

## **SUPPLEMENTARY INFORMATION**

The innate immune cell response to bacterial infection in larval zebrafish is light-regulated.

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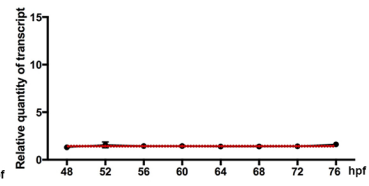
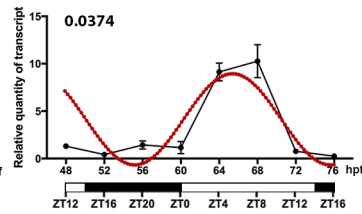
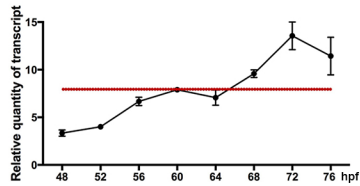
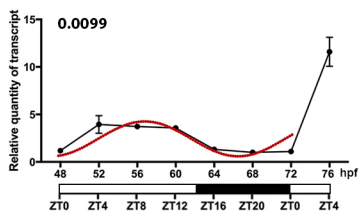
Light/Dark

Light/Light

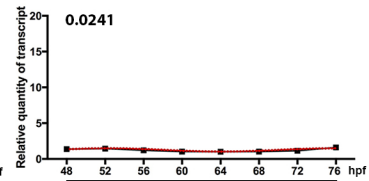
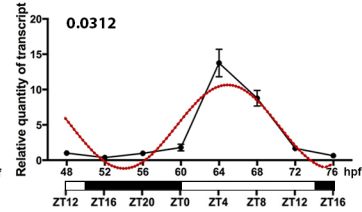
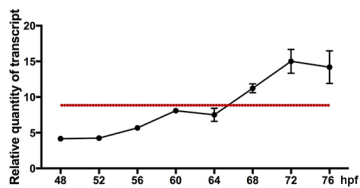
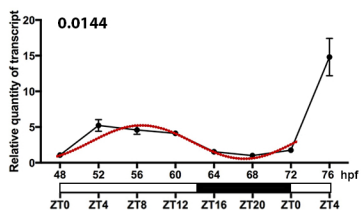
Dark/Light

Dark/Dark

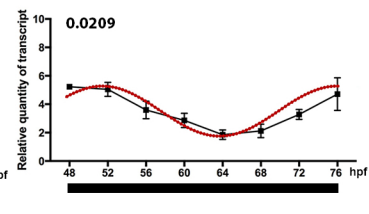
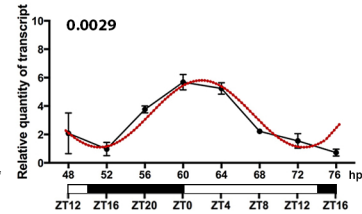
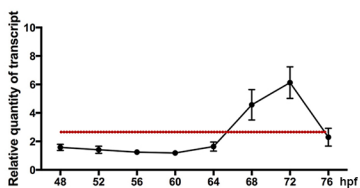
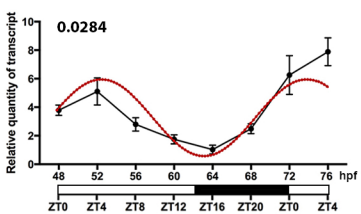
a

*per2a*

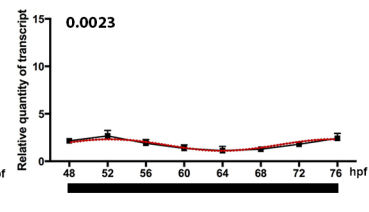
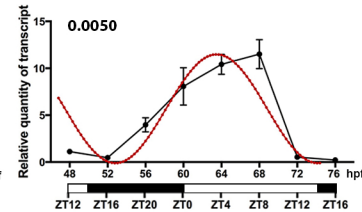
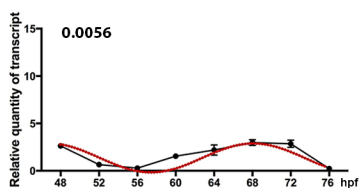
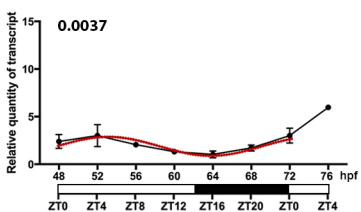
b

*cry1a*

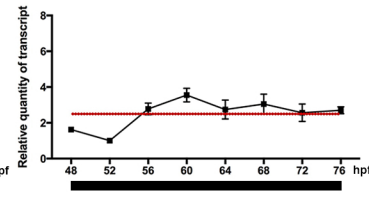
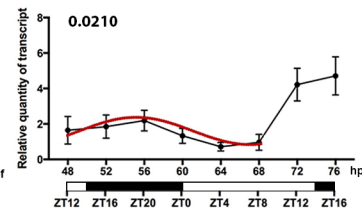
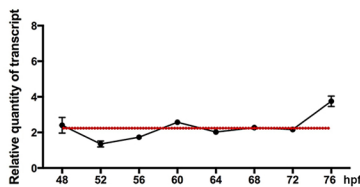
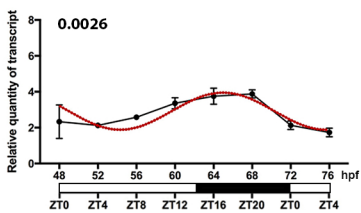
c

*per1b*

d

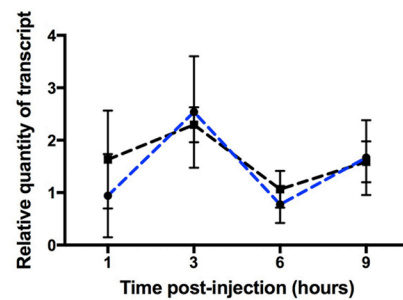
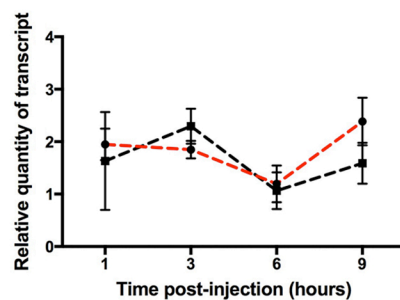
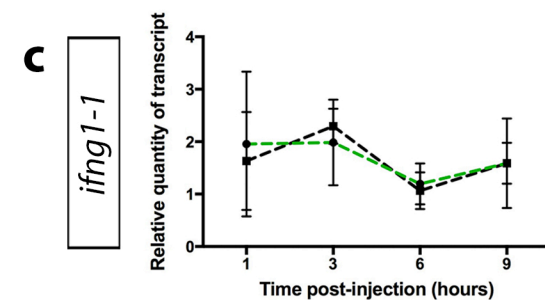
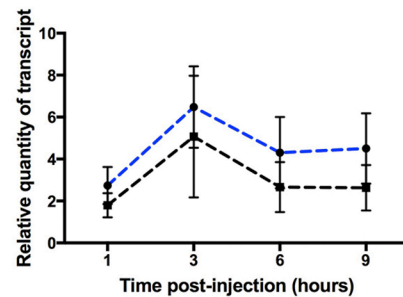
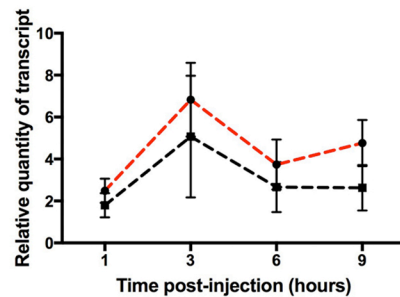
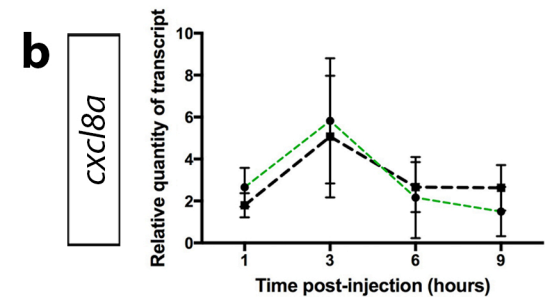
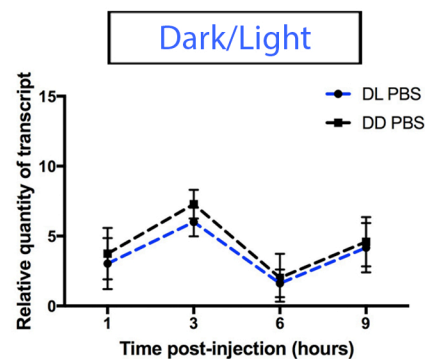
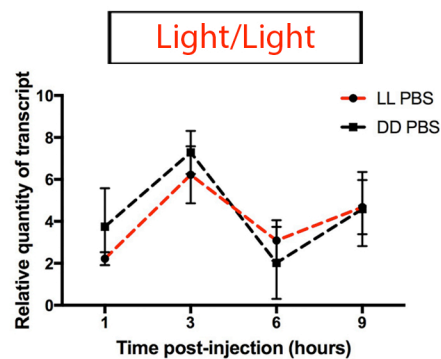
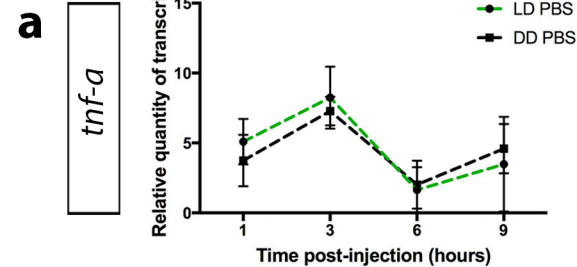
*per3*

e

*aanat2*

**Supplementary Fig 1. Cosinor analysis of expression levels of clock genes and *aanat2* under different light conditions**

**(a-e)** qPCR expression analysis of *per2a*, *cry1a*, *per1b*, *per3* and *aanat2*, respectively, from whole larvae under light/dark, constant light, dark/light and constant dark conditions from 48 hpf to 76 hpf. Red lines represent a cosinor model fitted to the log-transformed data, shown as black lines; data represents three biological replicates; data shown as mean  $\pm$  s.d.; hpf, hours post-fertilization; ZT, zeitgeber time where ZT0 represents start of the light phase; *p* values were calculated by cosinor analysis.



**Supplementary Fig 2. Expression profiles of pro-inflammatory cytokine genes following PBS injections in larvae under different light conditions.**

**(a-c)** qPCR analysis of *tnf-a* **(a)**, *cxcl8a* **(b)** and *ifng1-1* **(c)**, from whole PBS-injected larvae raised under light/dark, constant light and dark/light conditions in comparison to constant darkness, measured at 1, 3, 6 and 9 hours post-injection. Data represent three biological replicates; data shown as mean  $\pm$  s.d.; one-way ANOVA with Tukey's multiple comparisons test revealed no significant difference; LD, light/dark; LL, constant light; DL, dark/light; DD, constant darkness.