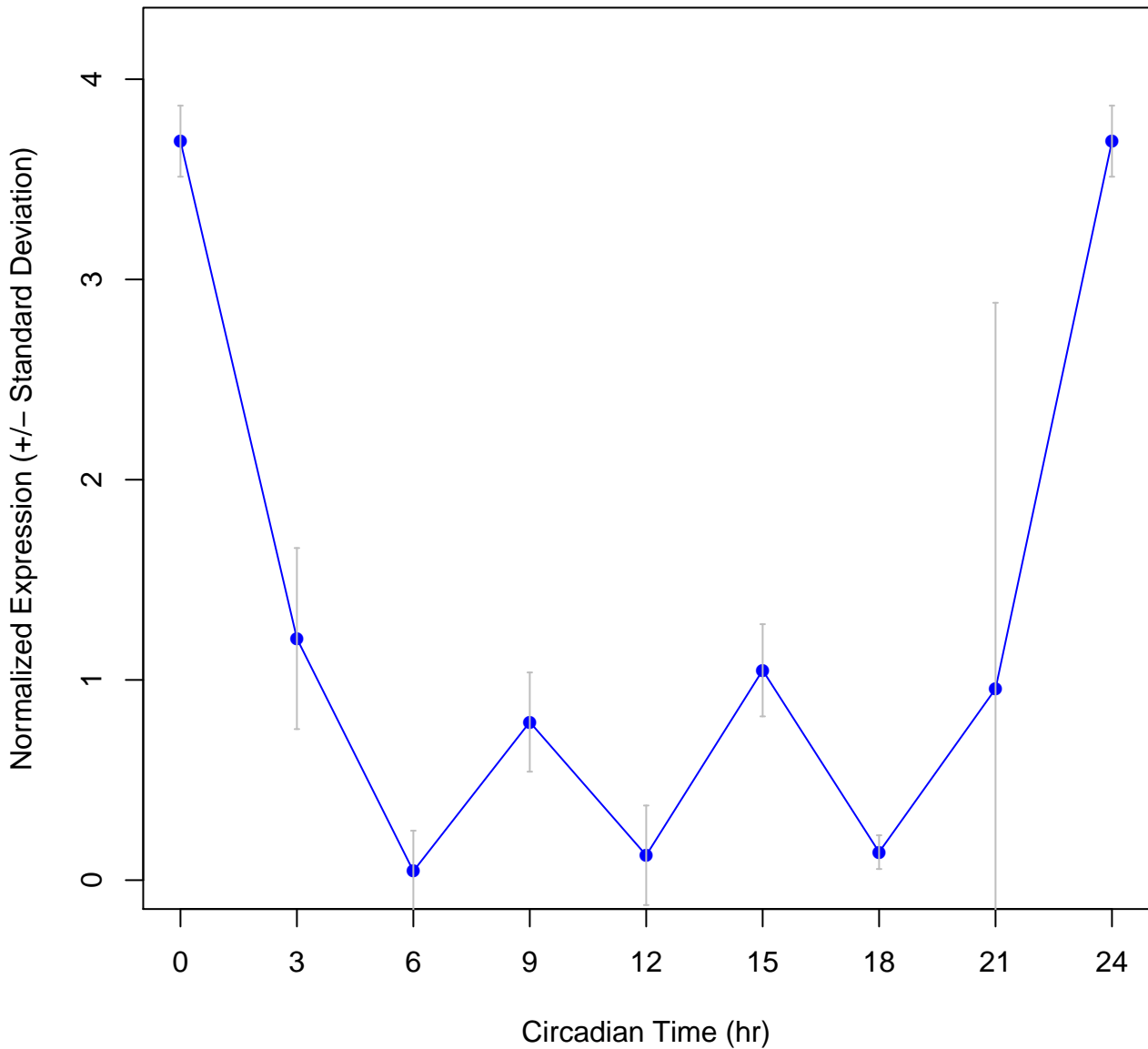




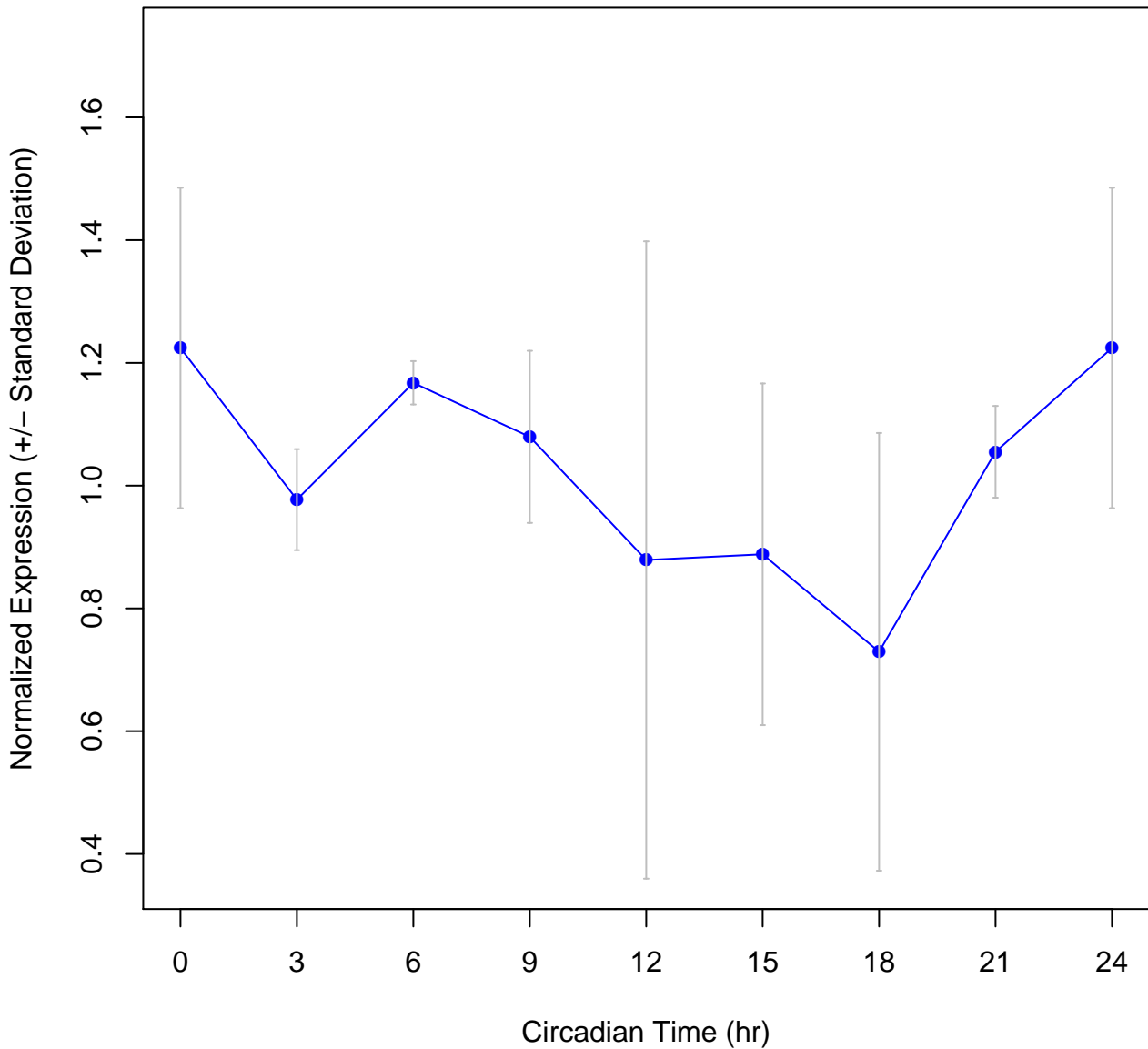
Supplement Figure 5 plch2



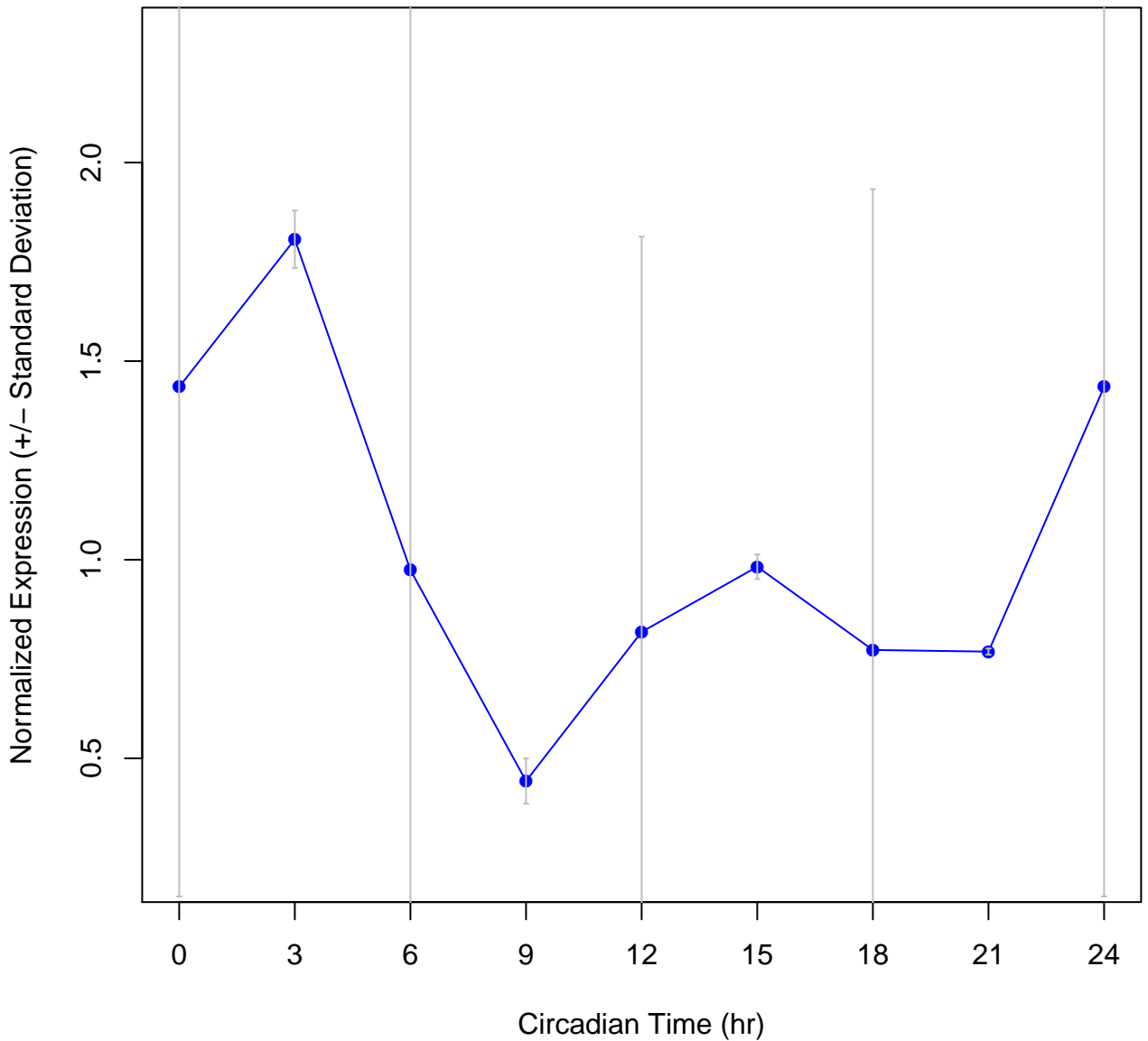
Supplement Figure 5 plk1



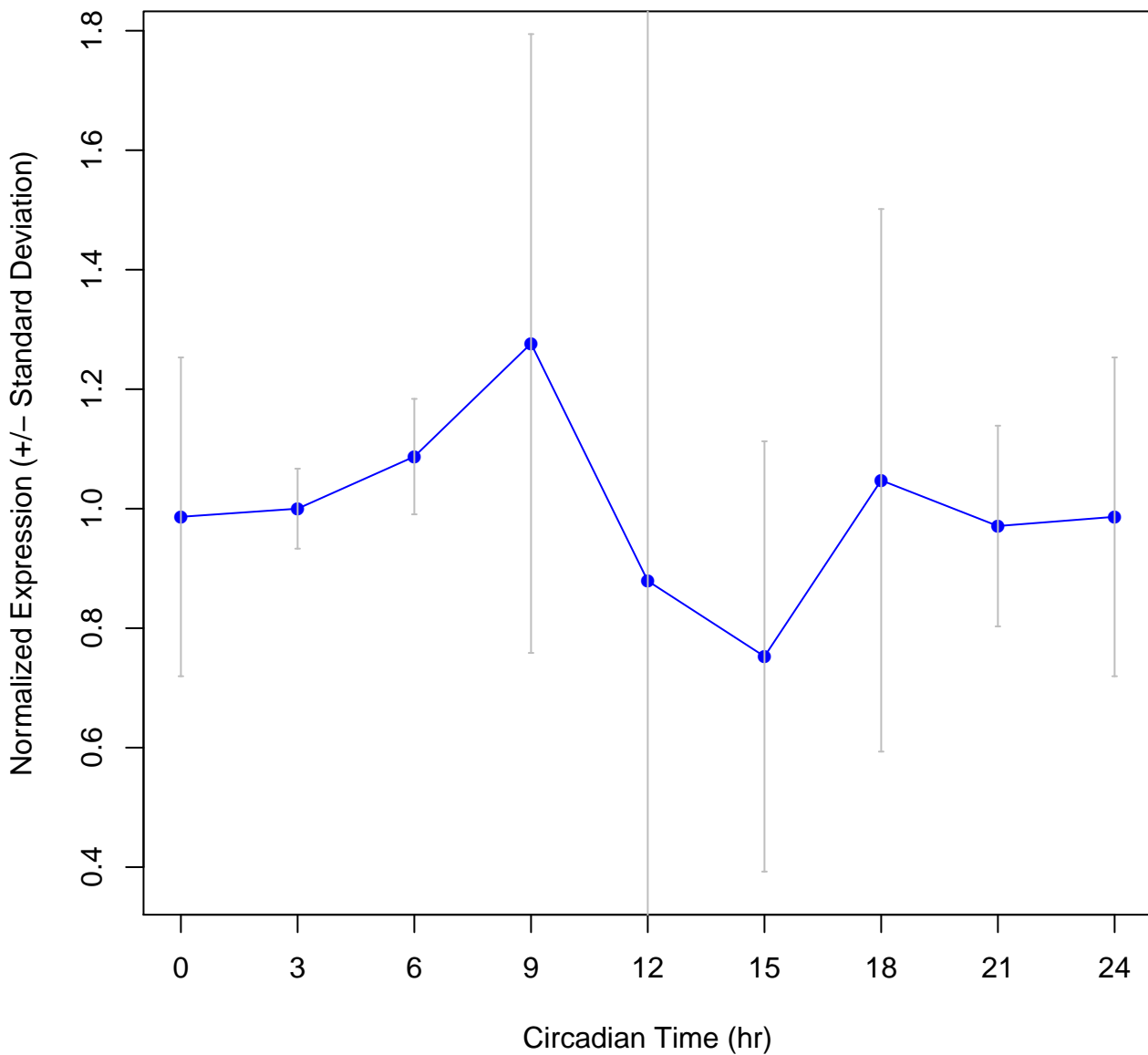
Supplement Figure 5 polr2a



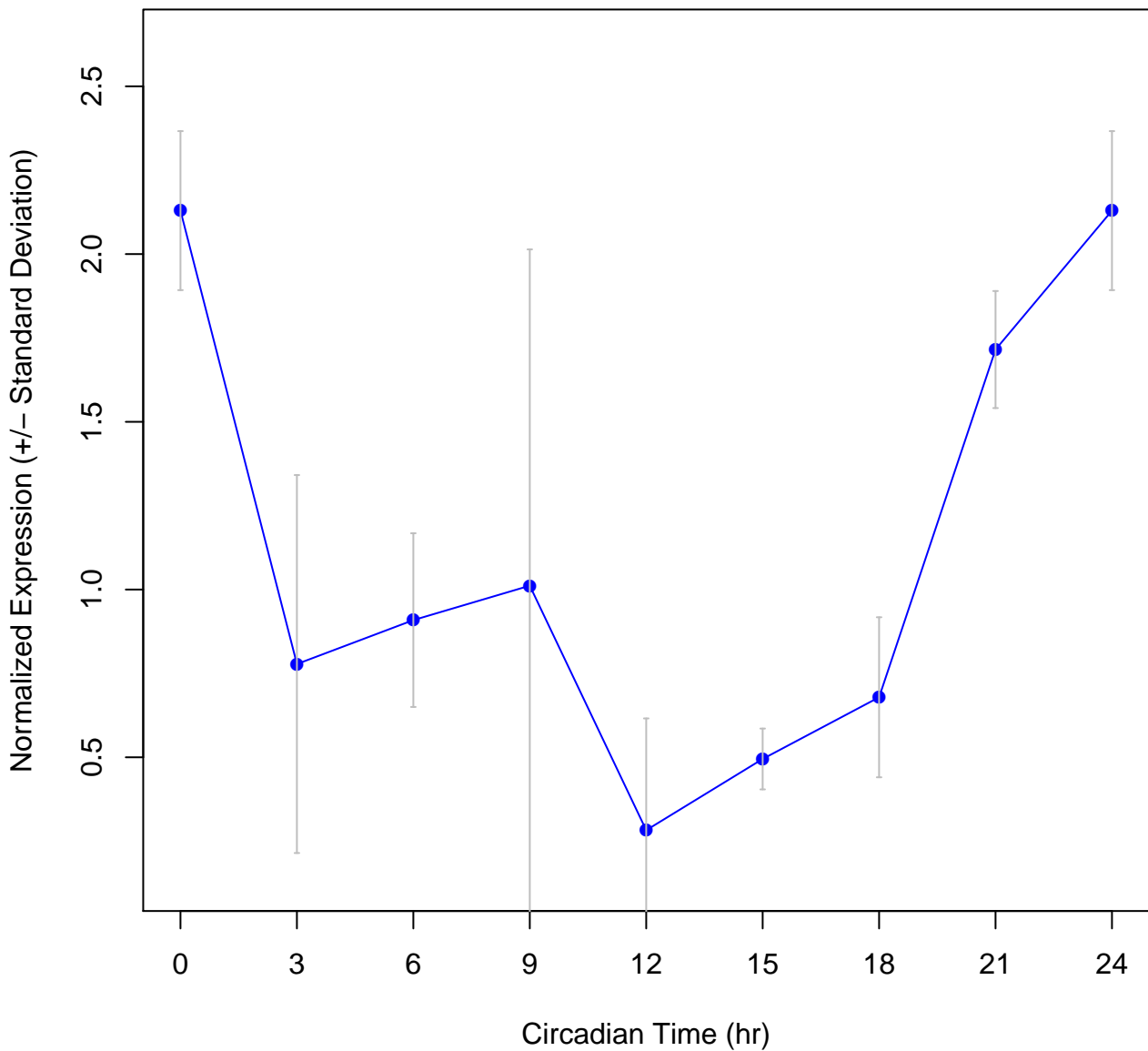
Supplement Figure 5 pomc



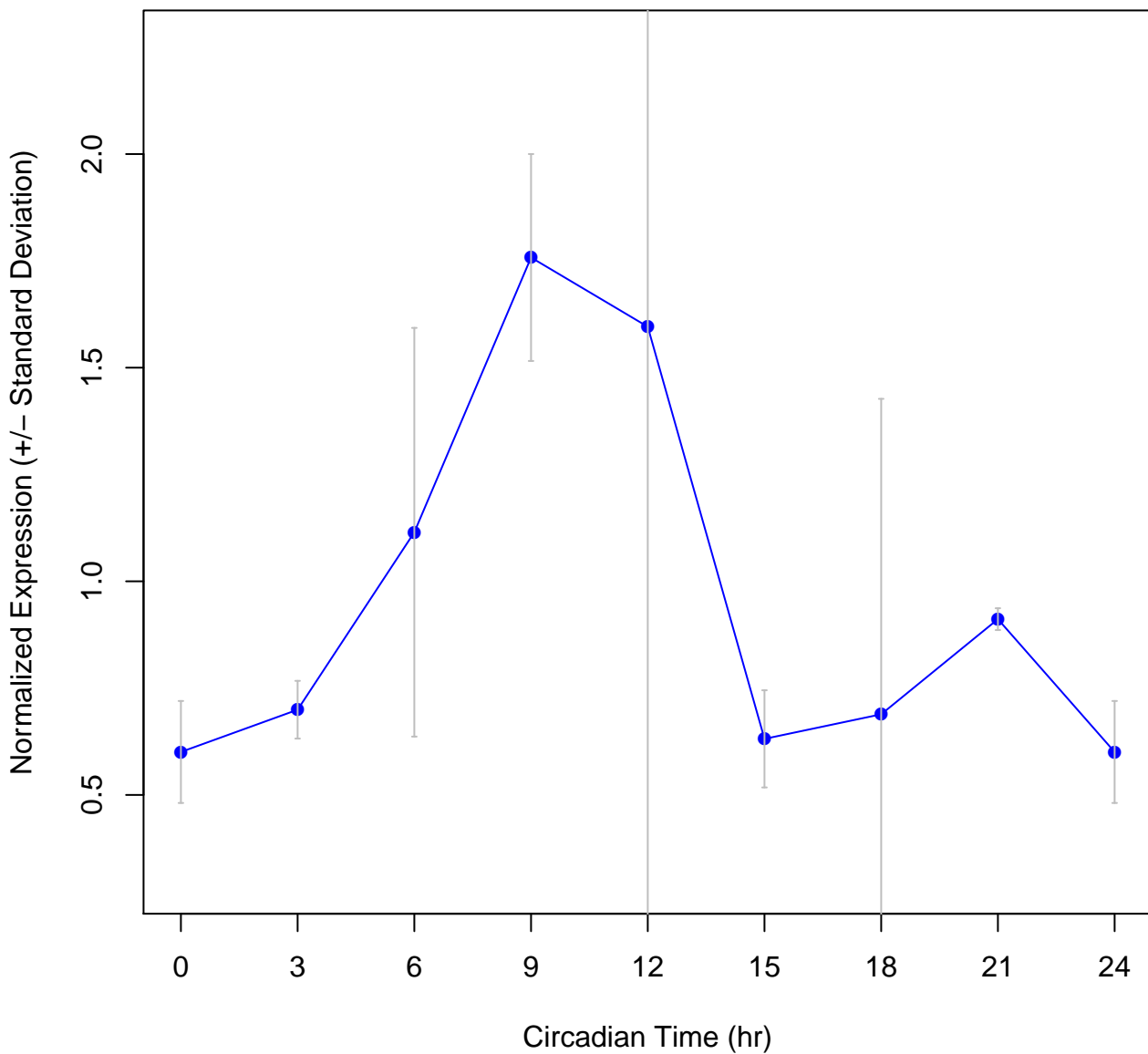
## Supplement Figure 5 pparaa



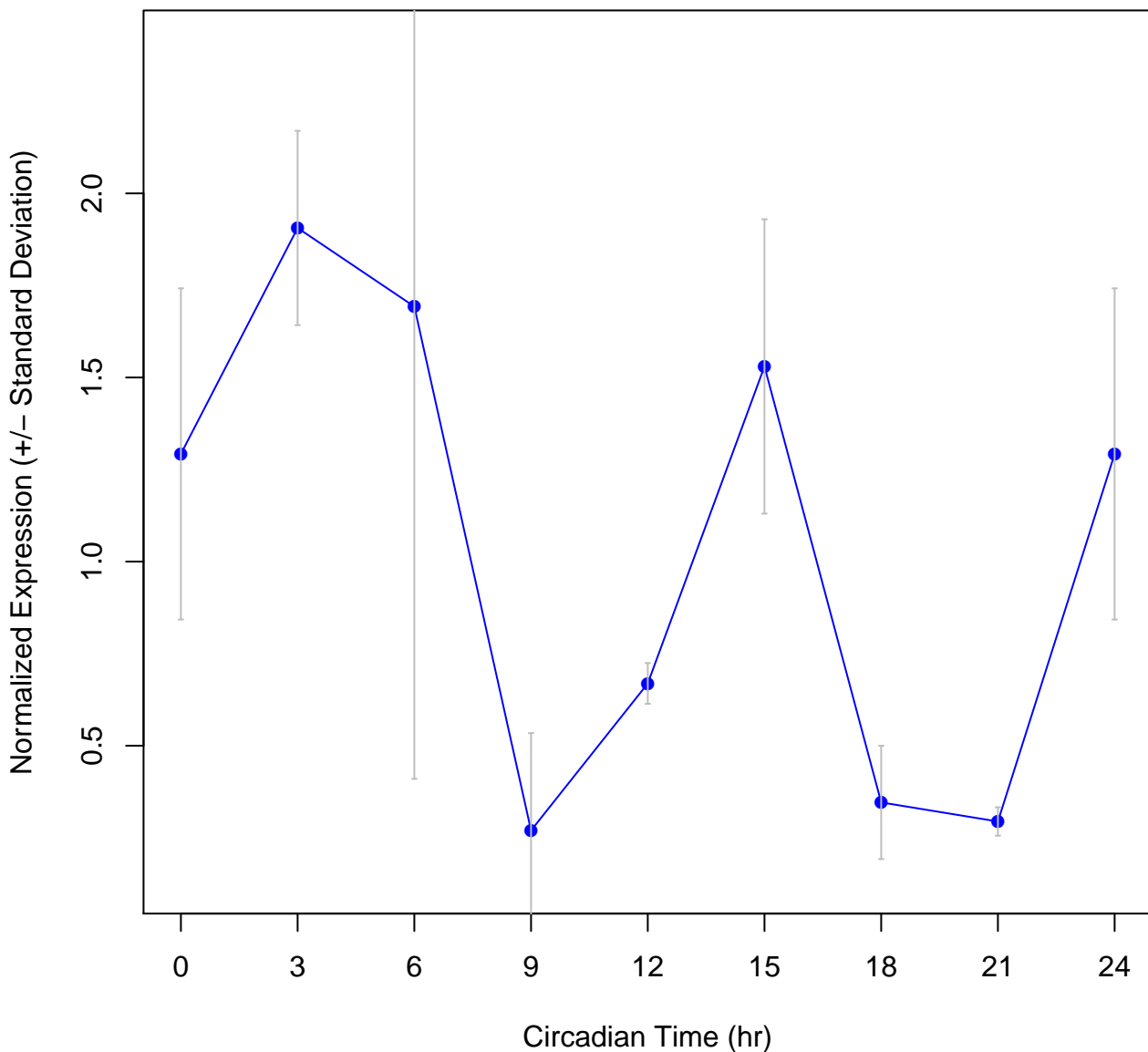
Supplement Figure 5 pparab



Supplement Figure 5 ppargc1a

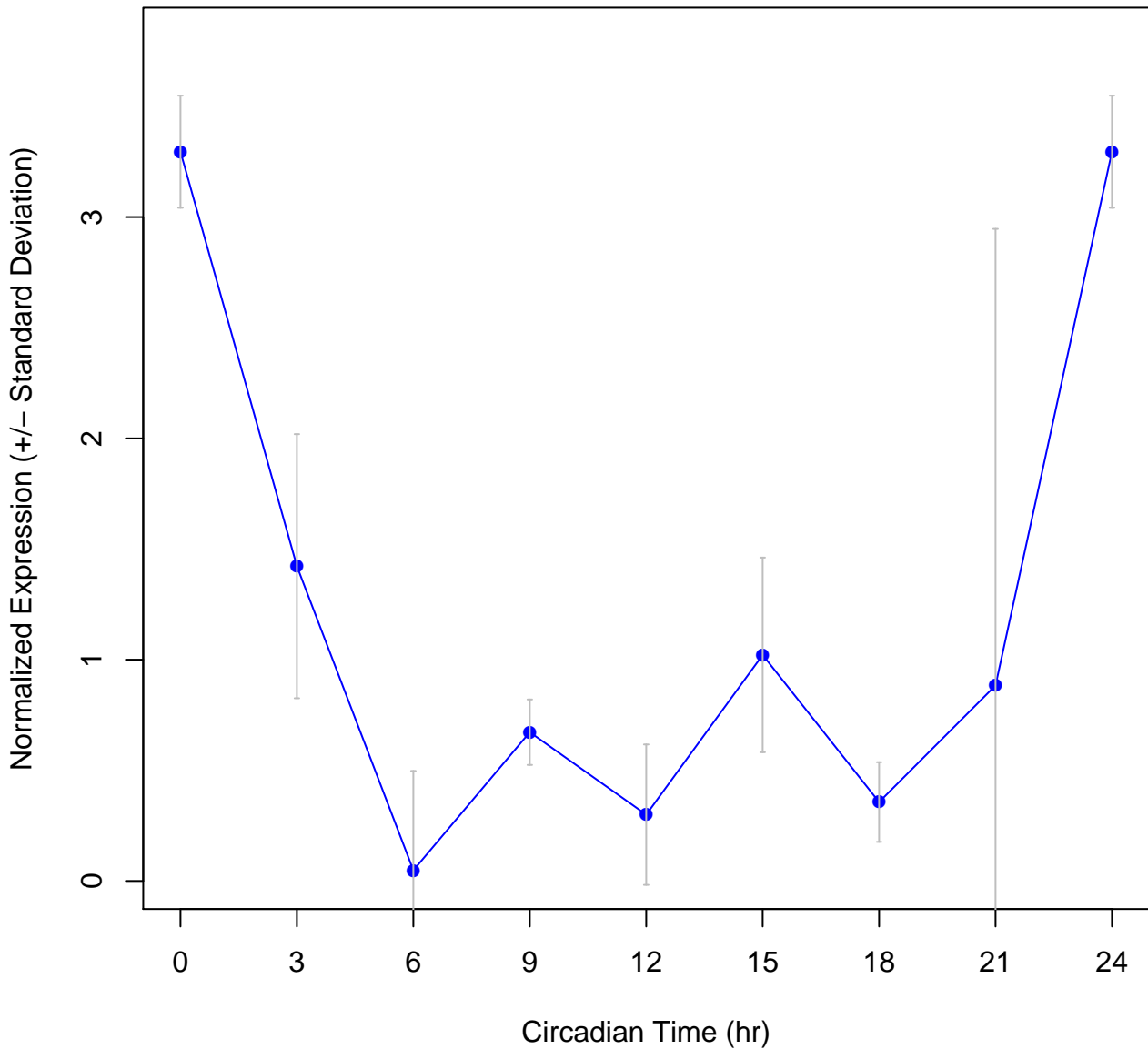


Supplement Figure 5 ppp1r27

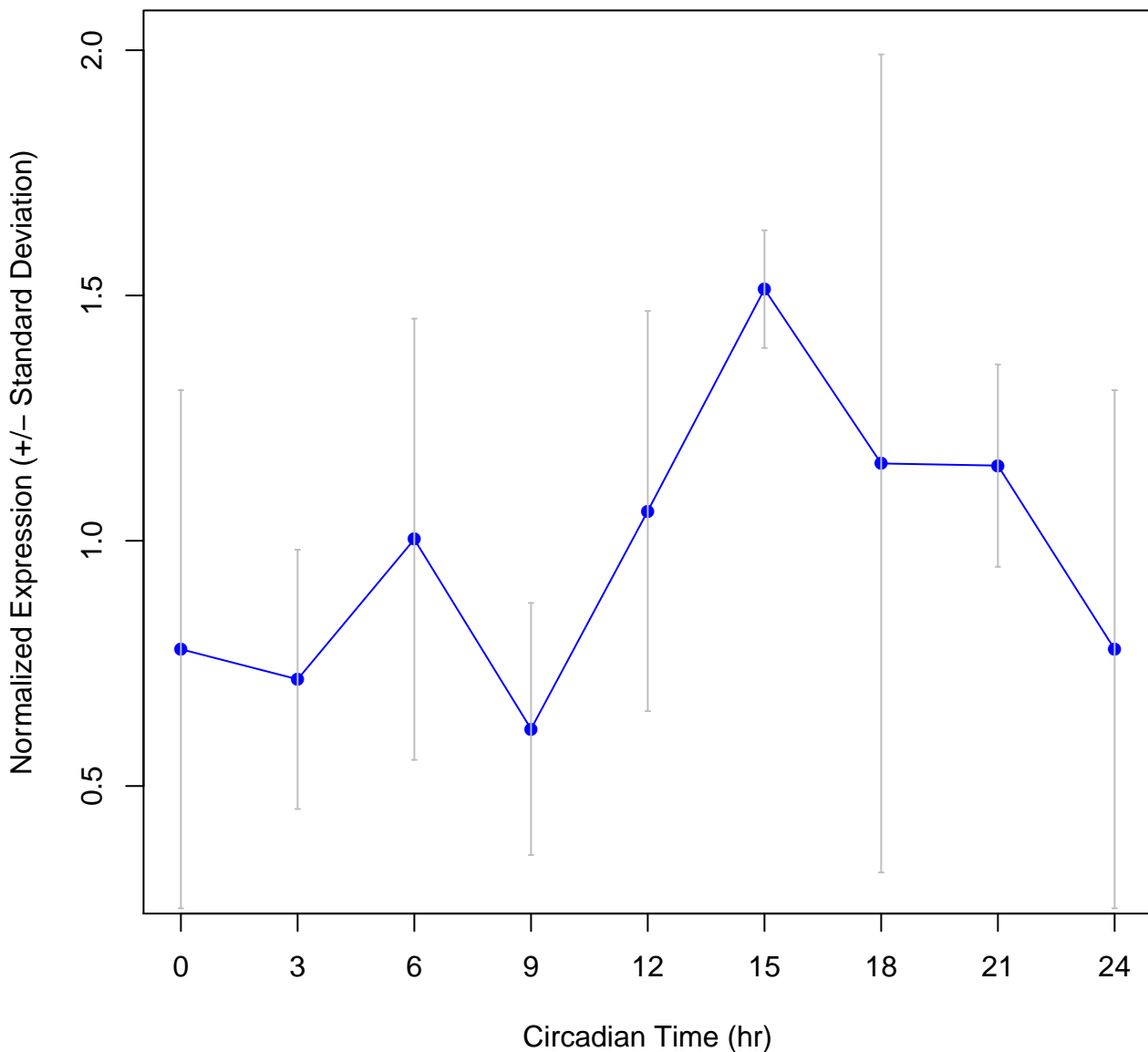




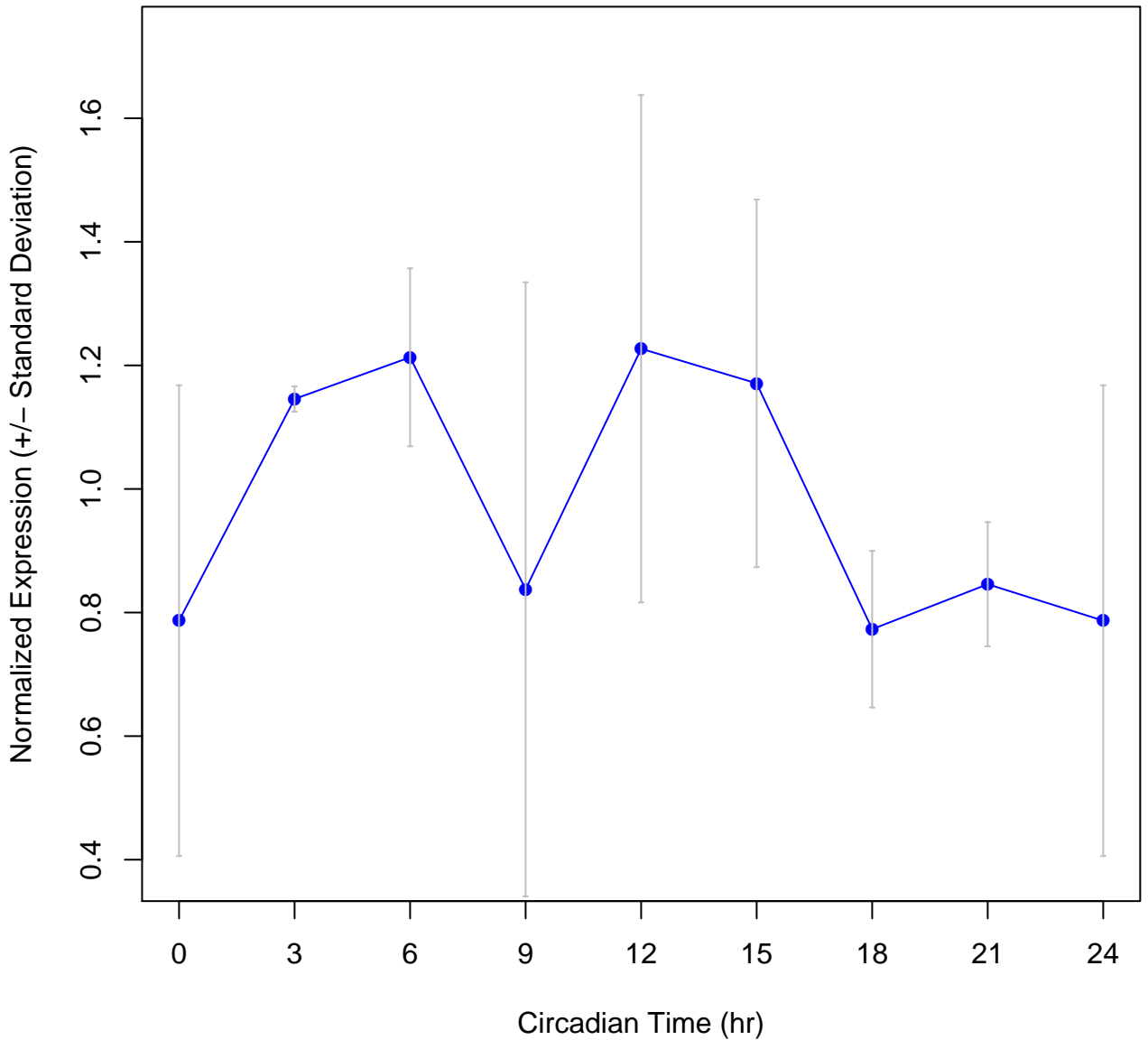
Supplement Figure 5 prc1



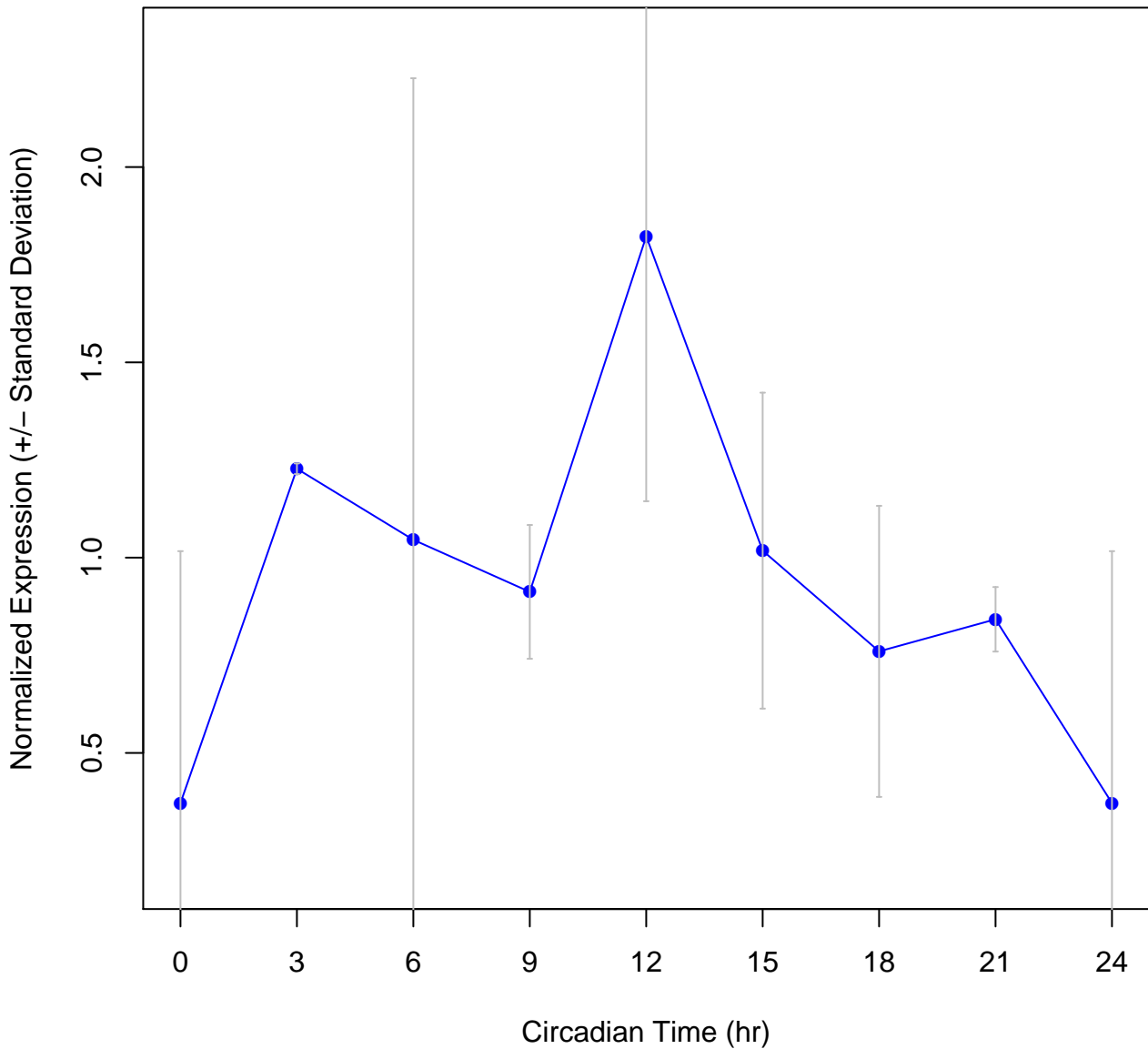
Supplement Figure 5 prkaa2



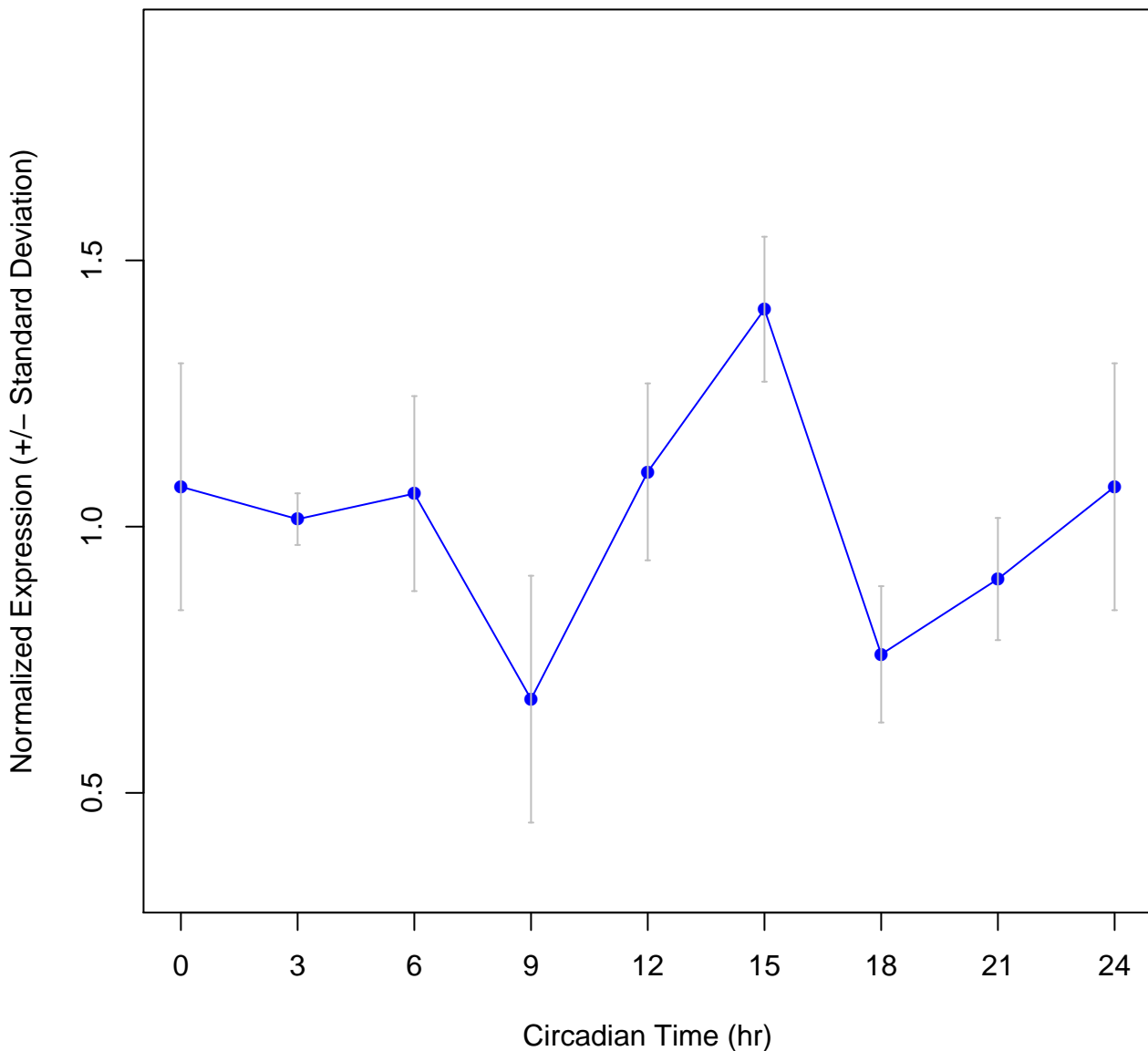
Supplement Figure 5 prkar2a



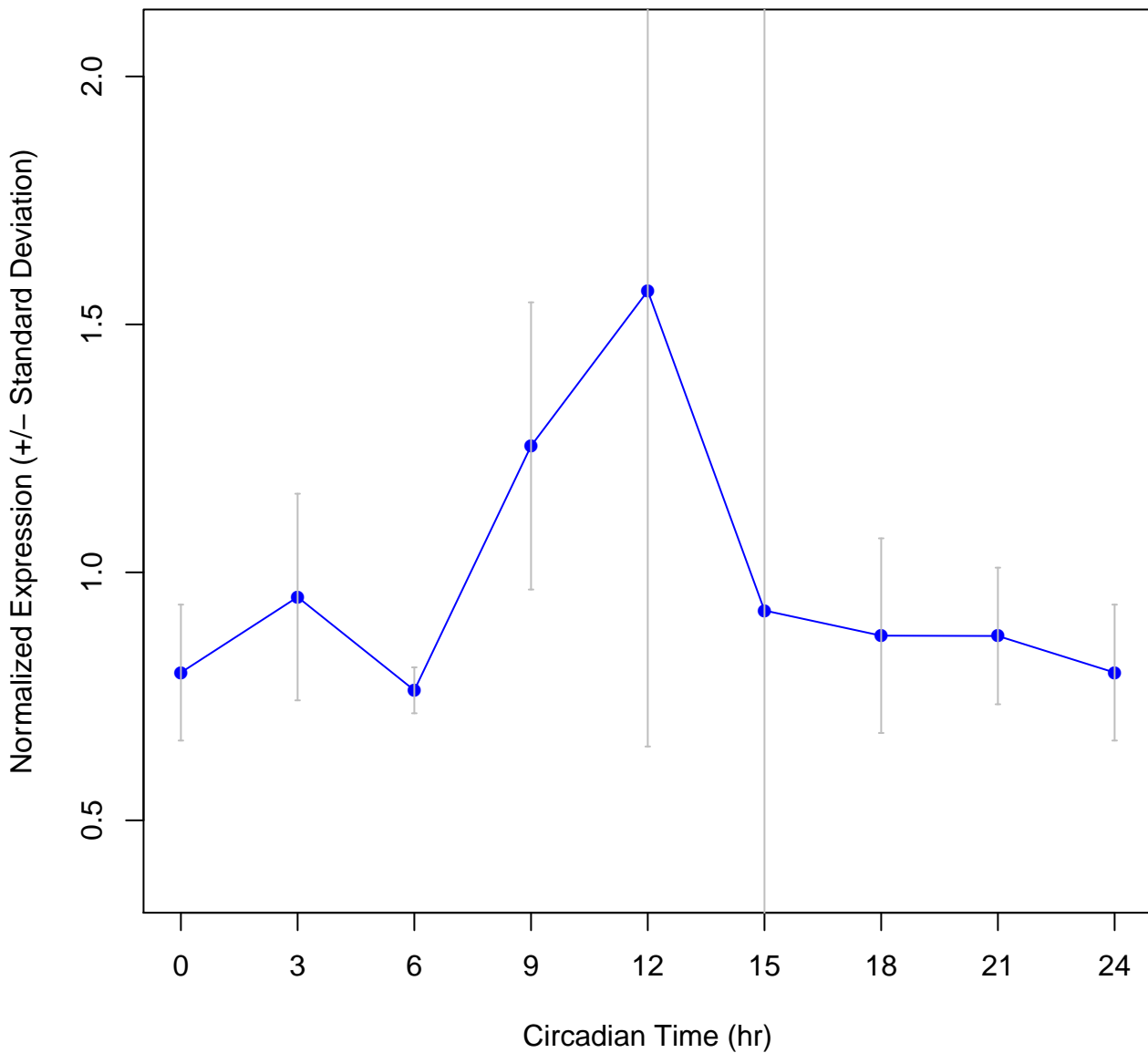
Supplement Figure 5 prkca\_1



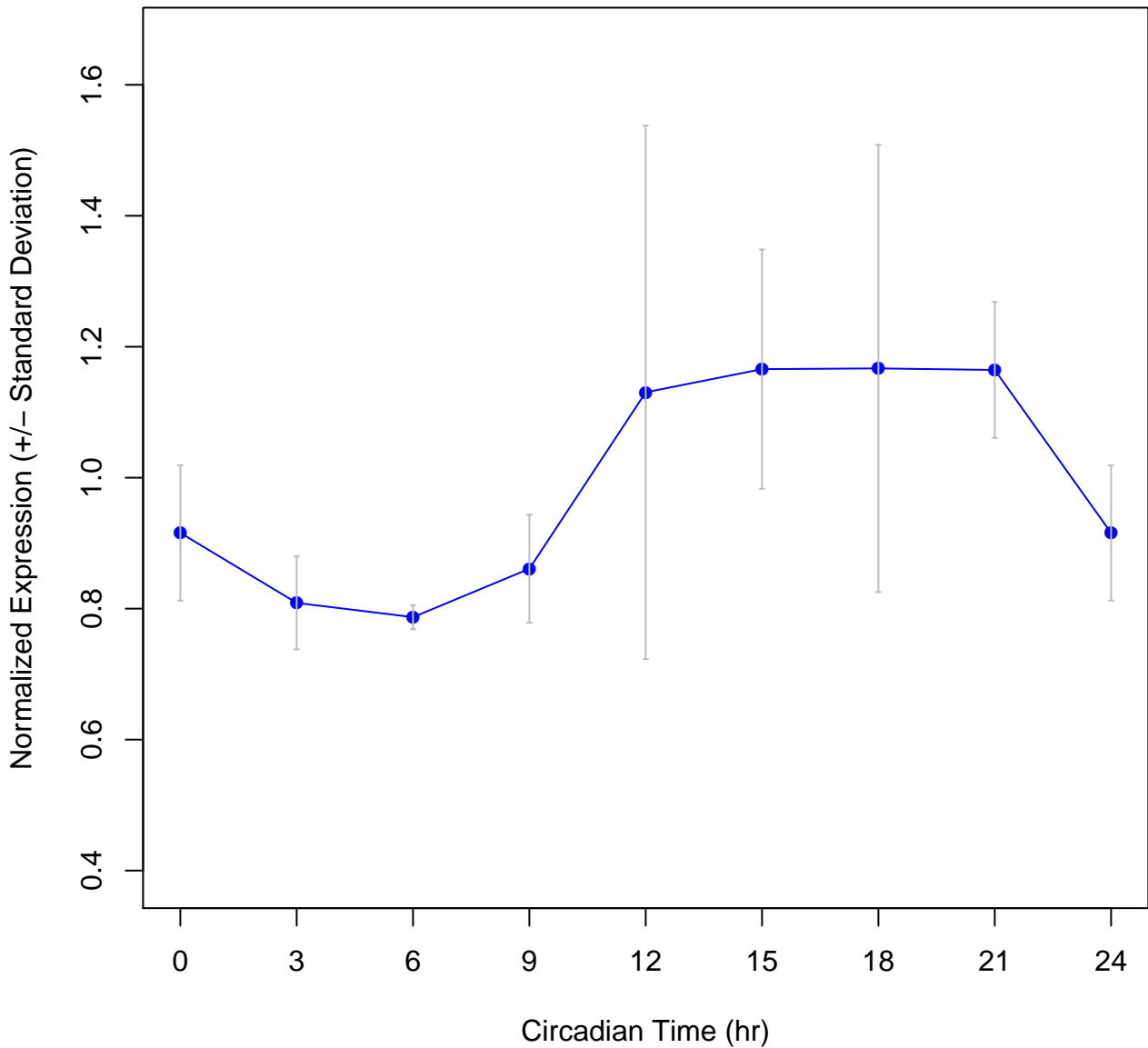
Supplement Figure 5 prkca\_2



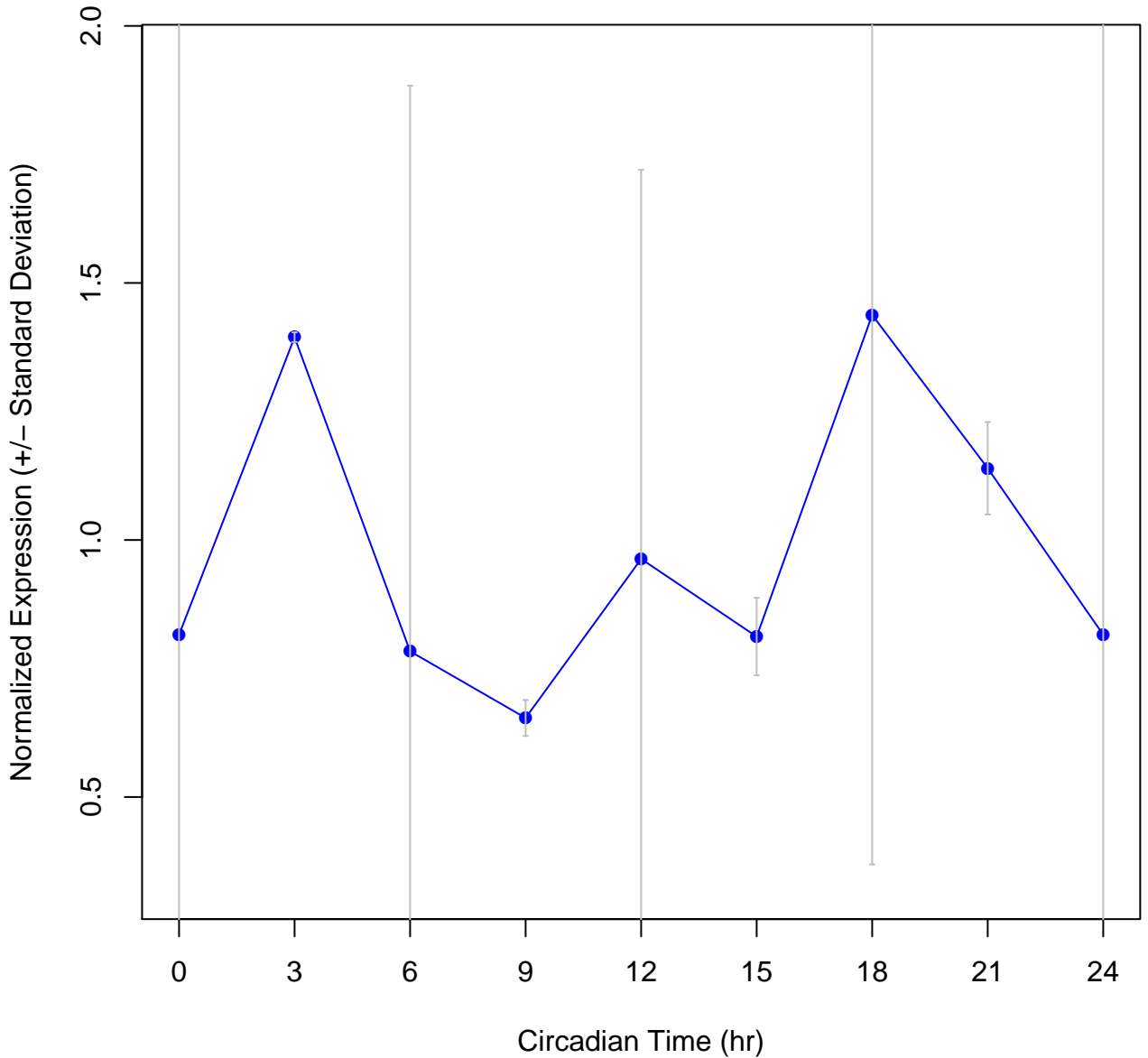
Supplement Figure 5 prkcb



Supplement Figure 5 prkdc

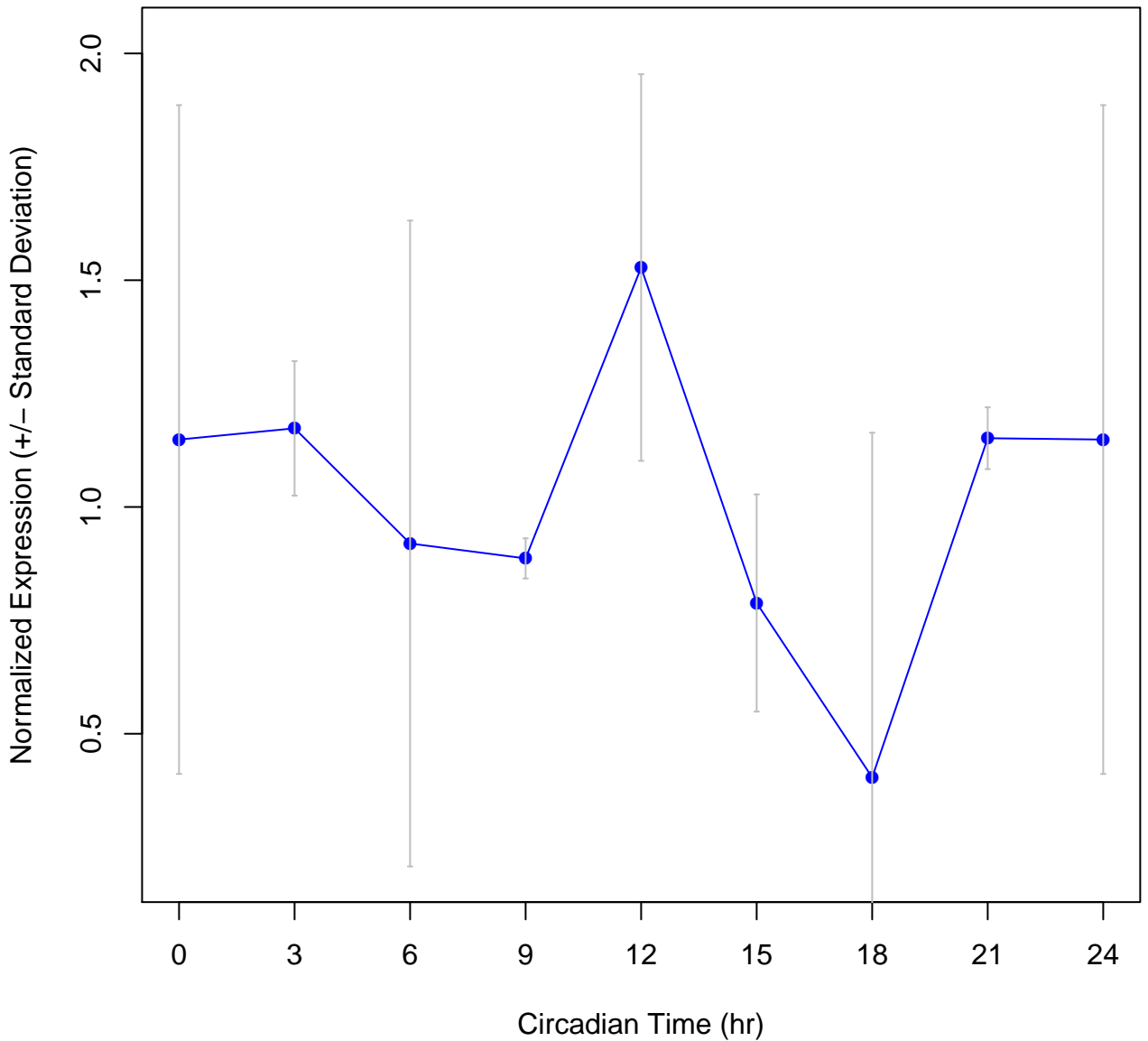


**Supplement Figure 5 rab3b**

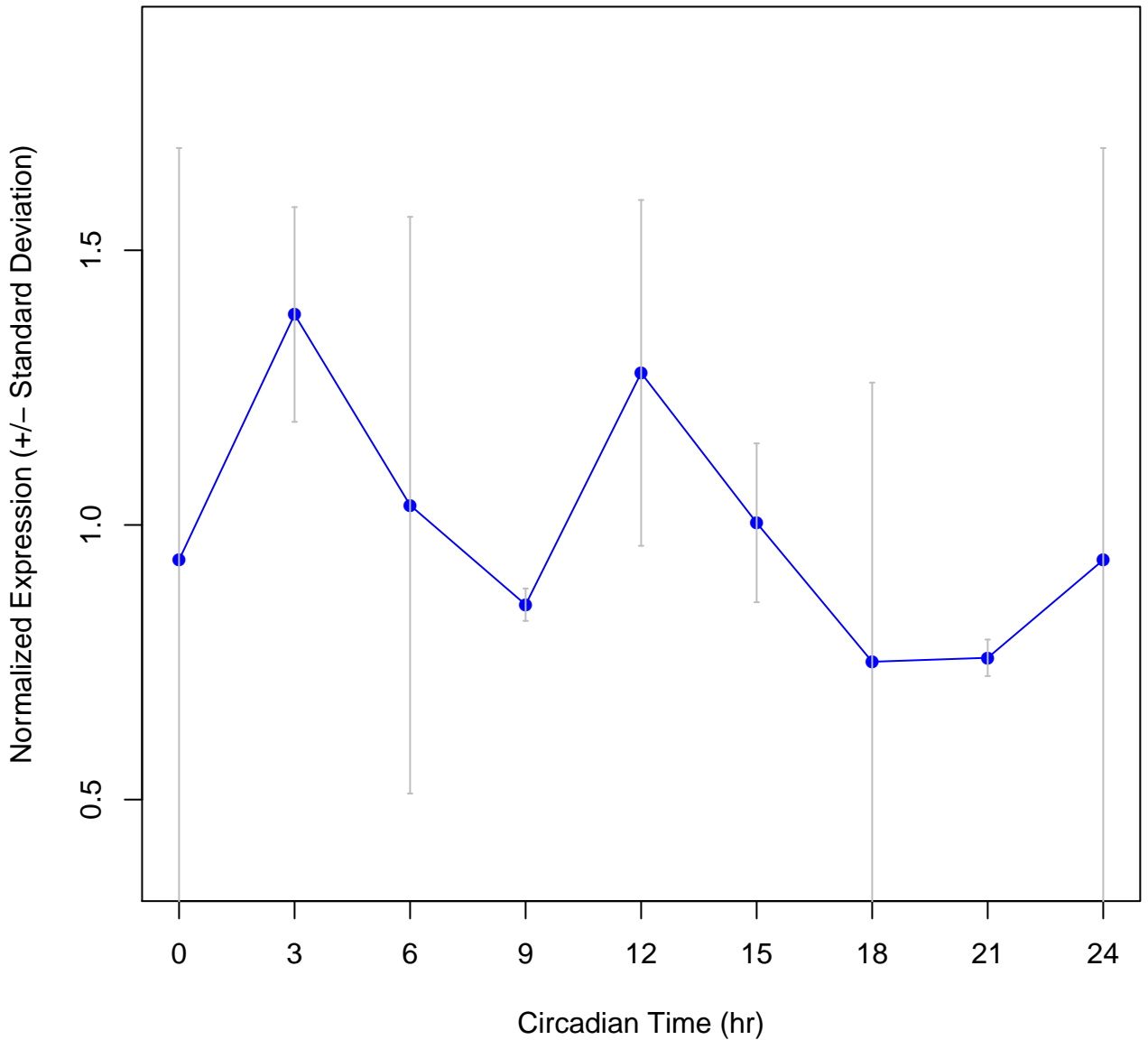




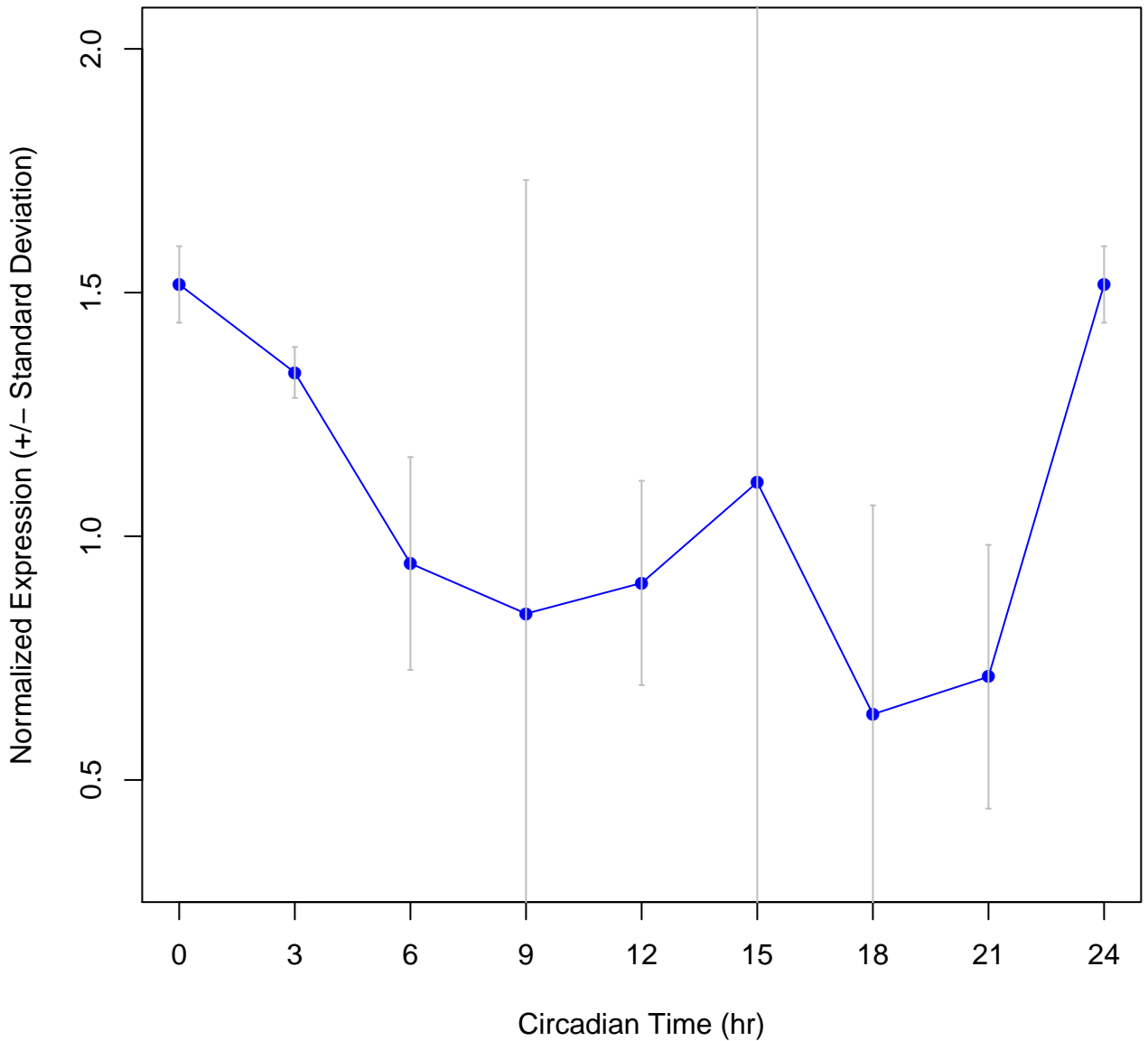
Supplement Figure 5 rara



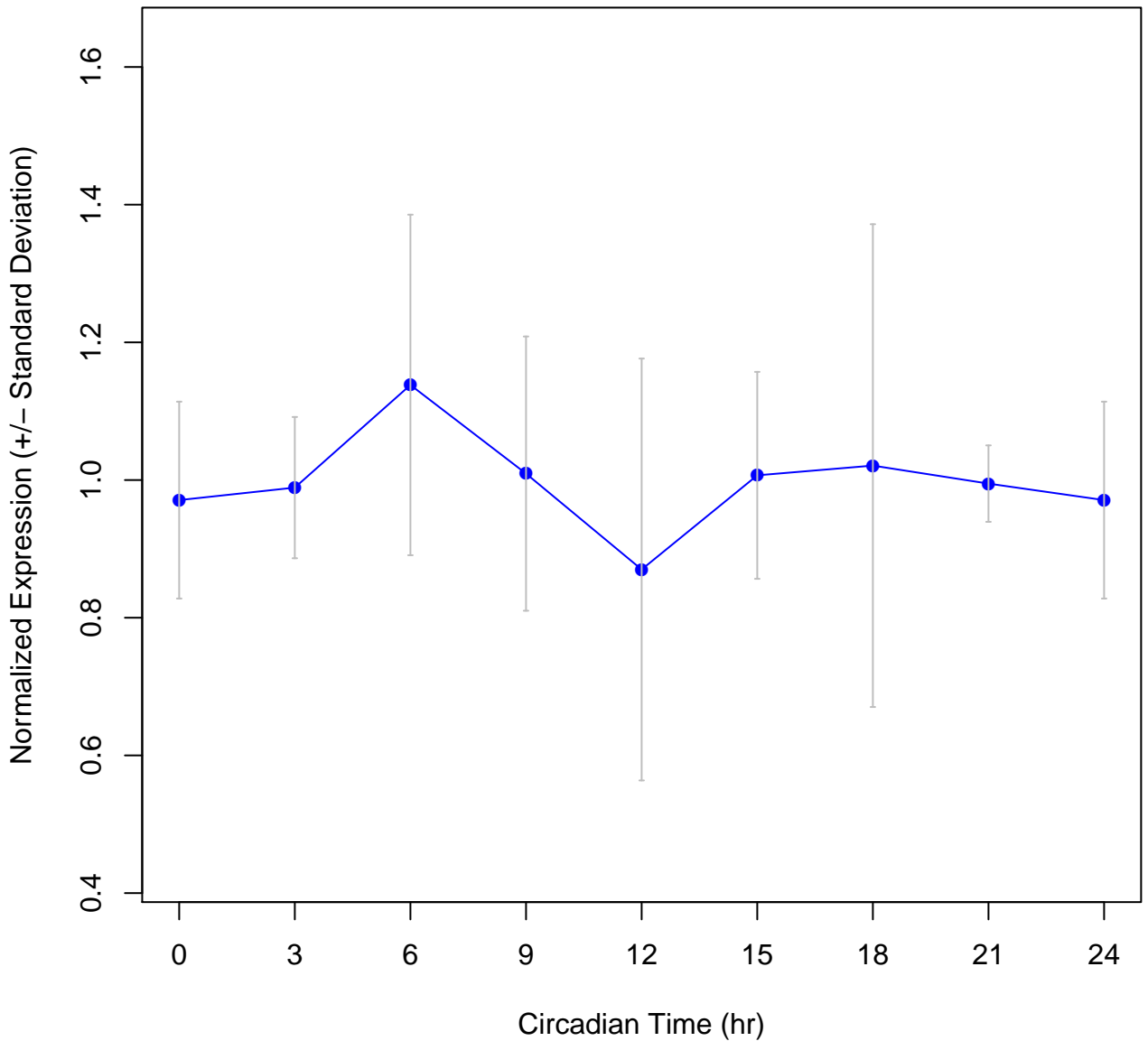
Supplement Figure 5 rarb



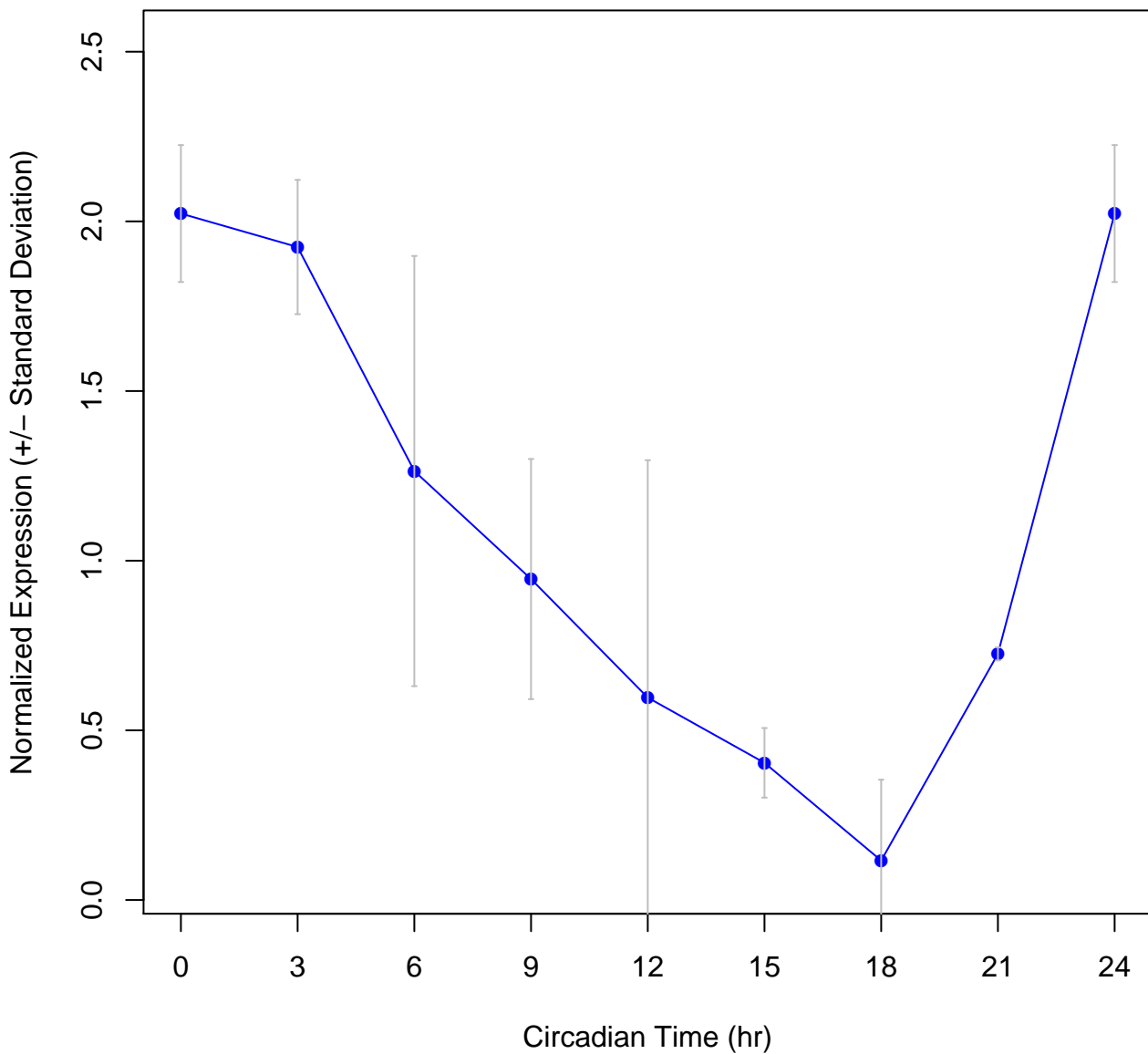
Supplement Figure 5 raver1



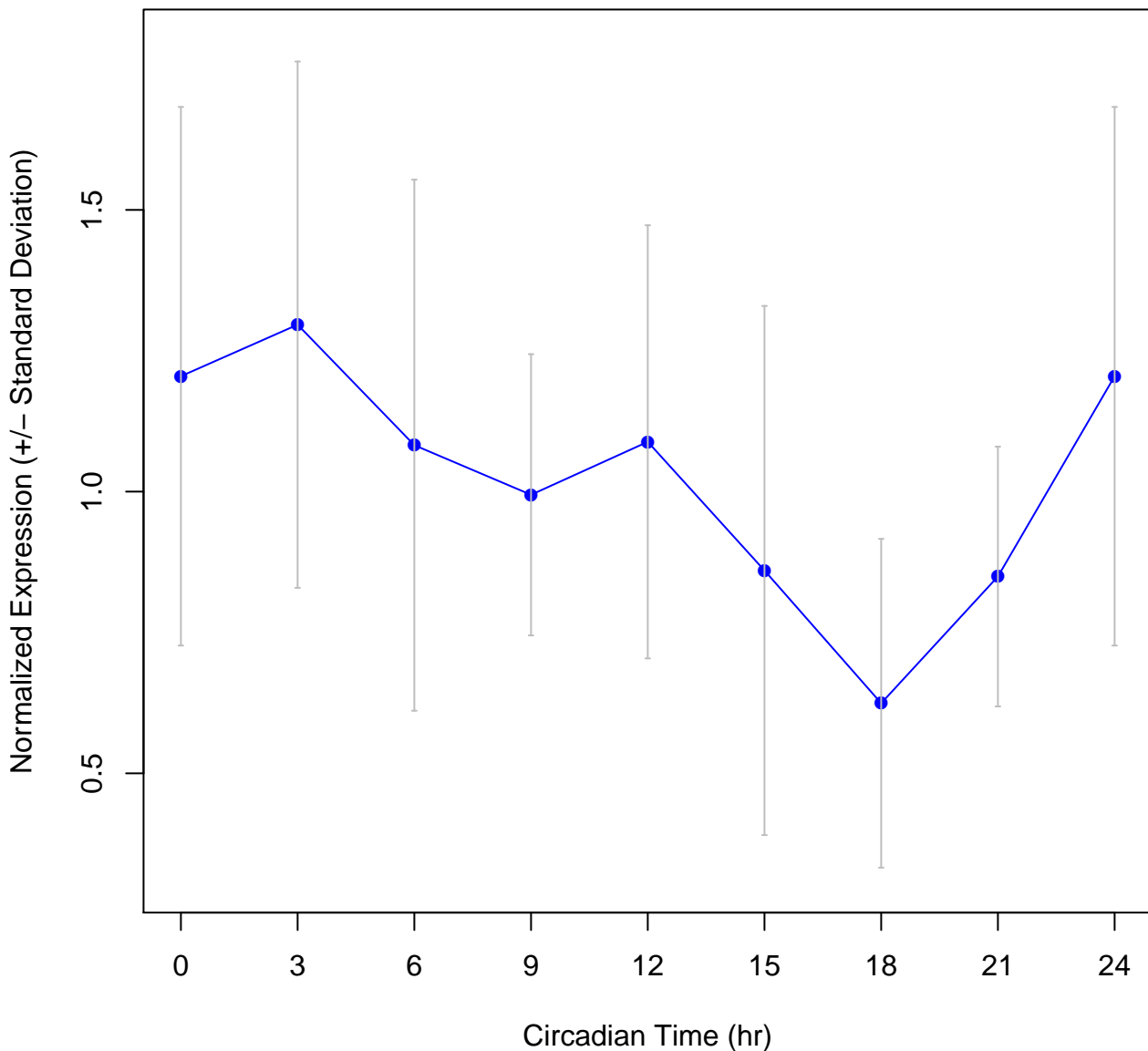
**Supplement Figure 5 rbbp5**



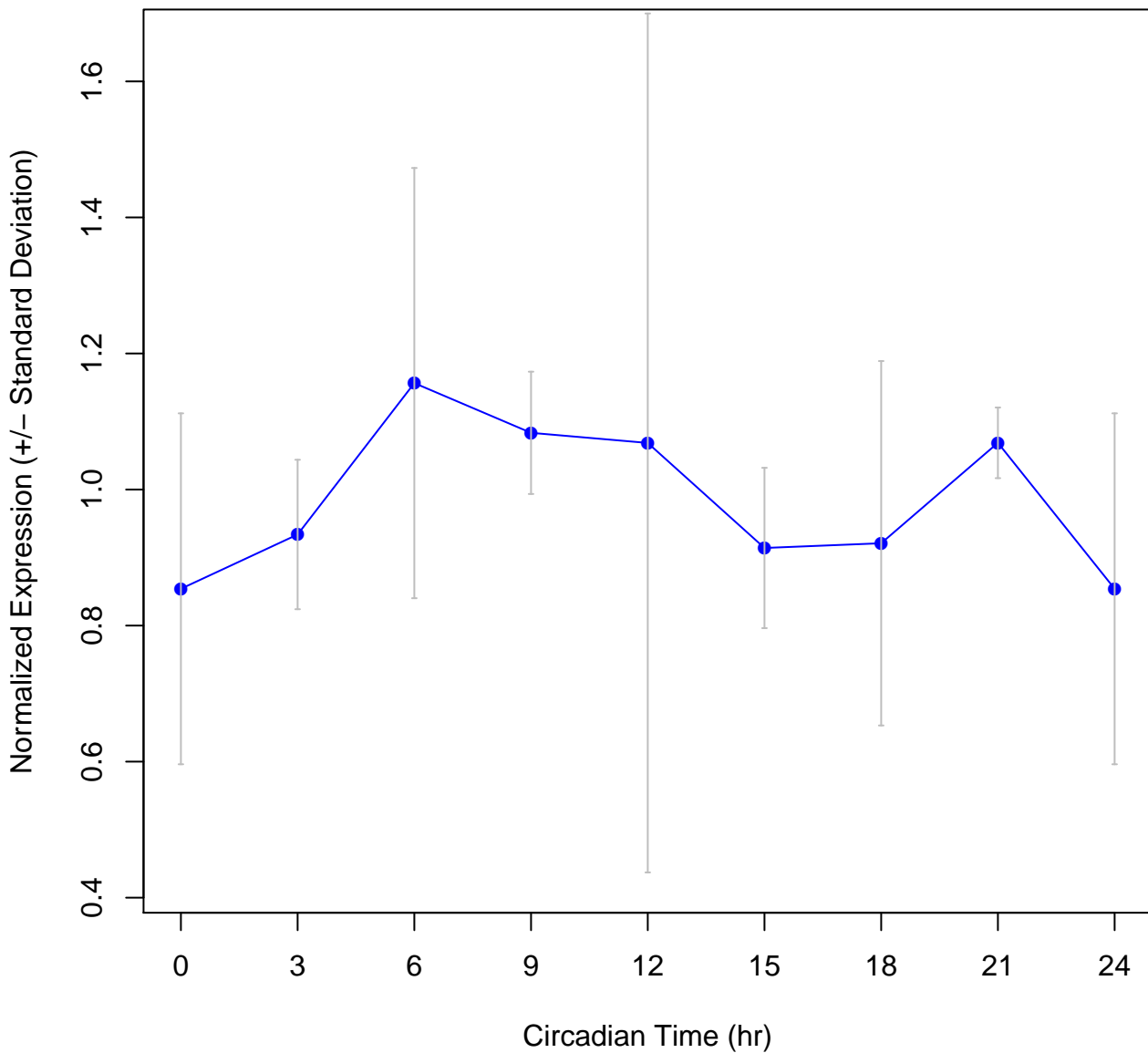
Supplement Figure 5 rora



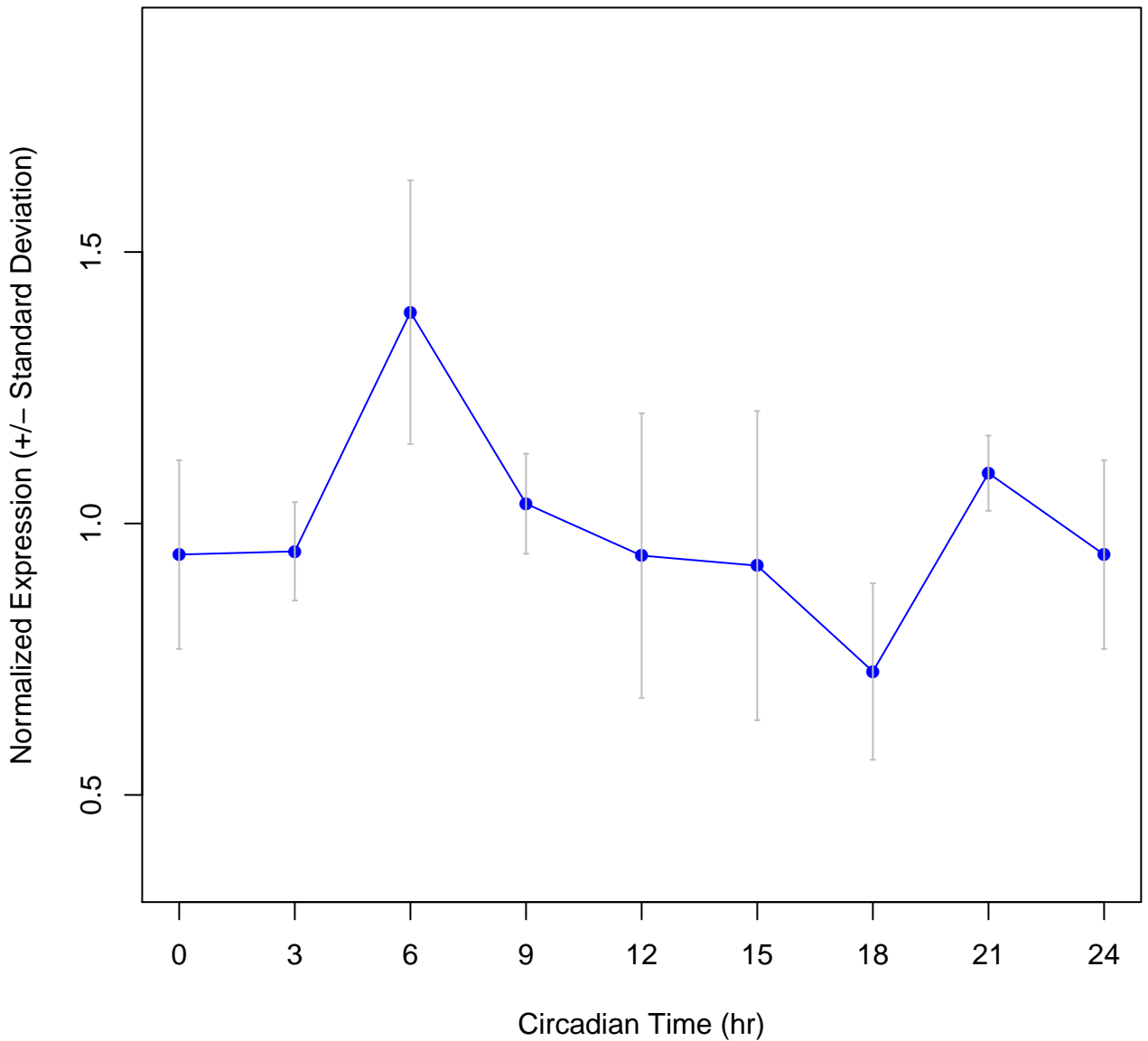
Supplement Figure 5 rps6ka2



**Supplement Figure 5 rps6kb1**

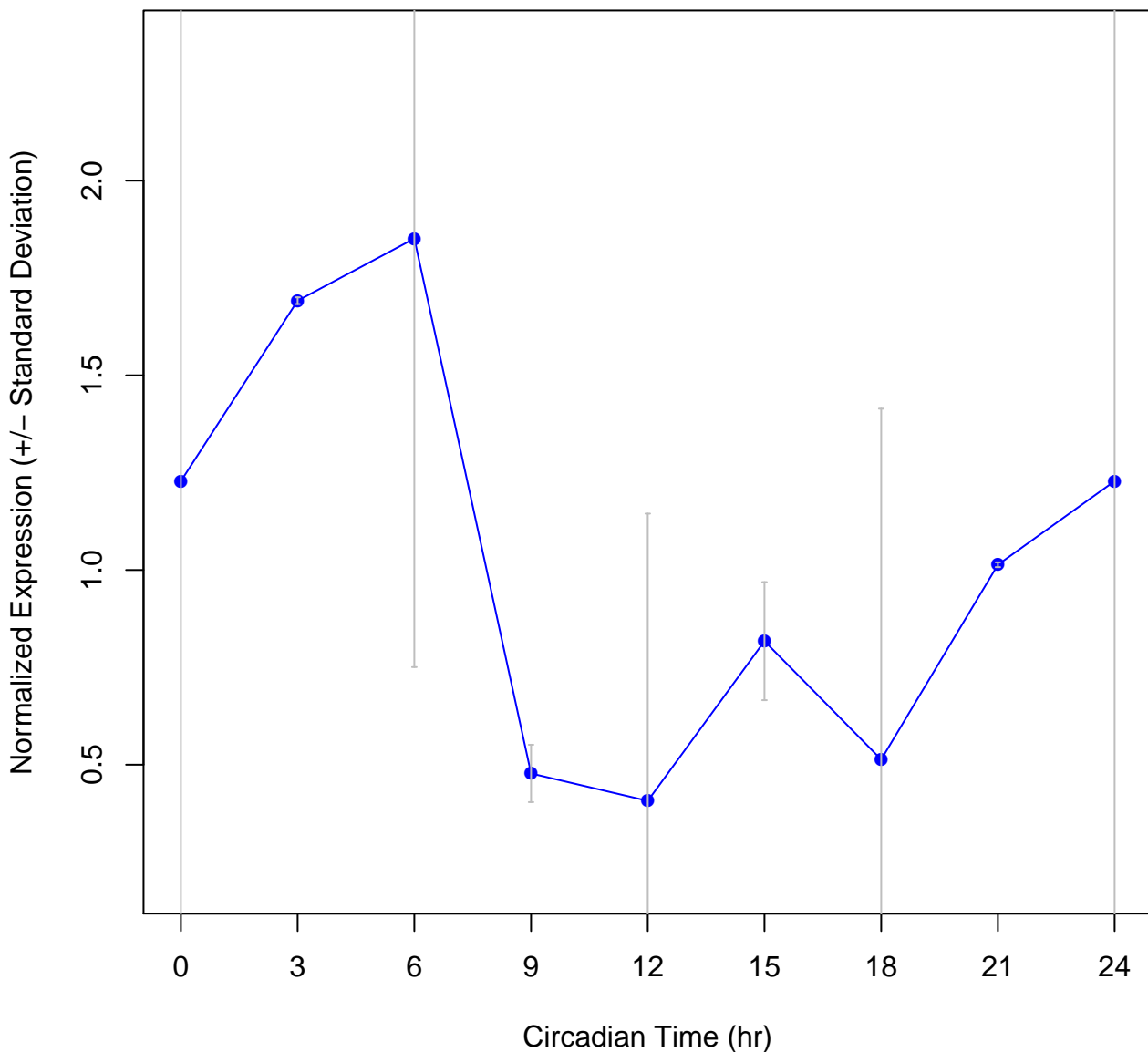


Supplement Figure 5 si\_ch211-114i13.12

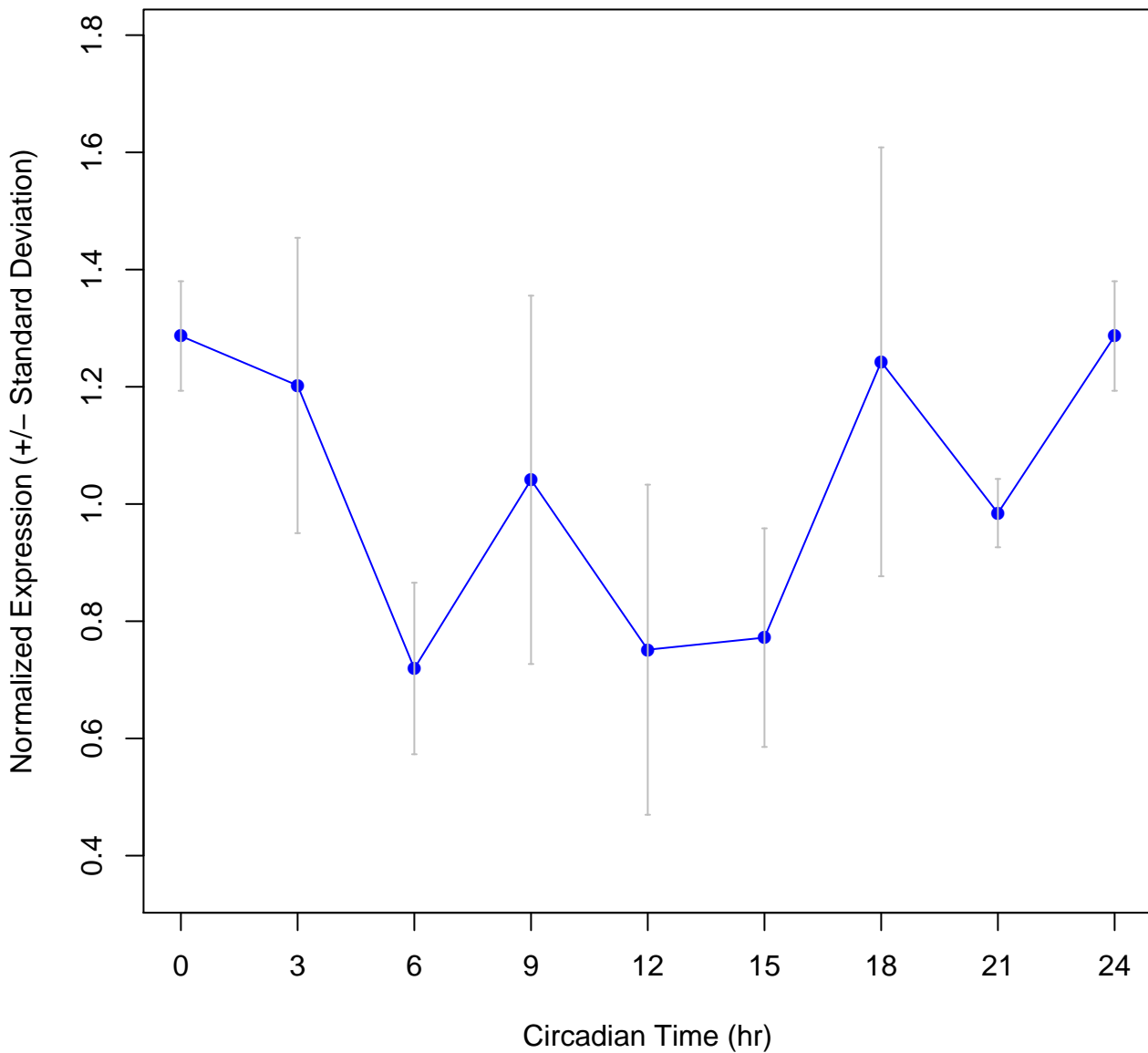




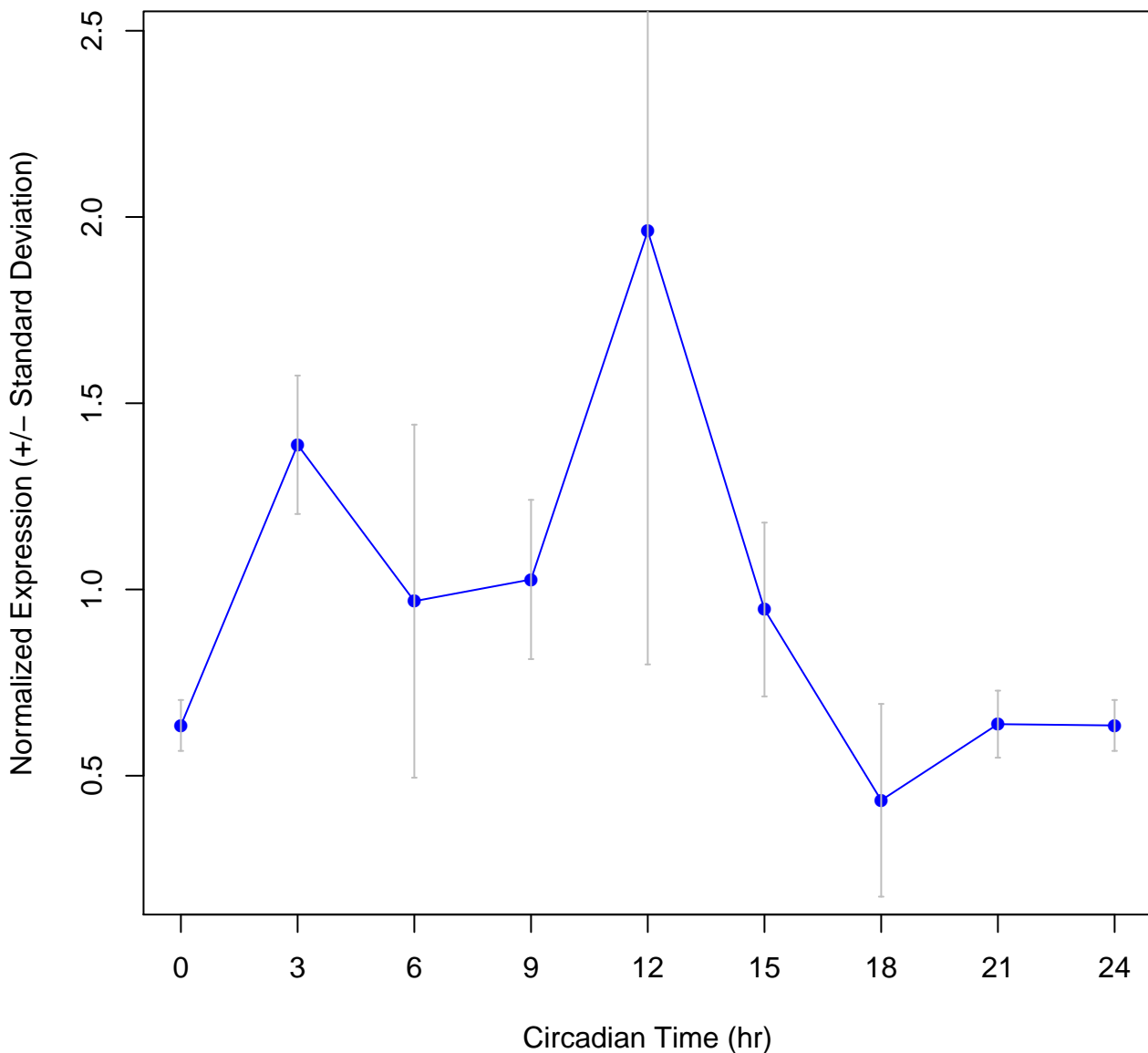
Supplement Figure 5 si\_ch211-199o1.2



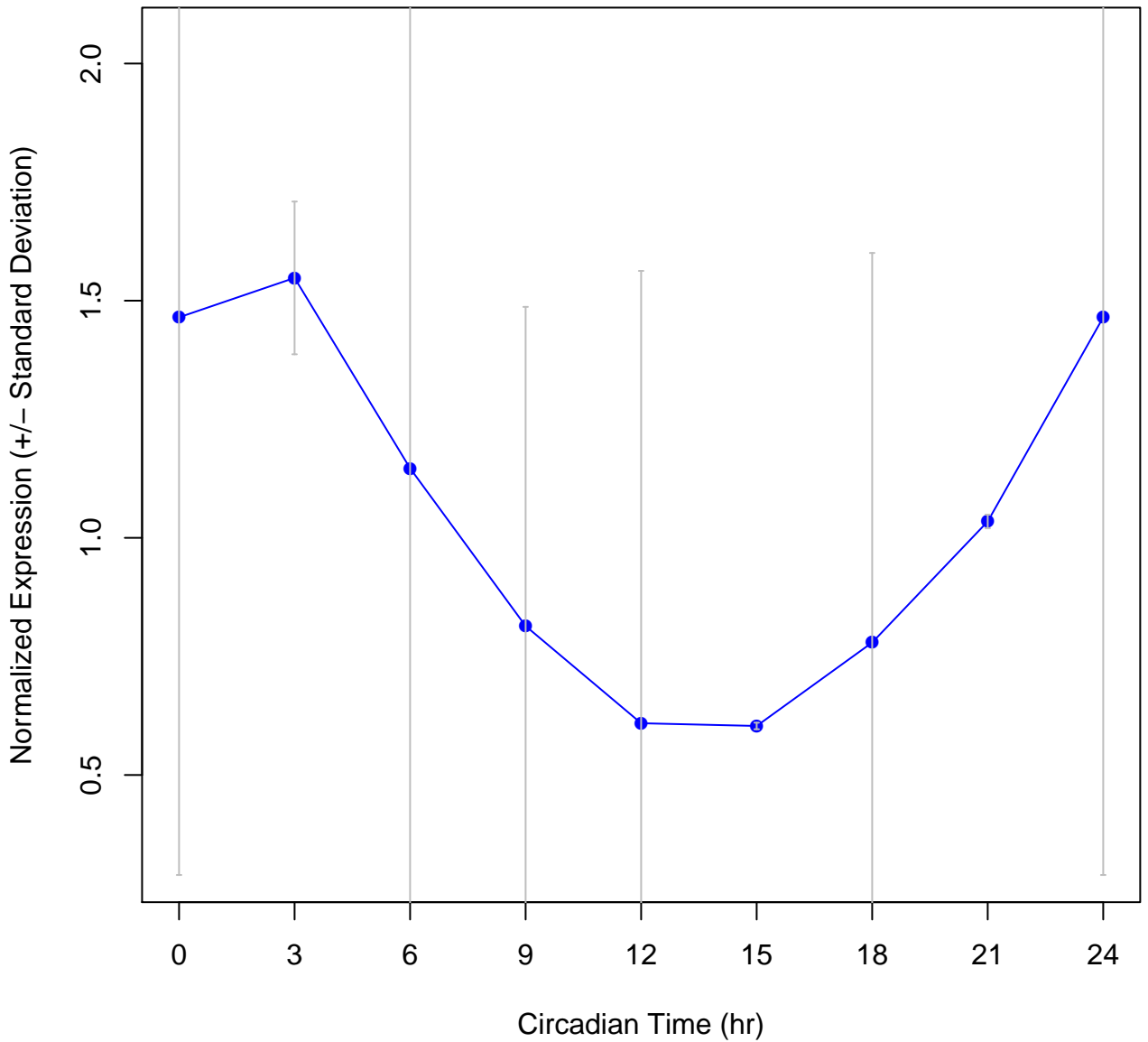
## Supplement Figure 5 sigirr



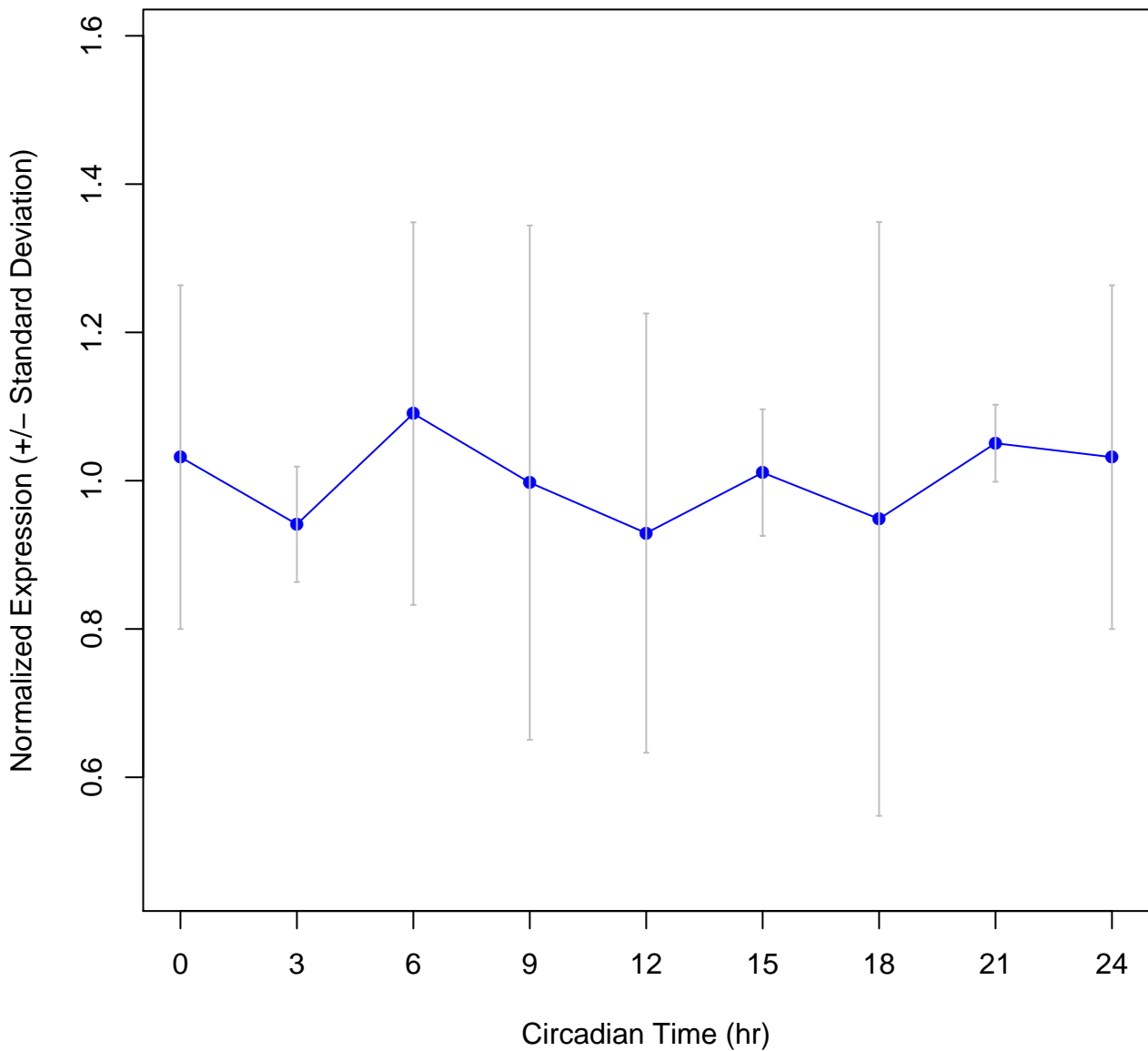
**Supplement Figure 5 sirt1**



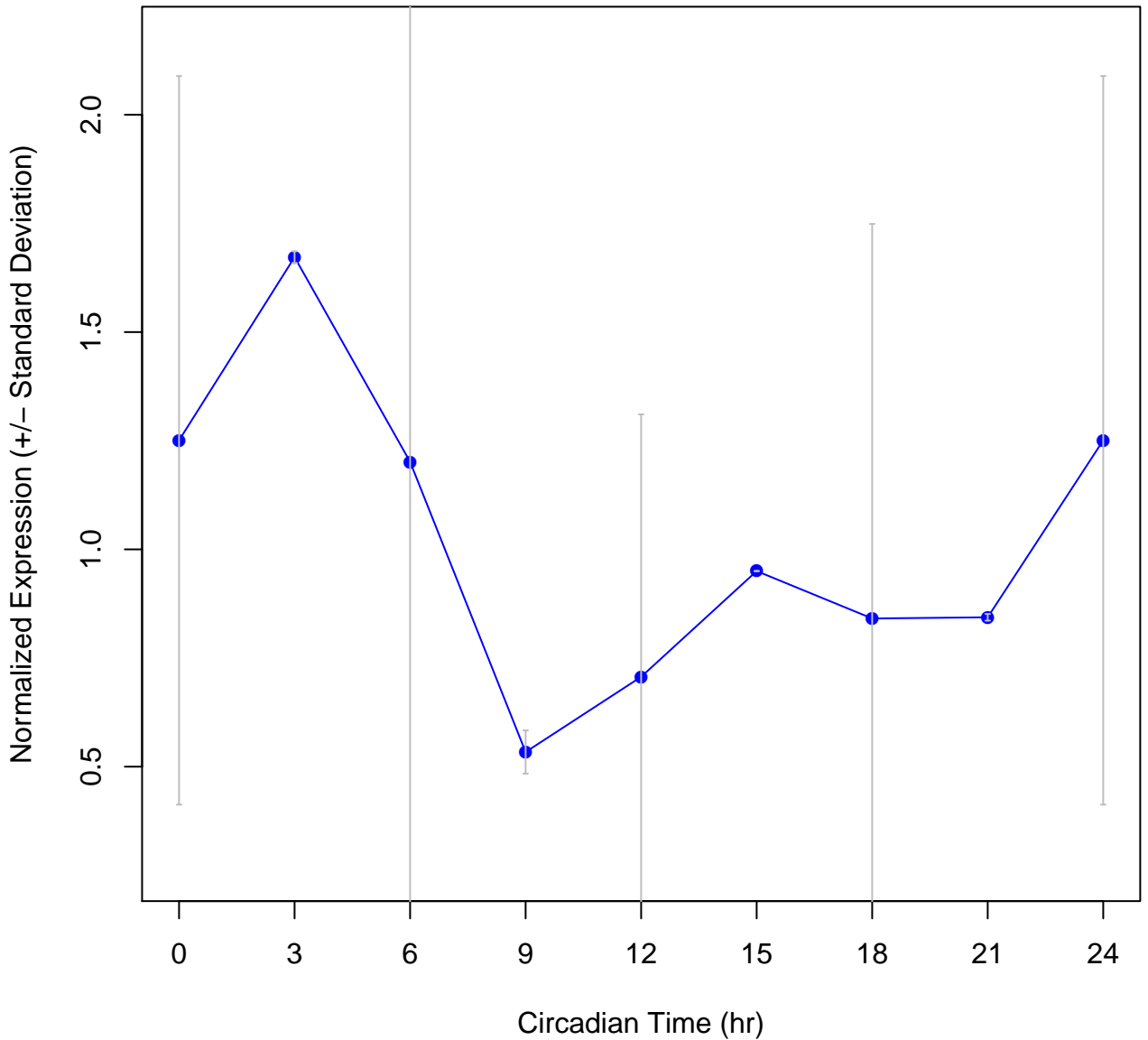
**Supplement Figure 5 six3**



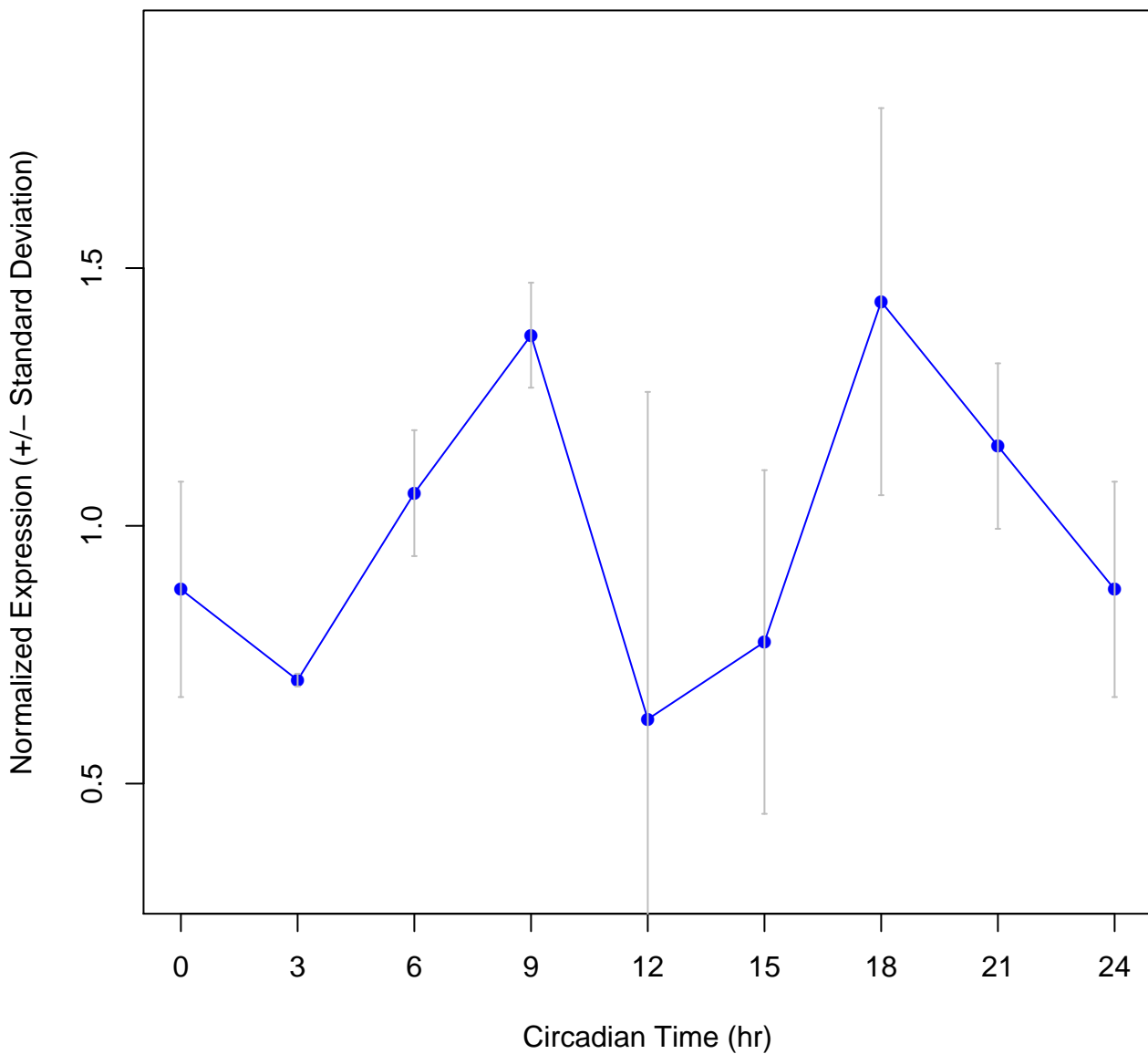
**Supplement Figure 5 skp1**



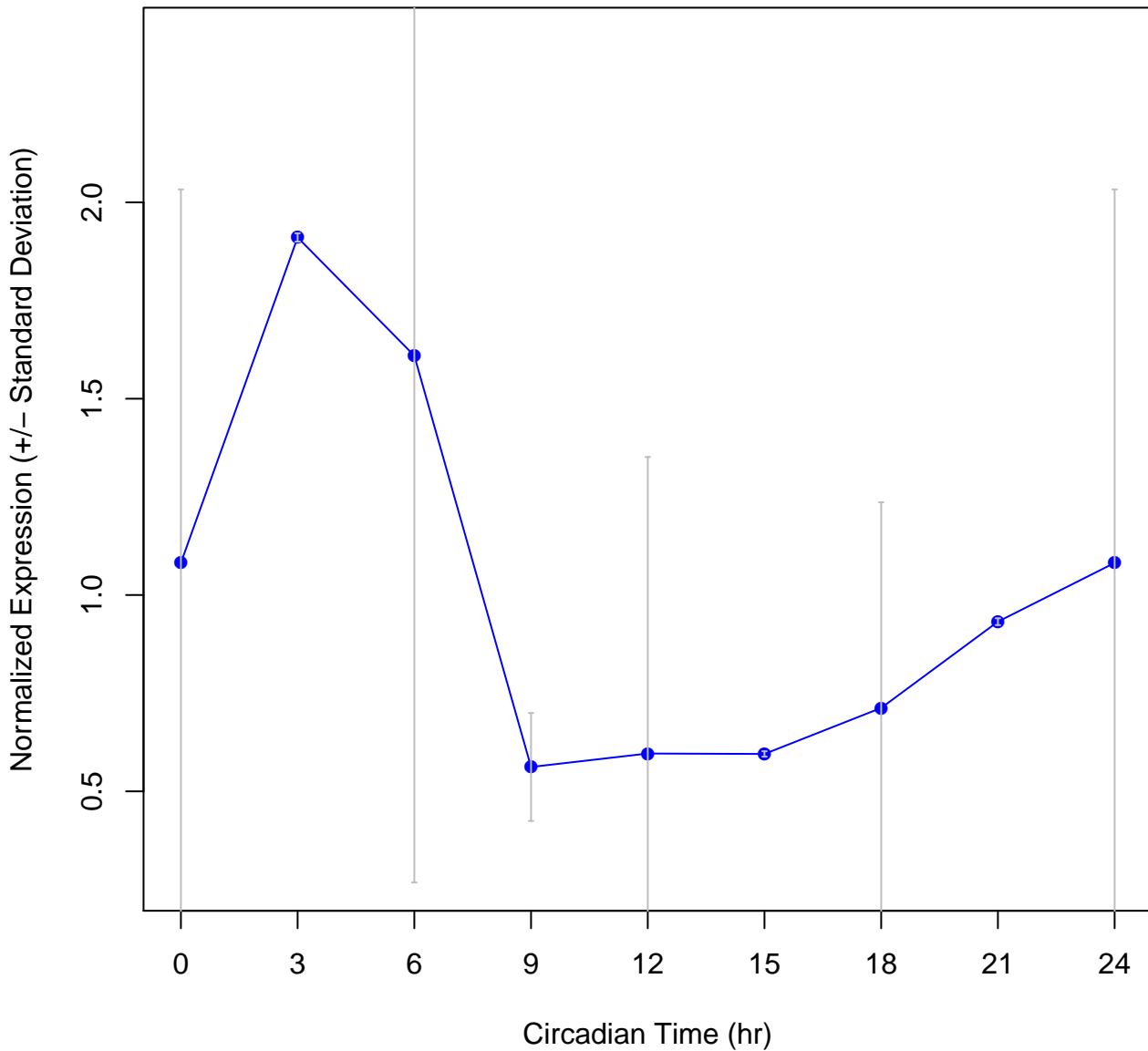
# Supplement Figure 5 slc2a4



**Supplement Figure 5 slc2a4rg**

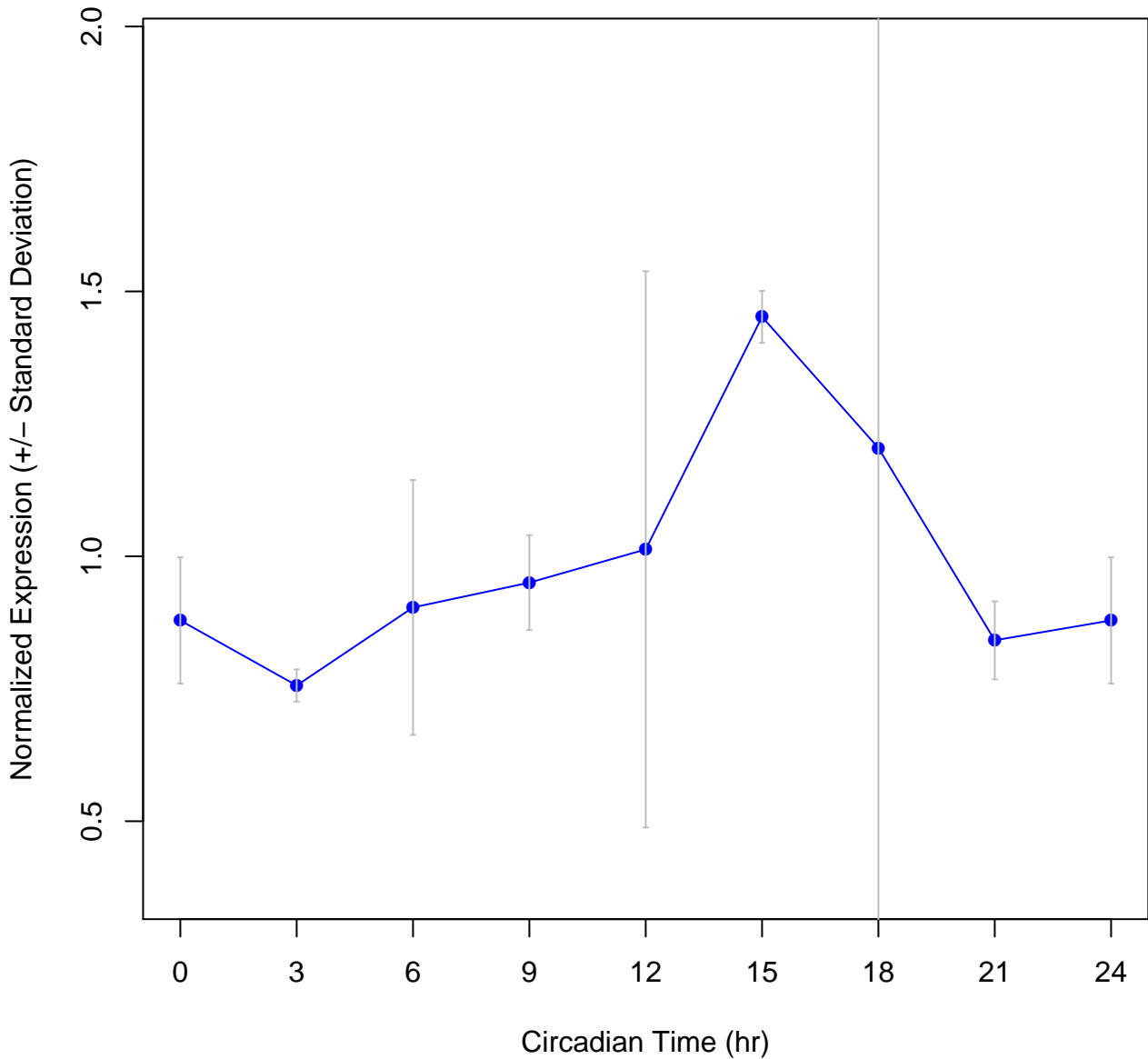


Supplement Figure 5 snca

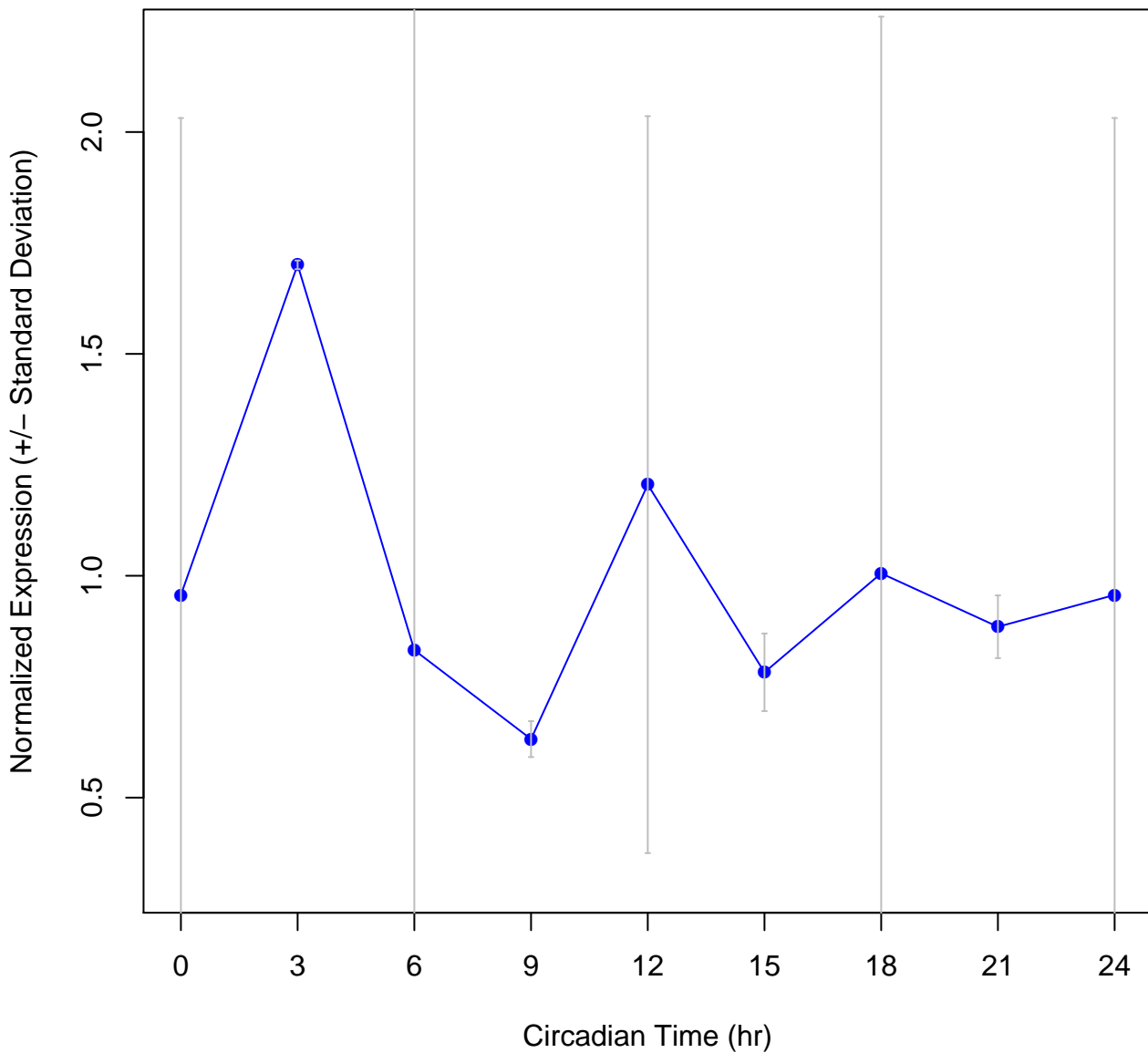




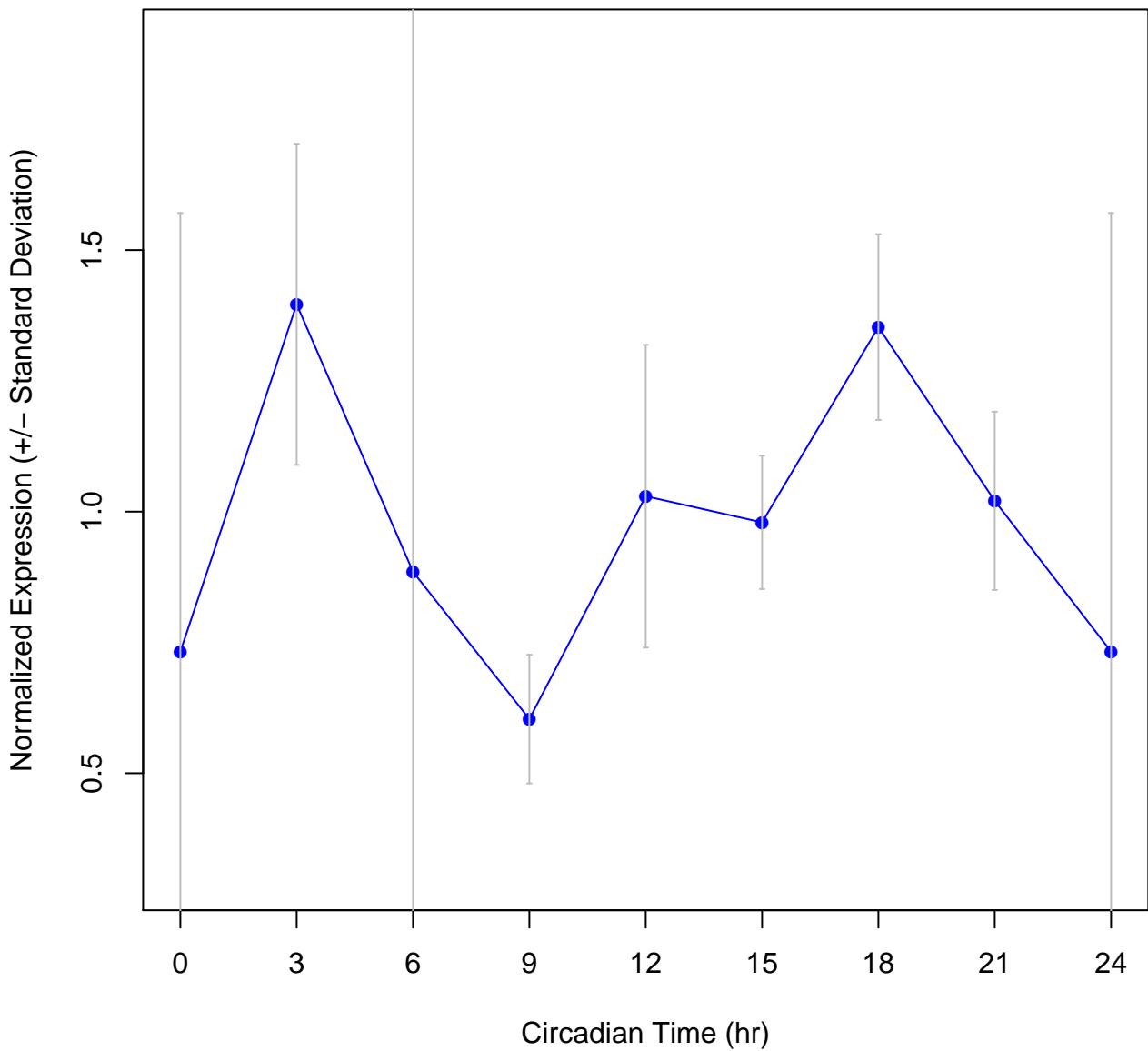
# Supplement Figure 5 sort1



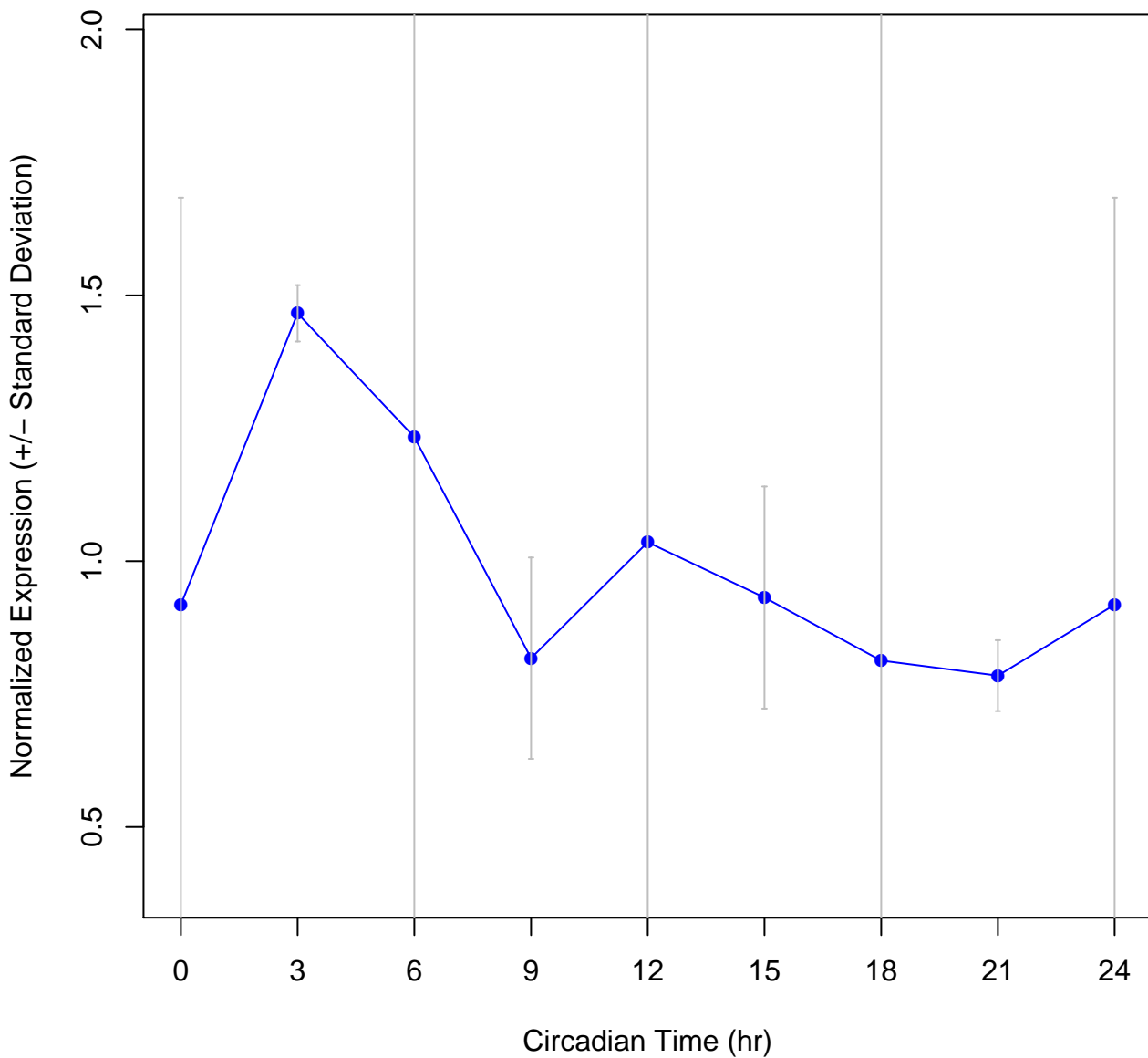
**Supplement Figure 5 sox10**



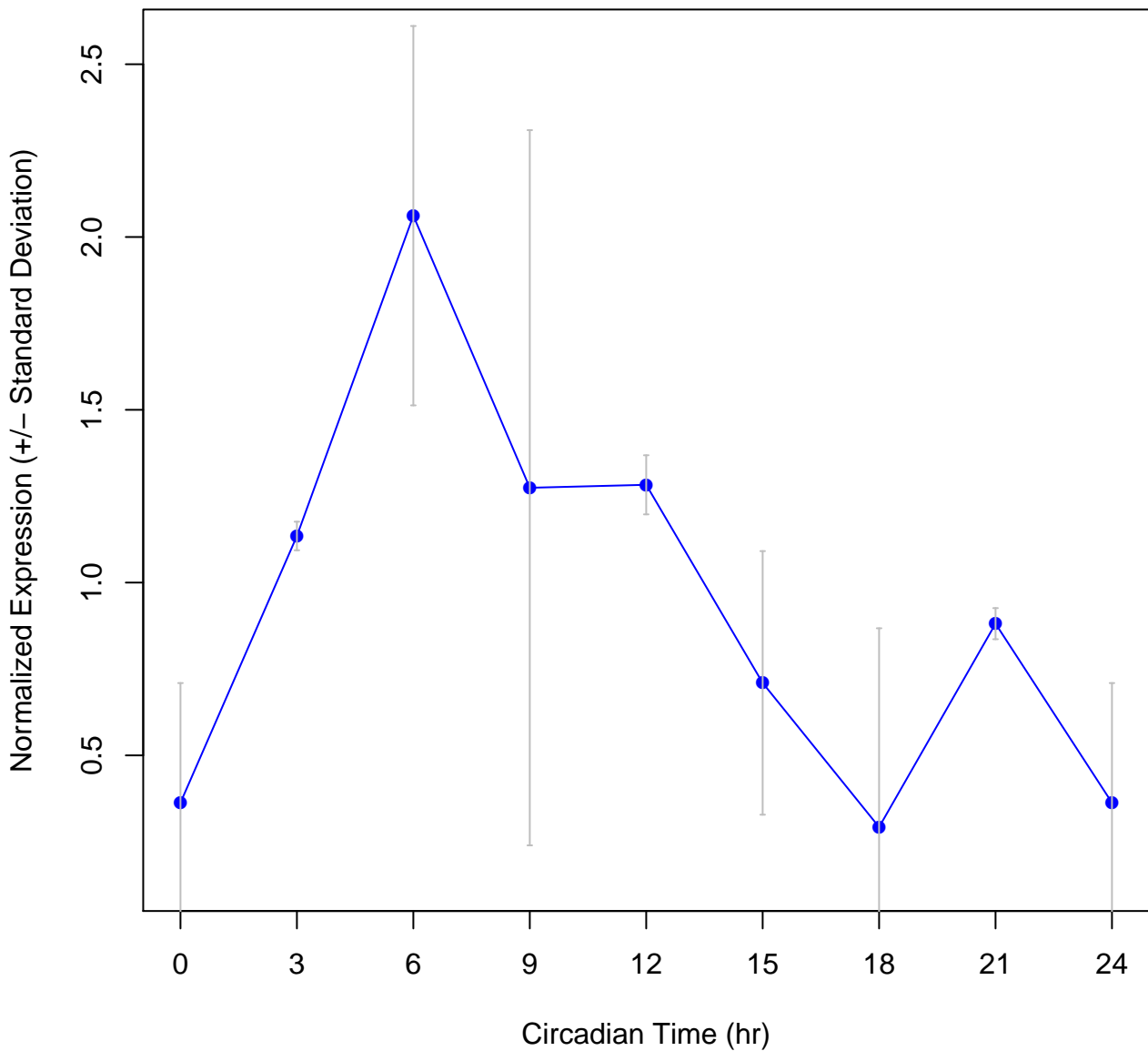
**Supplement Figure 5 sox8**



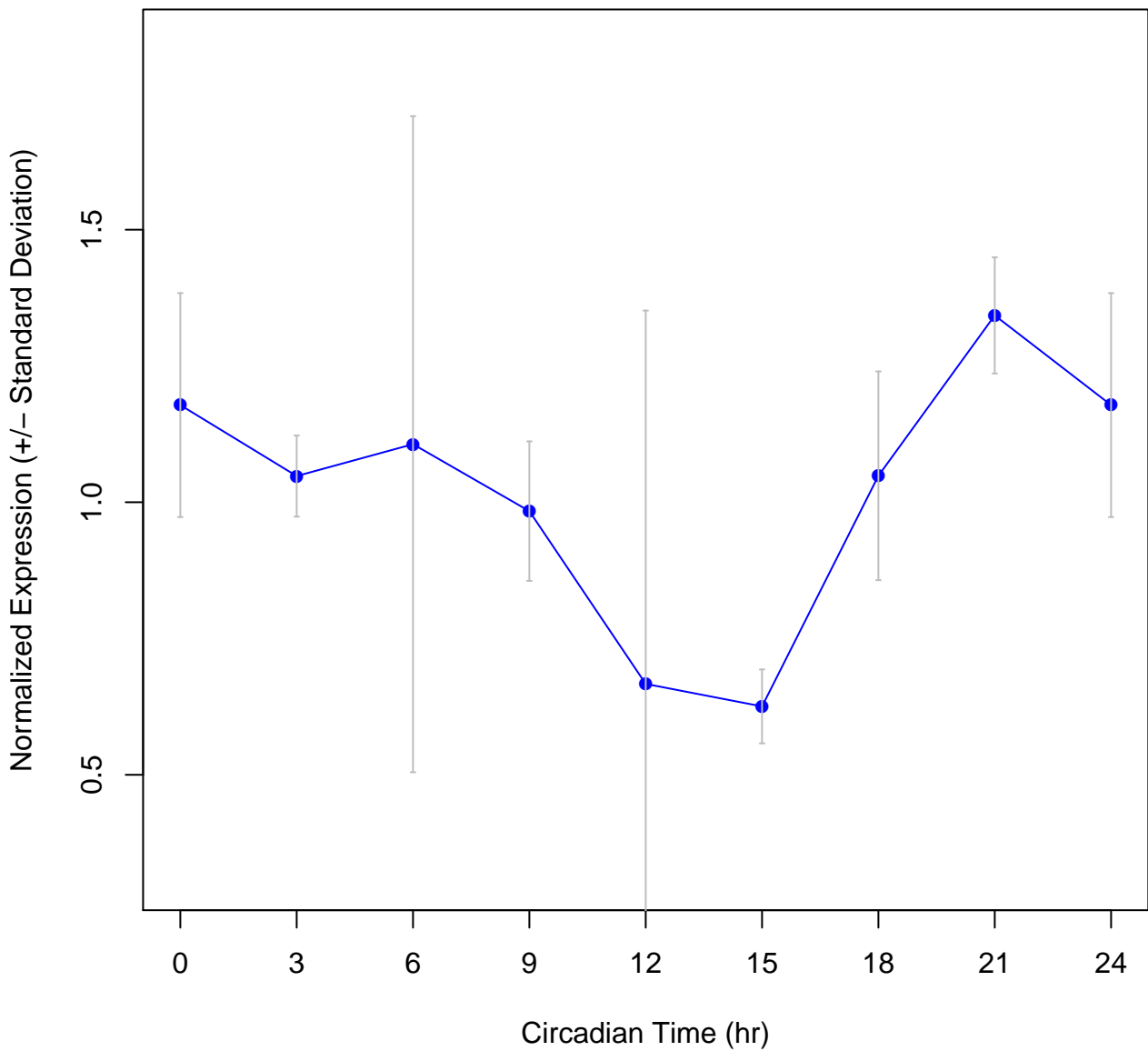
Supplement Figure 5 spc25



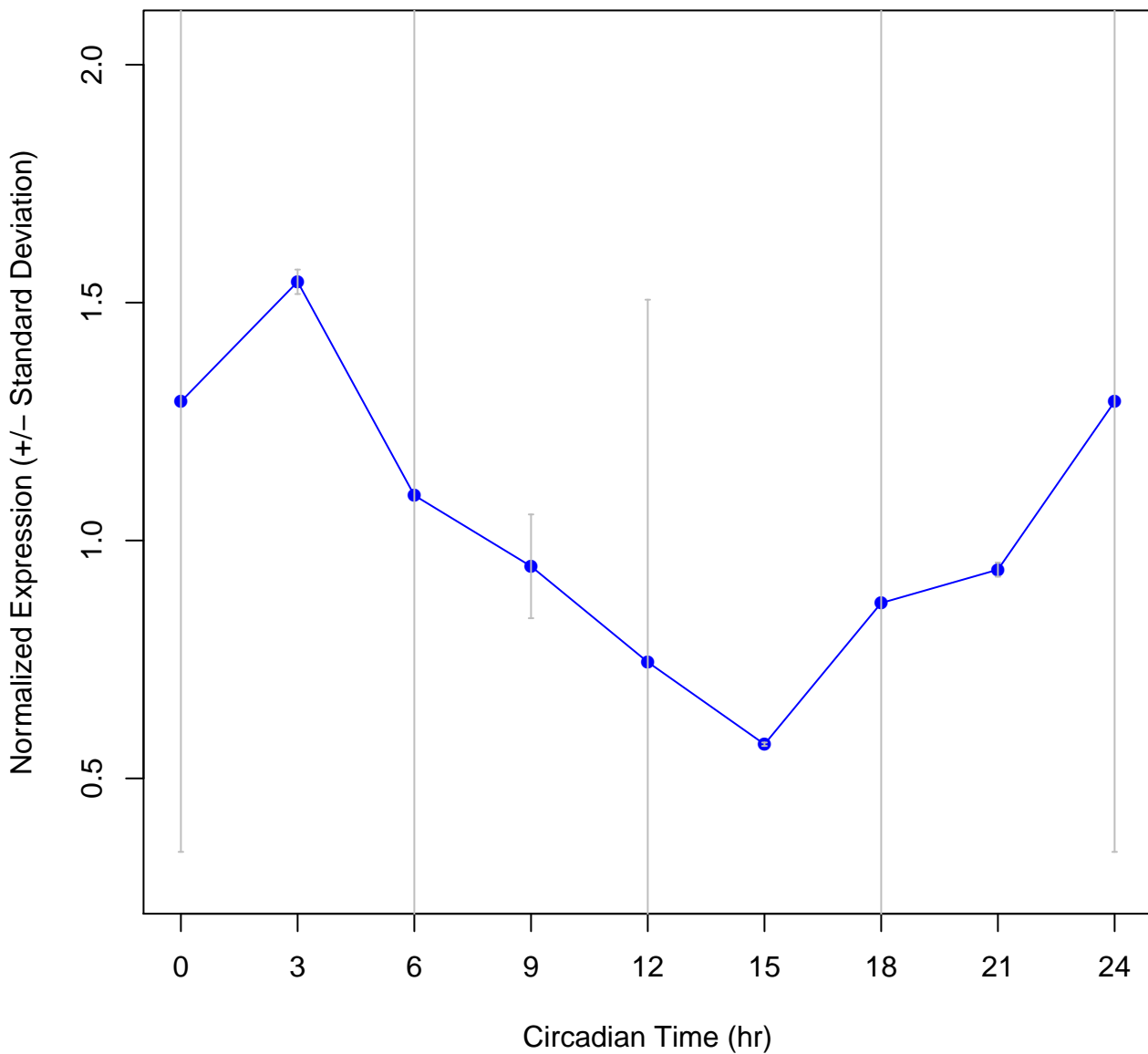
**Supplement Figure 5 srebf1**



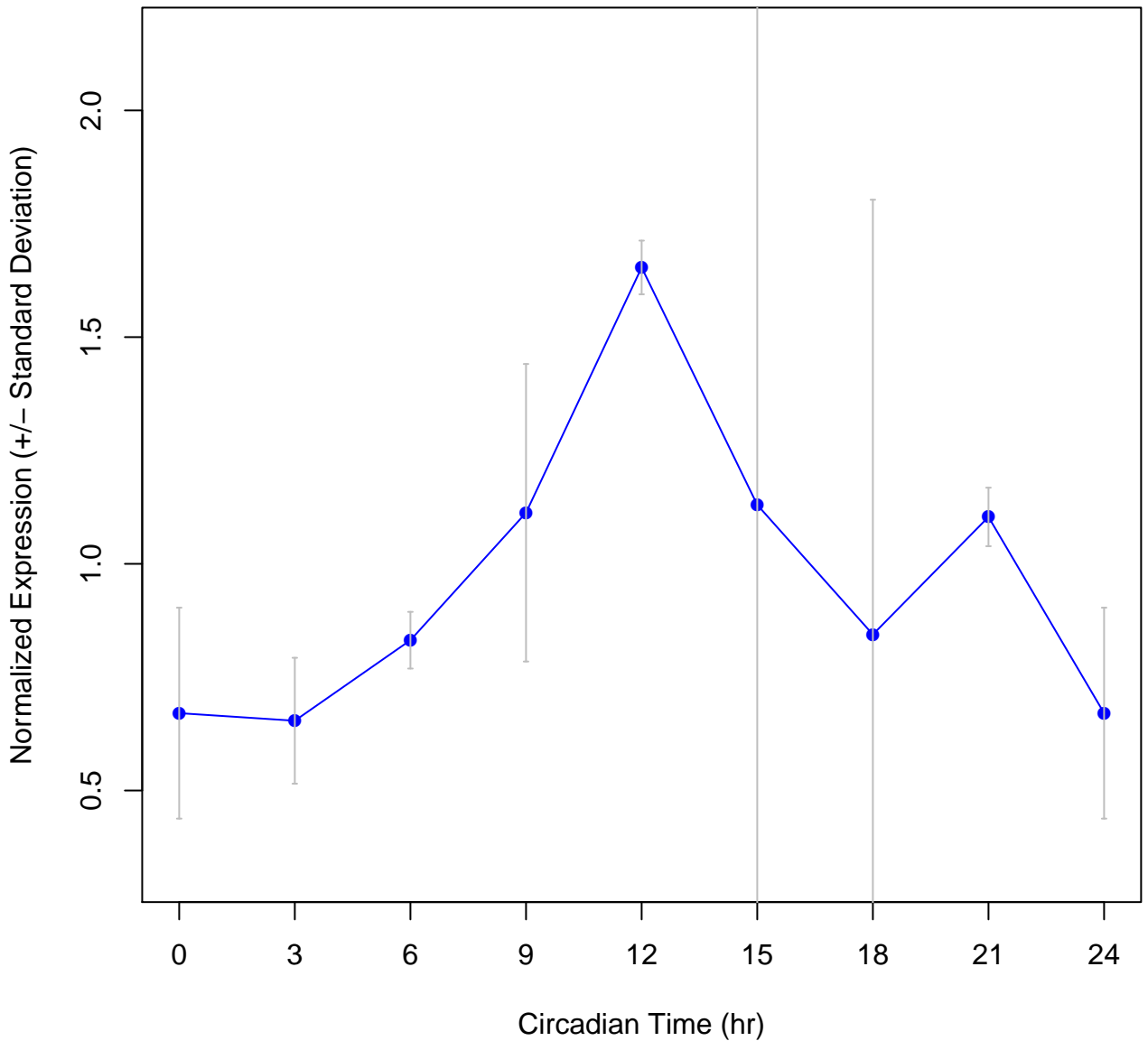
Supplement Figure 5 sybu



Supplement Figure 5 tgm8

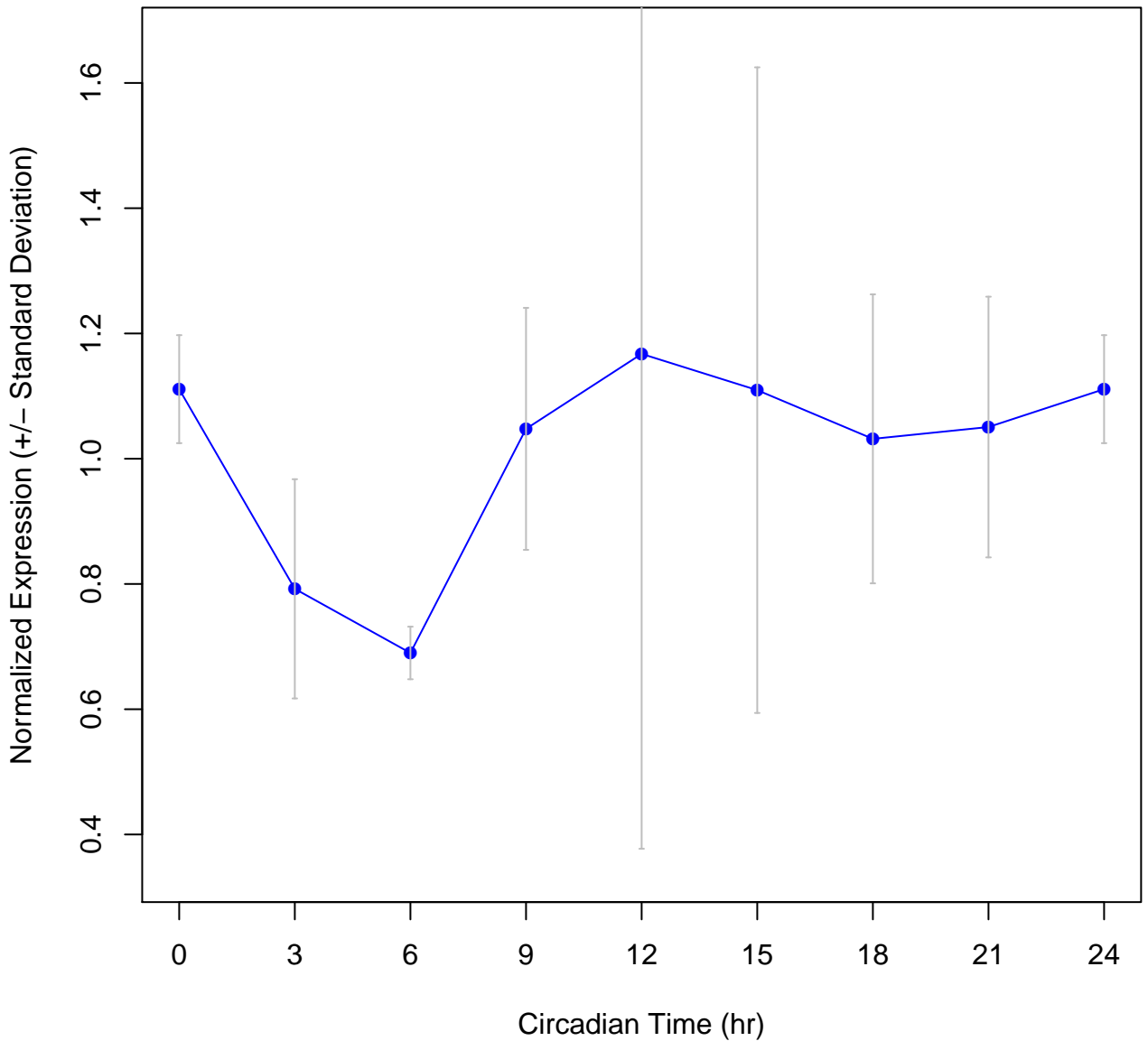


Supplement Figure 5 thbs1

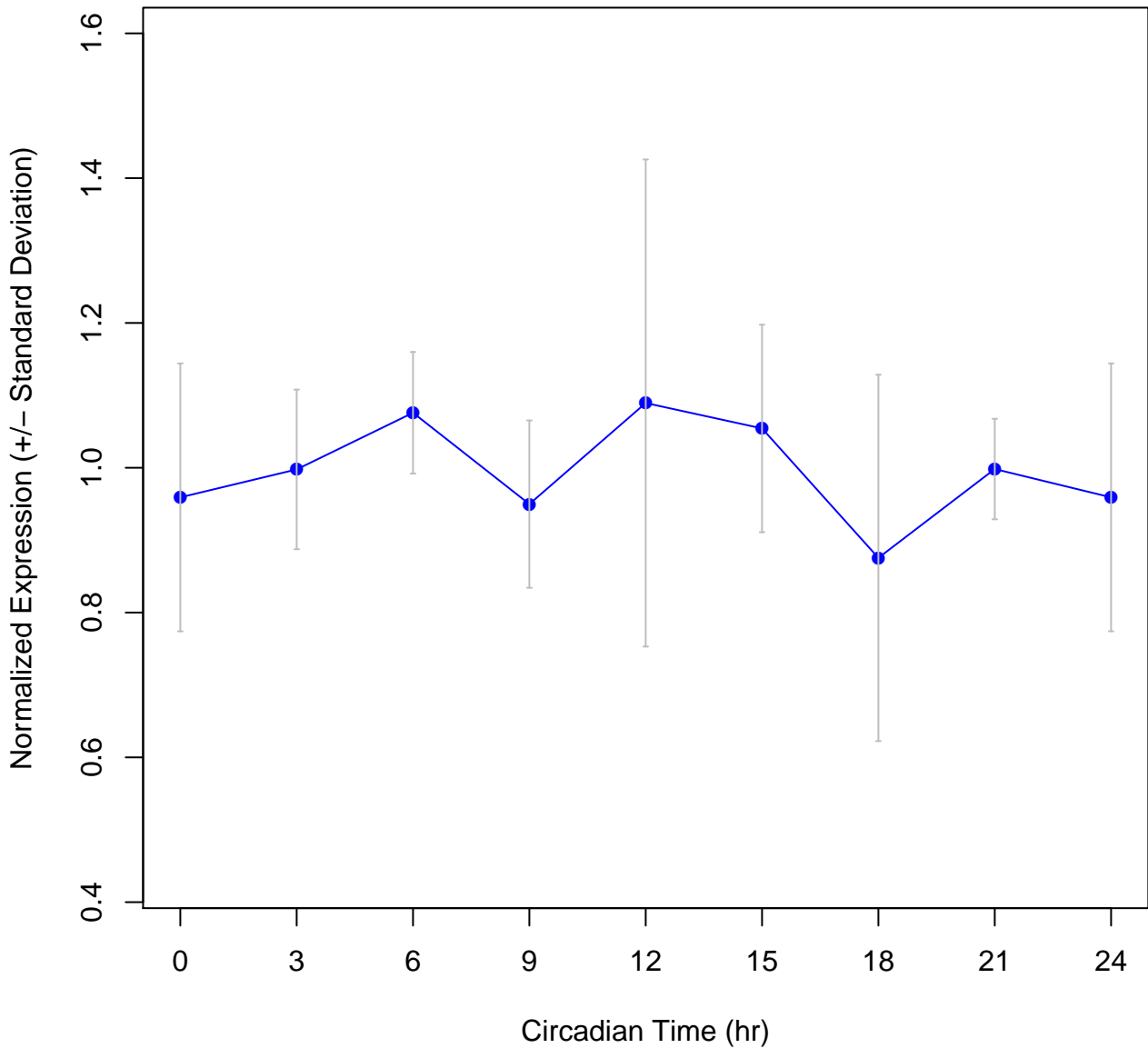




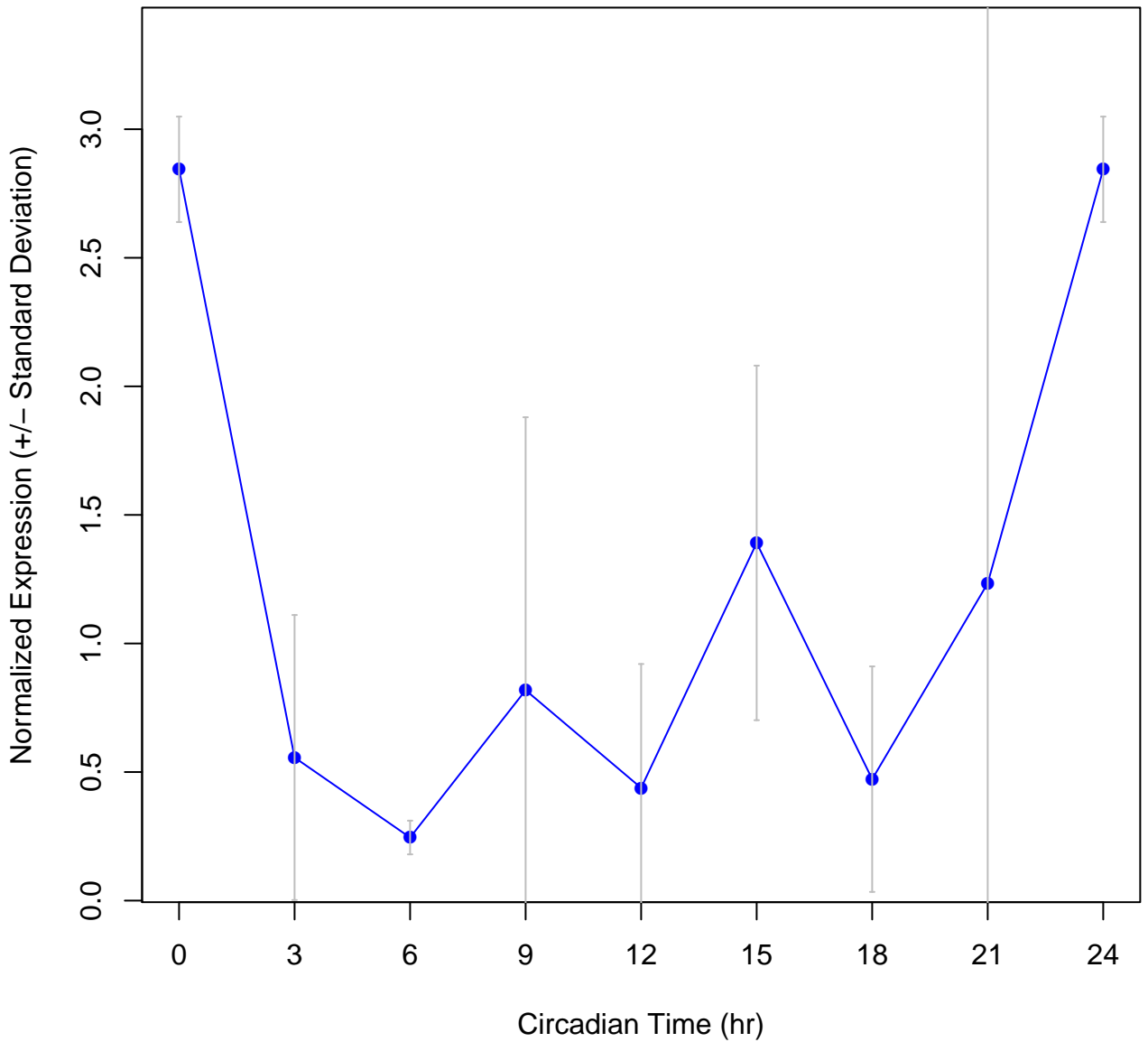
Supplement Figure 5 tim1



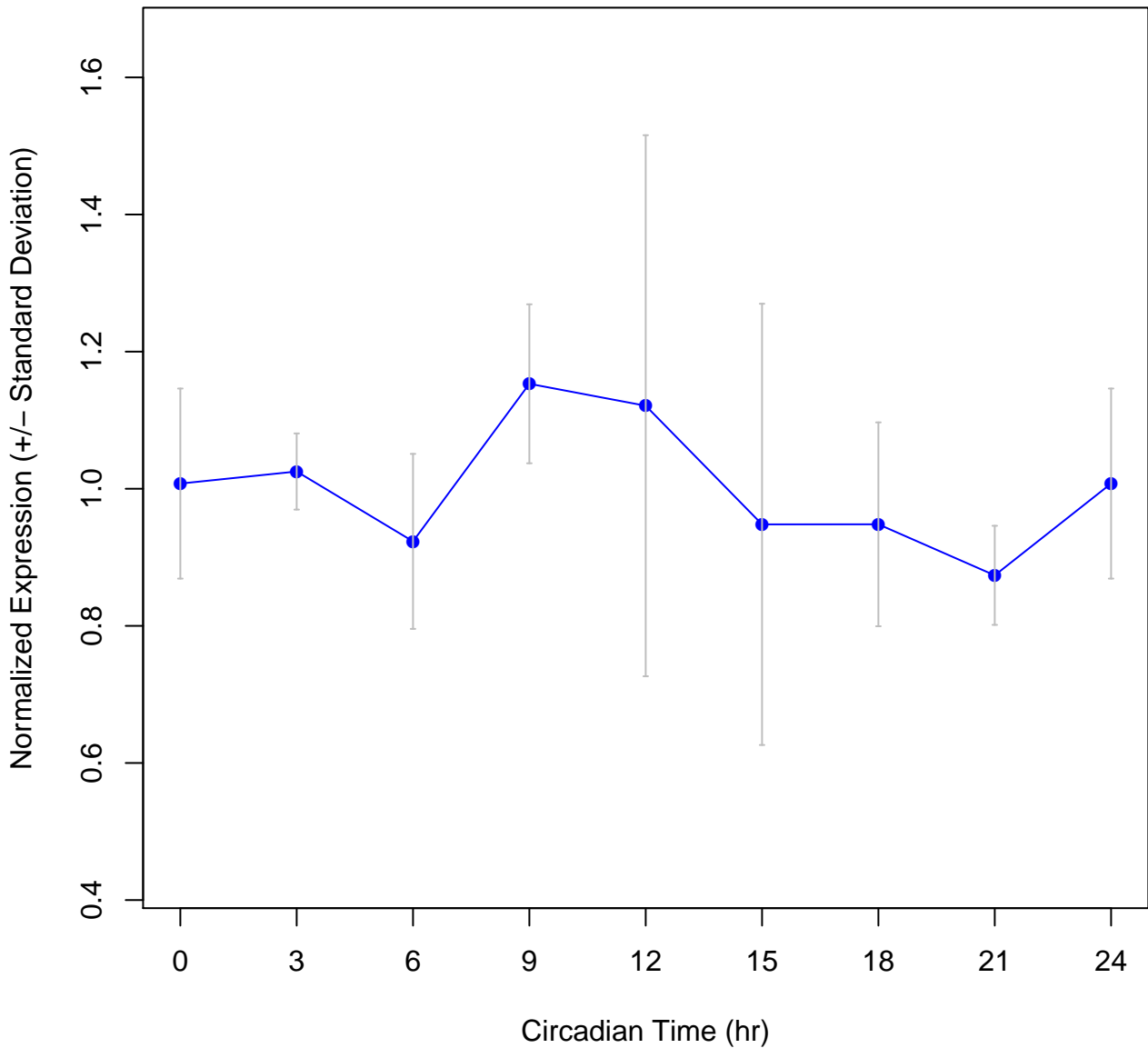
Supplement Figure 5 tmem204



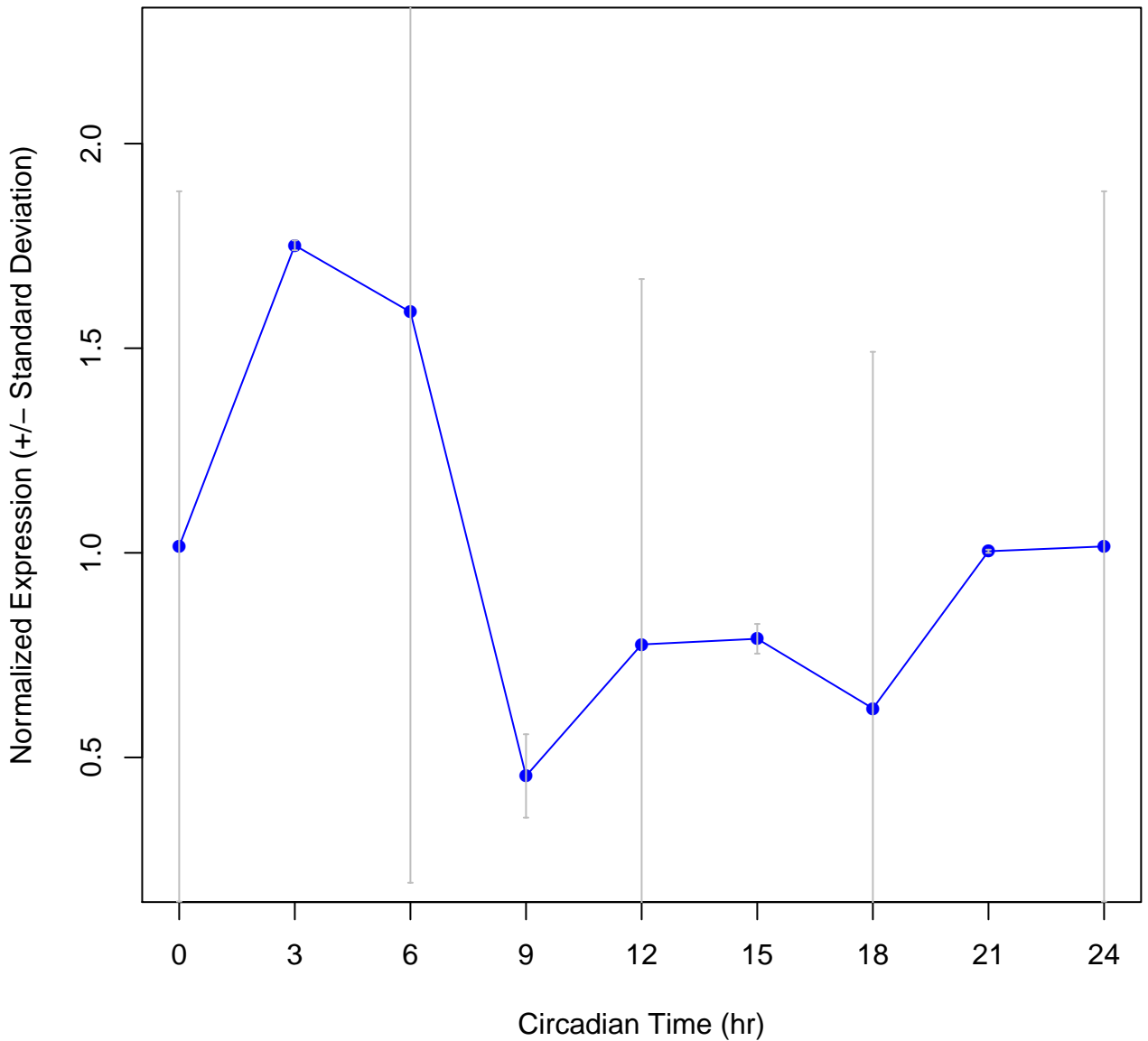
Supplement Figure 5 top2a



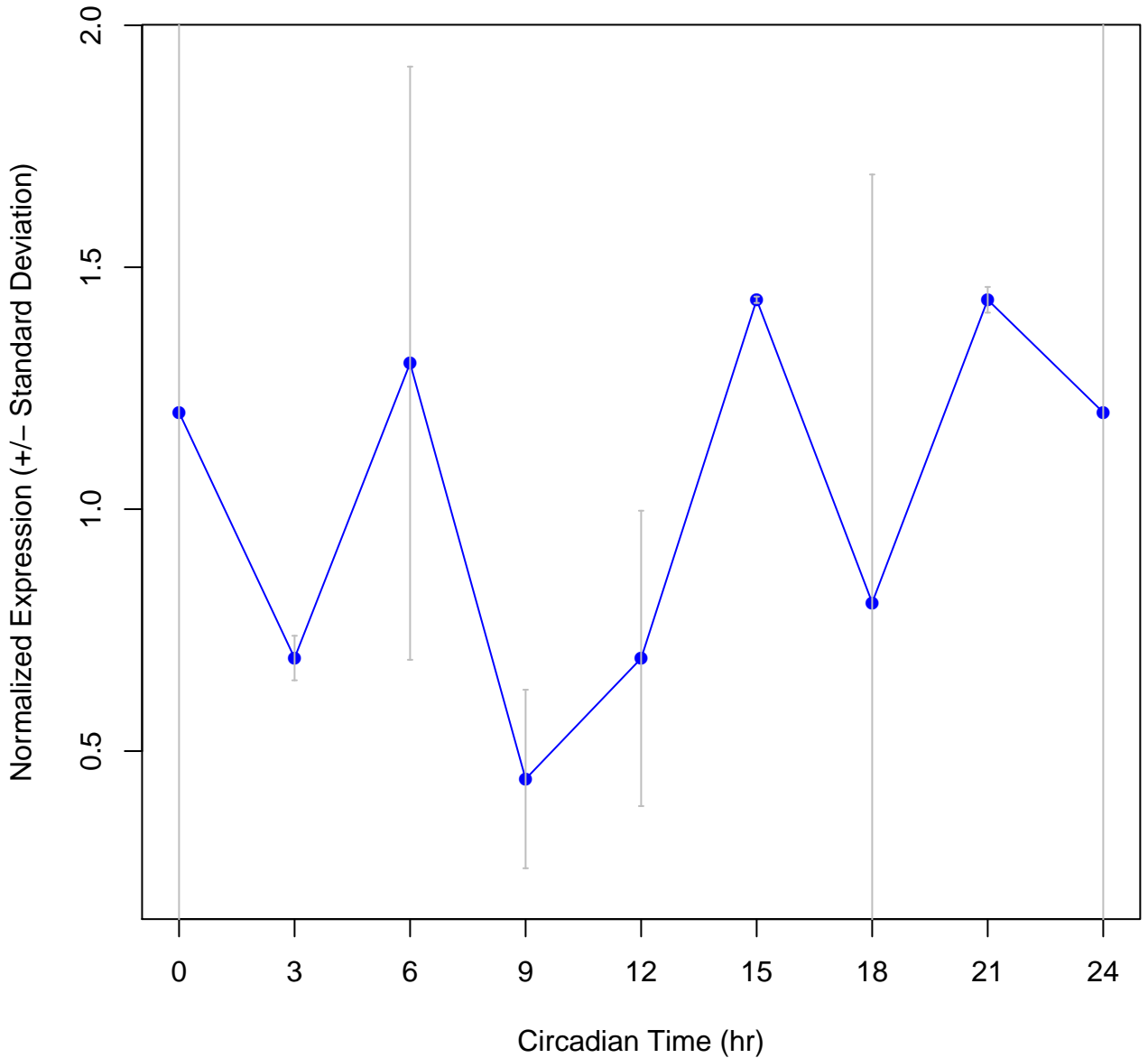
Supplement Figure 5 tpm4



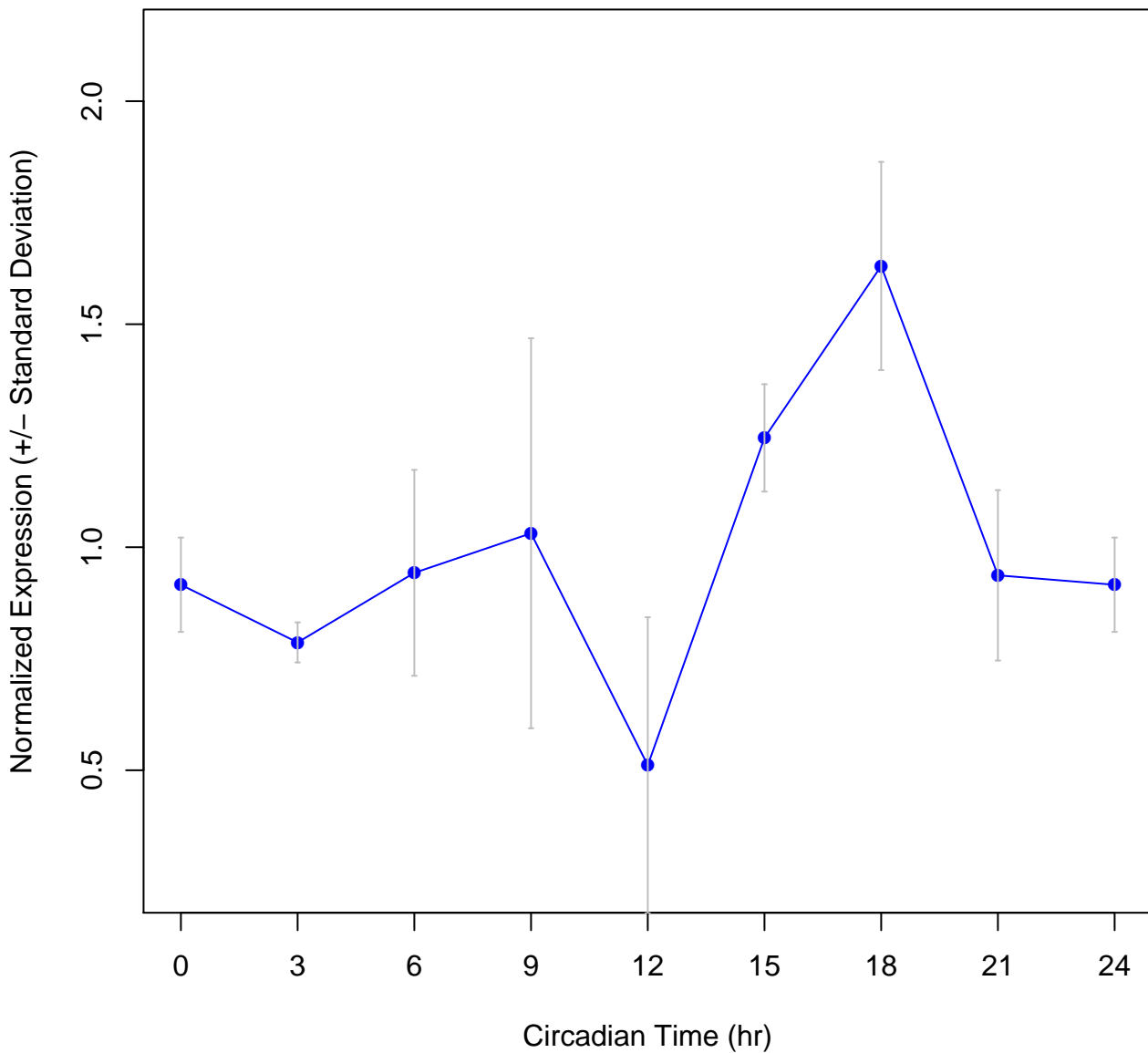
## Supplement Figure 5 tyr



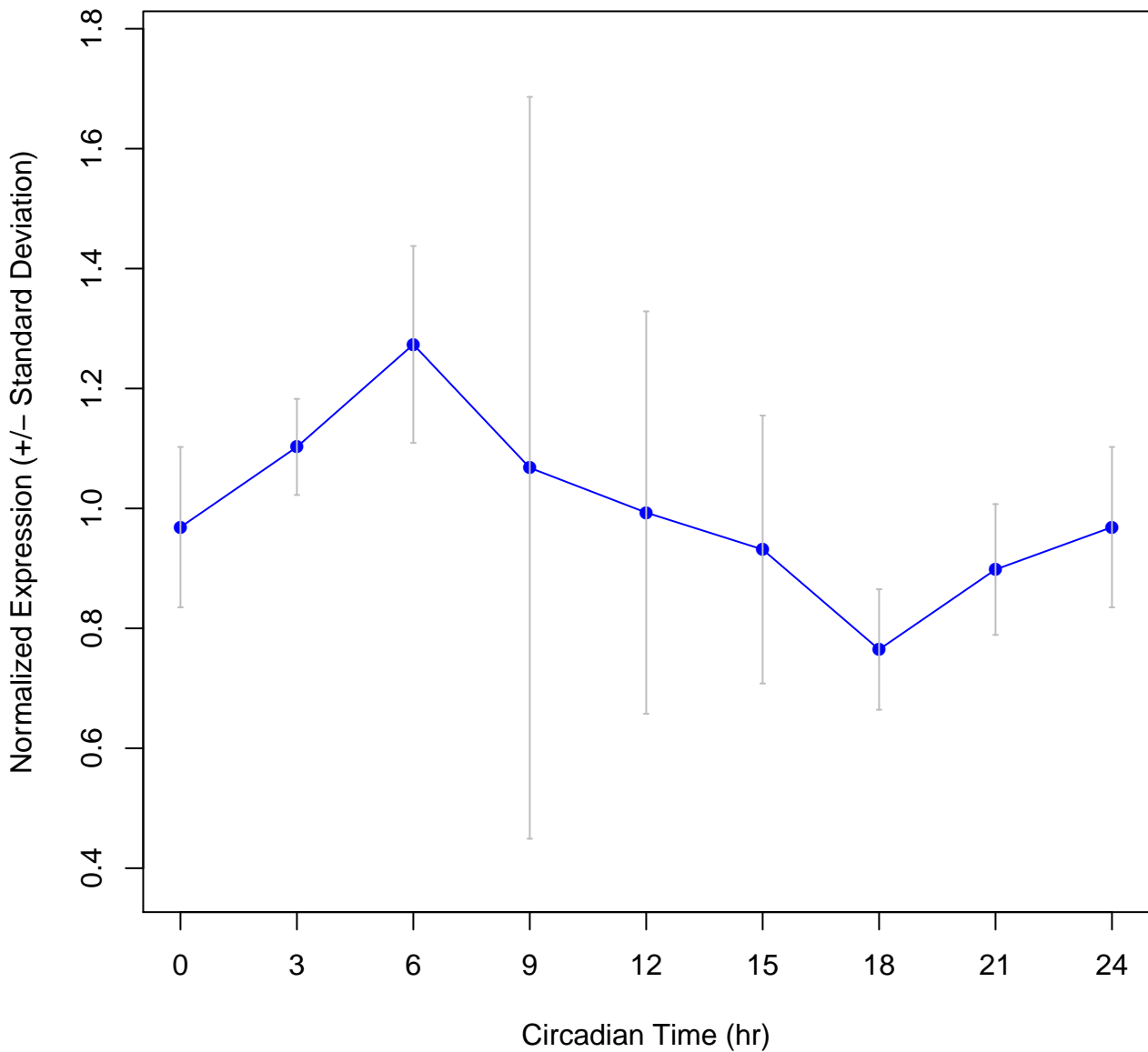
# Supplement Figure 5 tyrp1



## Supplement Figure 5 *vipr1*

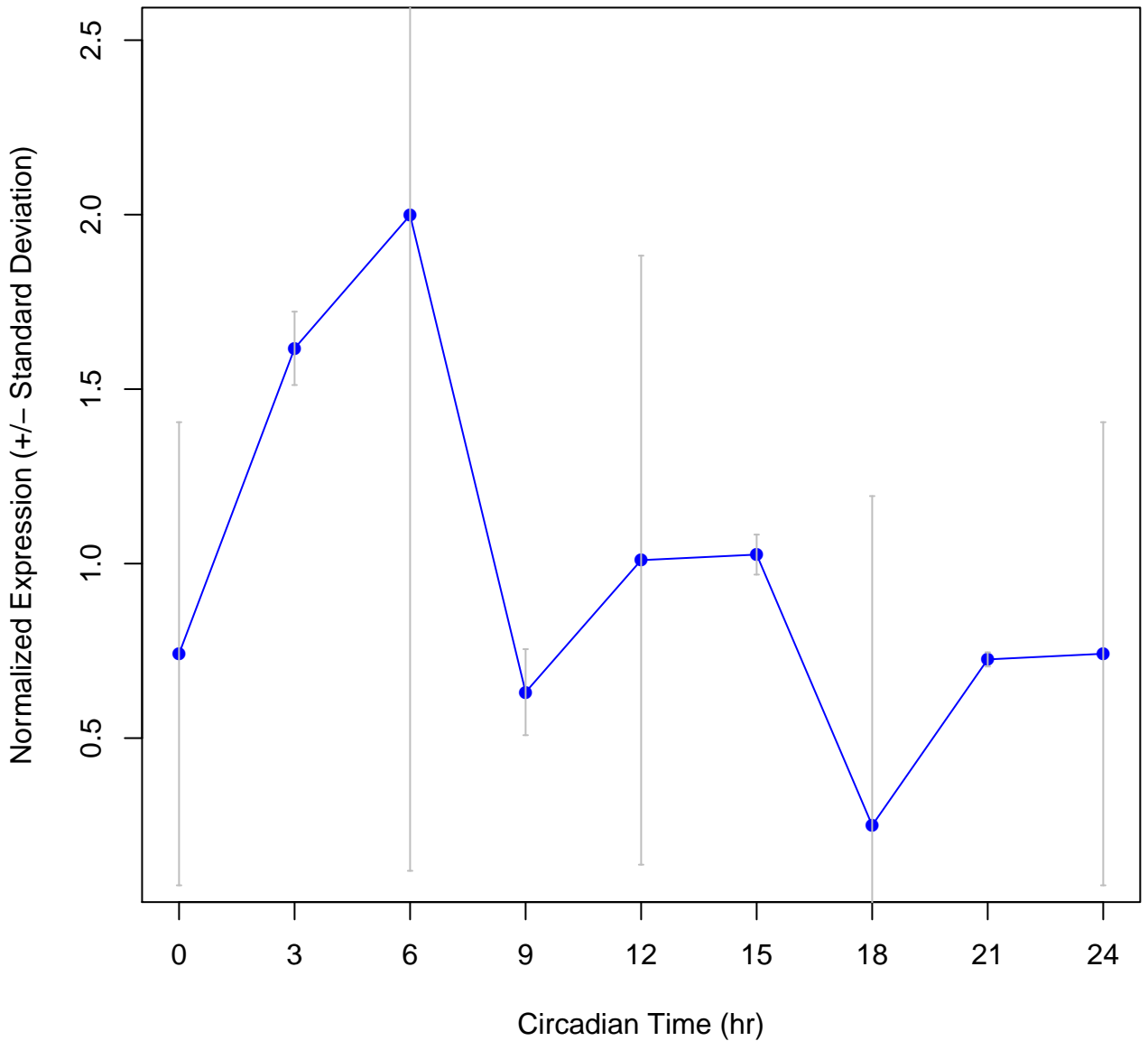


**Supplement Figure 5 wdr37**

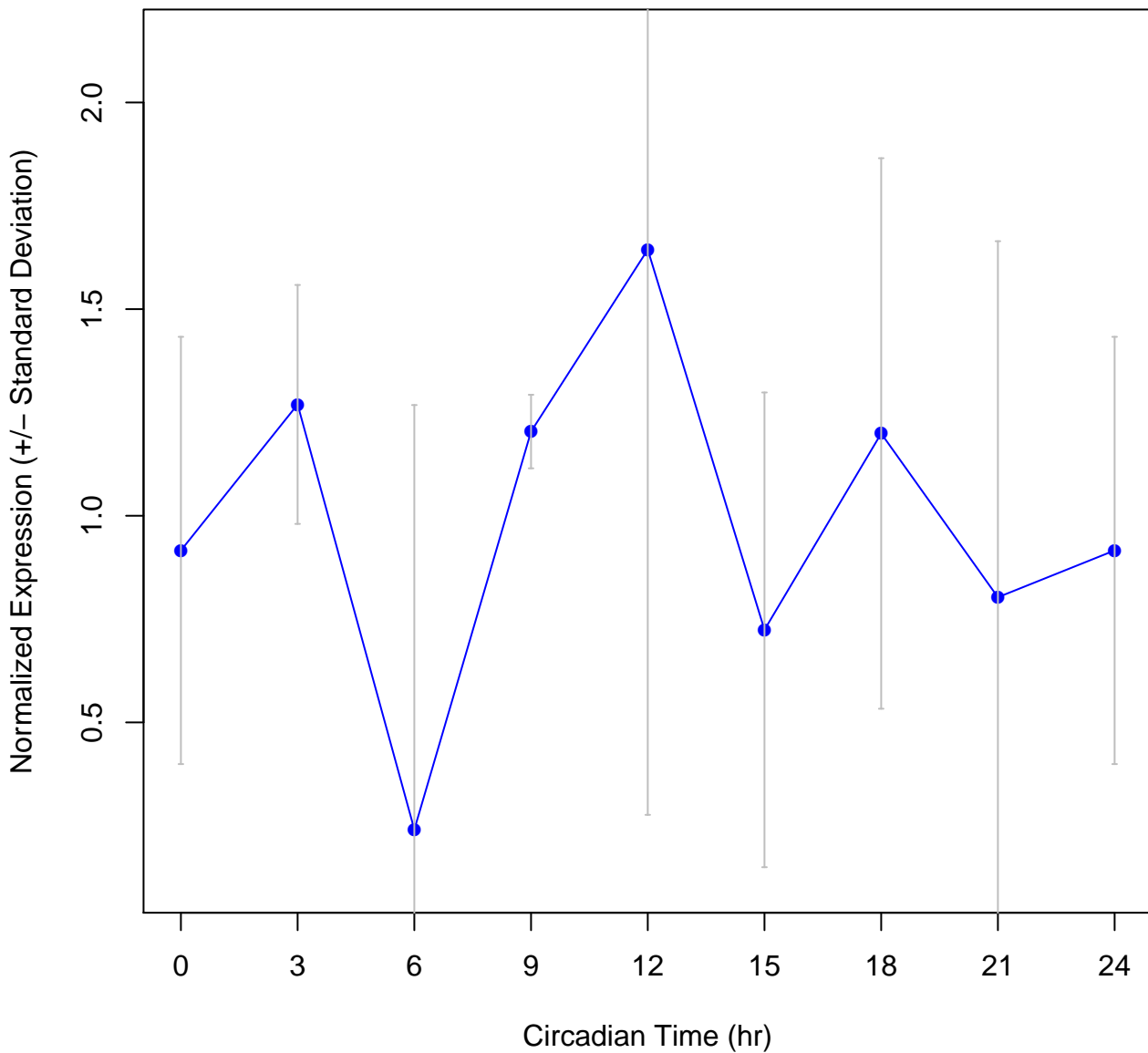




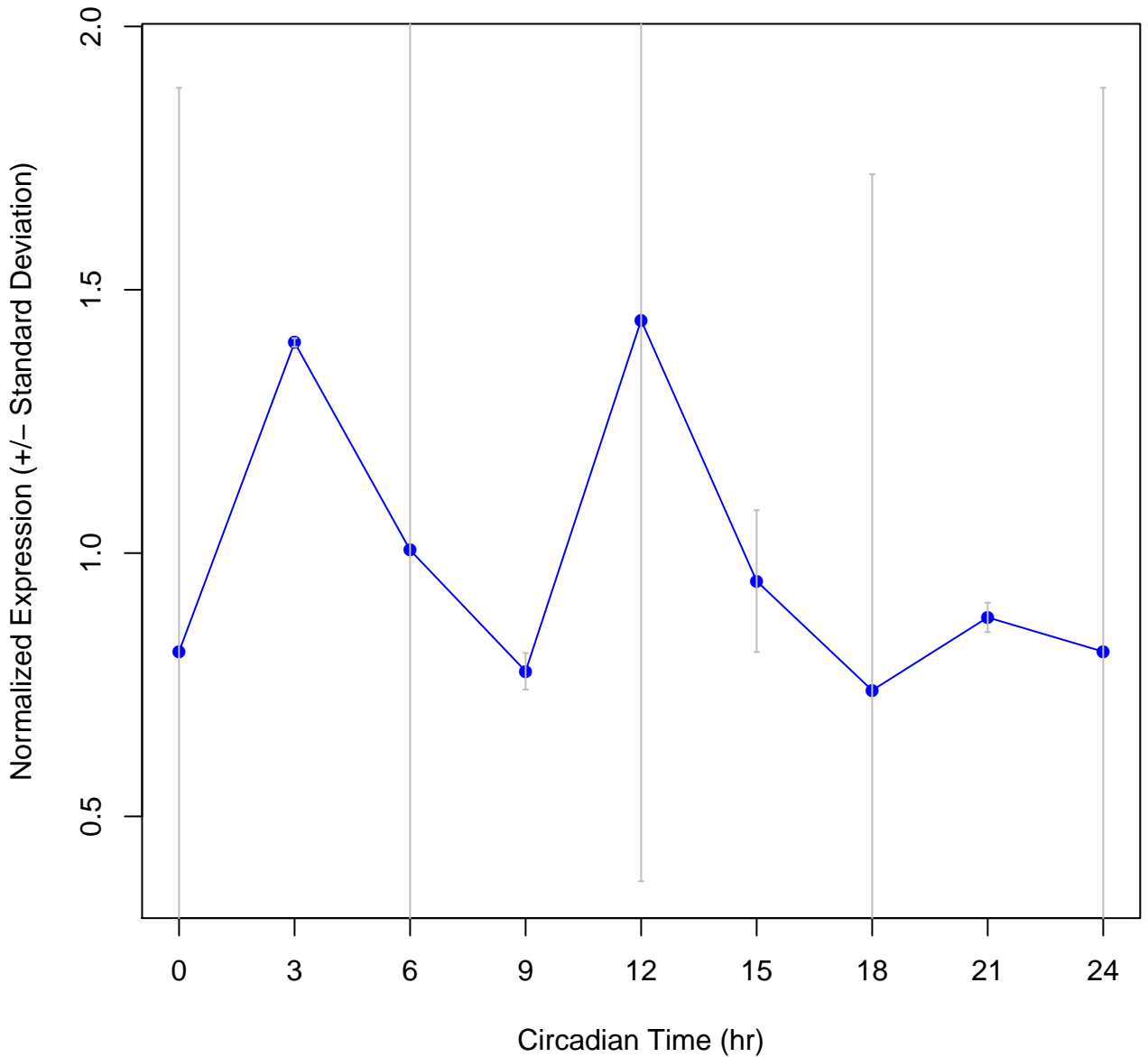
**Supplement Figure 5 wdr76**



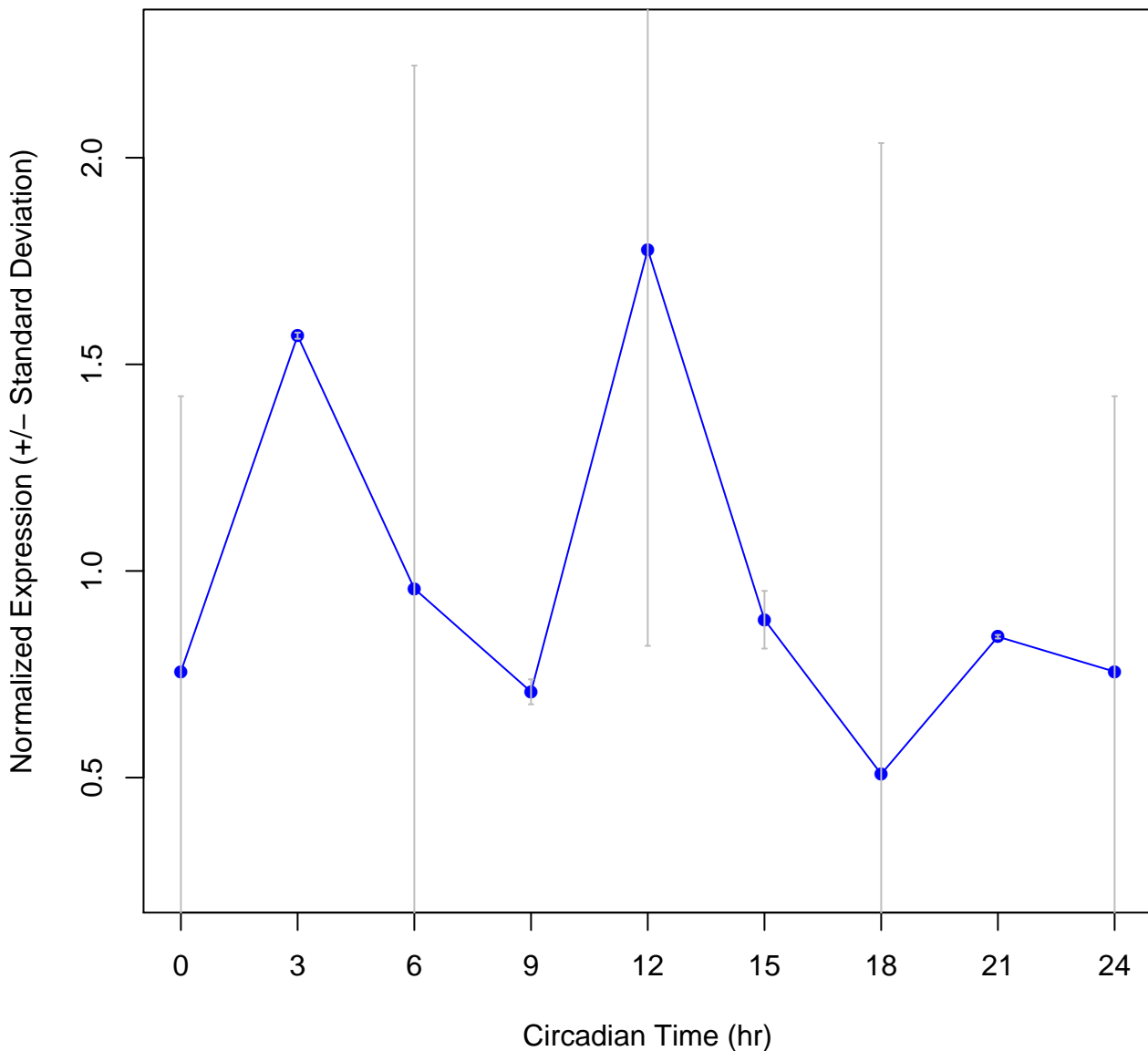
Supplement Figure 5 *wnt10b*



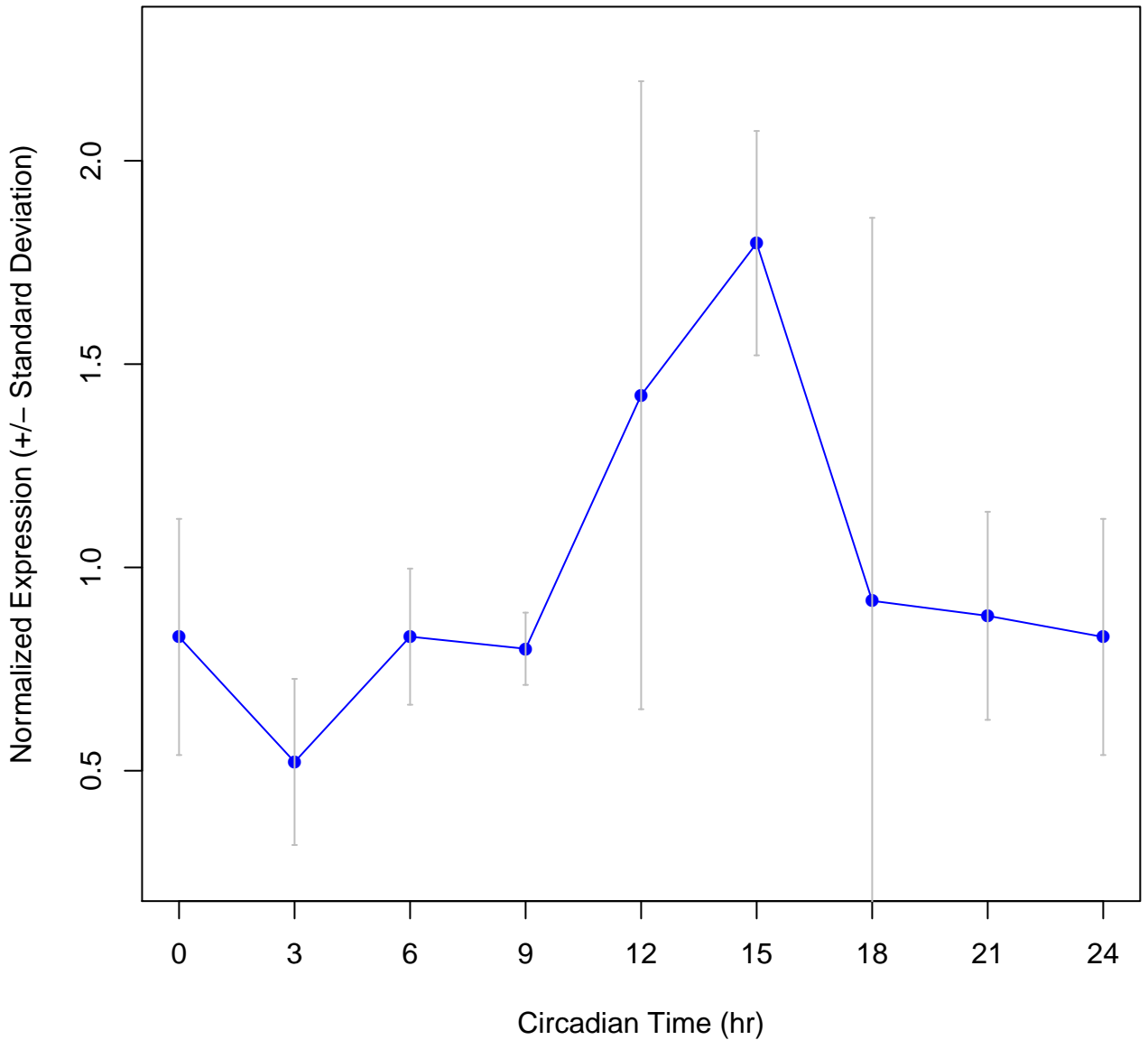
**Supplement Figure 5 wnt2b**



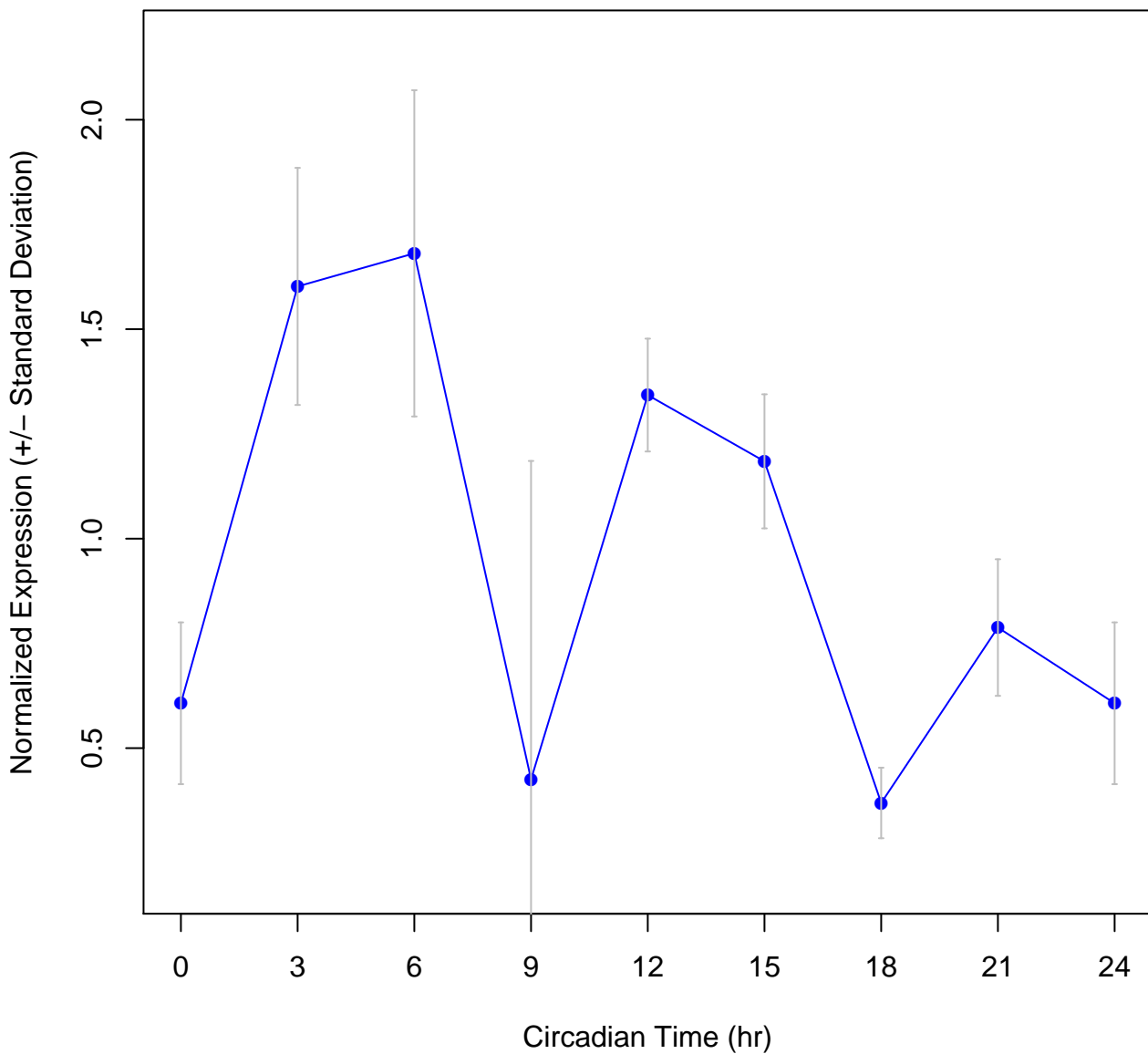
**Supplement Figure 5 wnt5a**



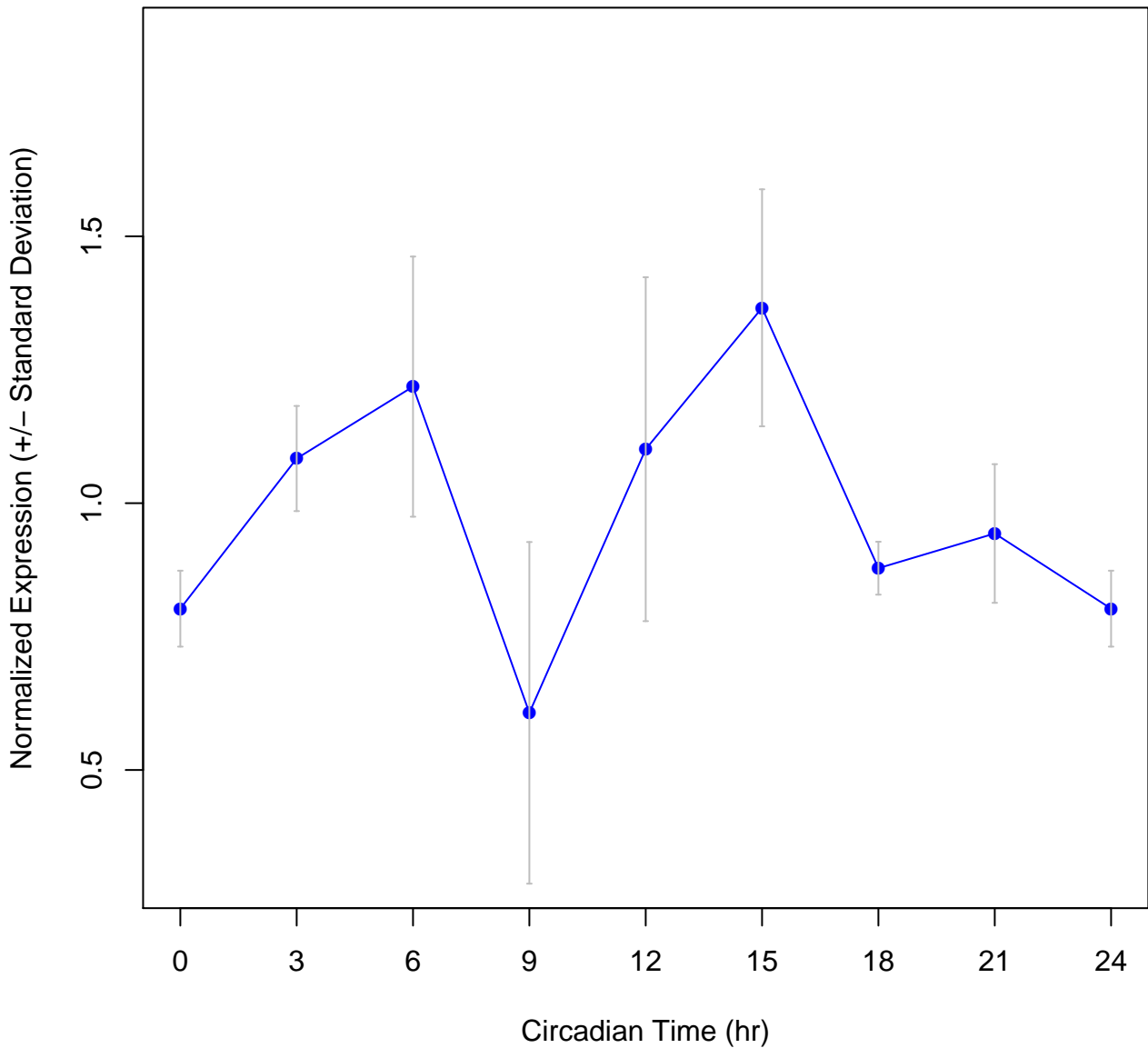
Supplement Figure 5 wt1



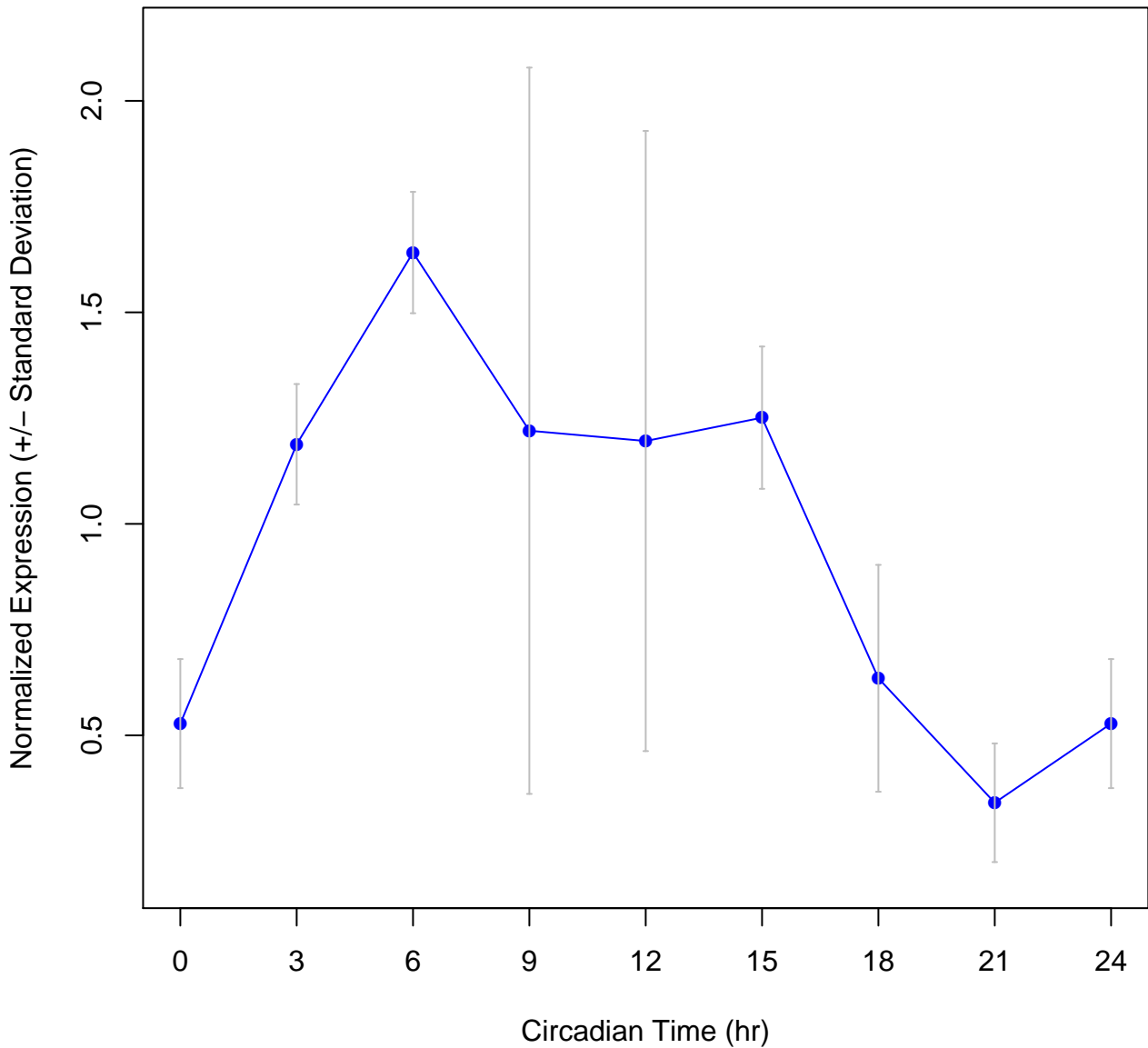
Supplement Figure 5 xpc



Supplement Figure 5 xrcc1

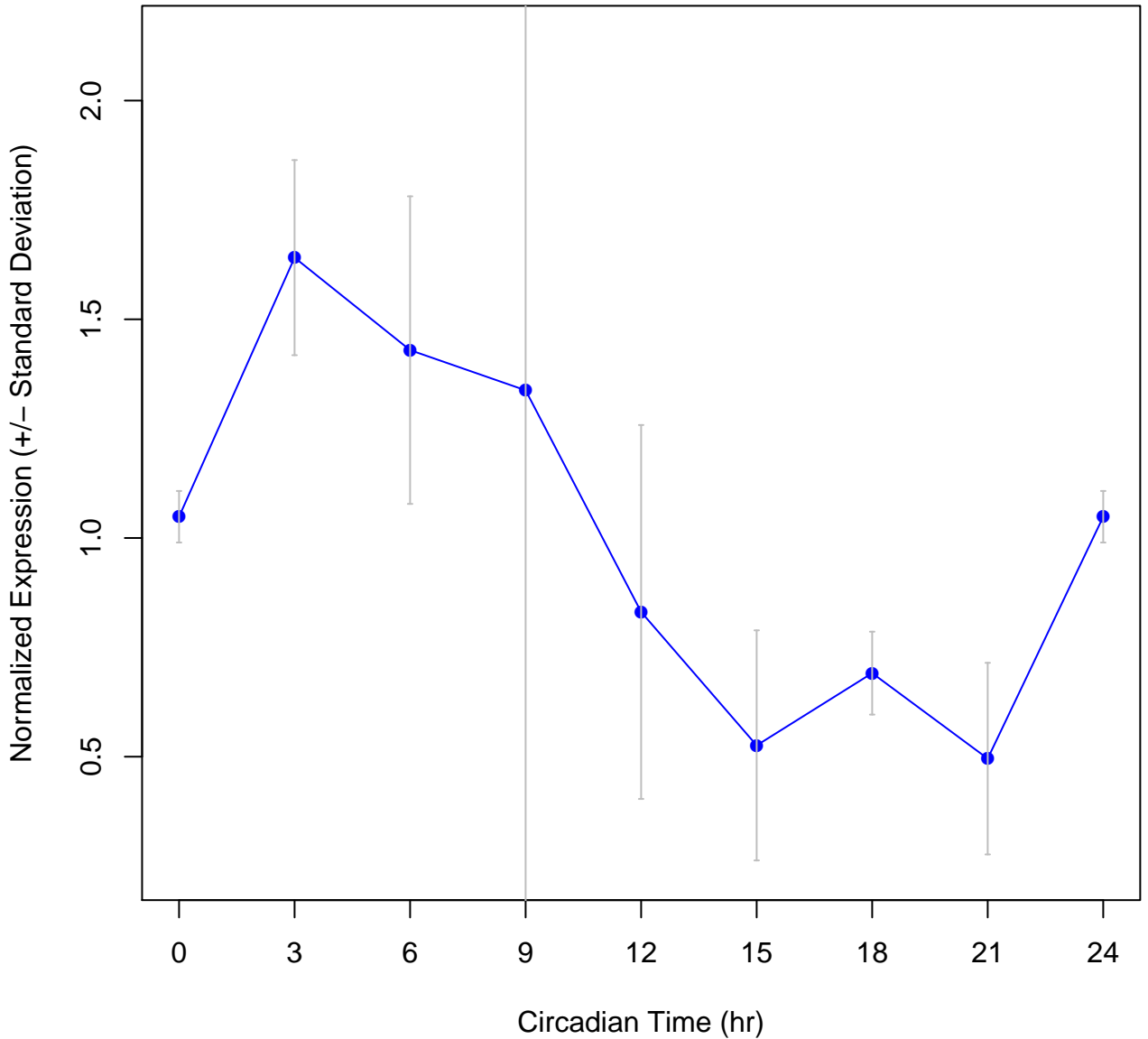


**Supplement Figure 5 ybx2**





Supplement Figure 5 yme1



Supplement Figure 5 ywhaQ

