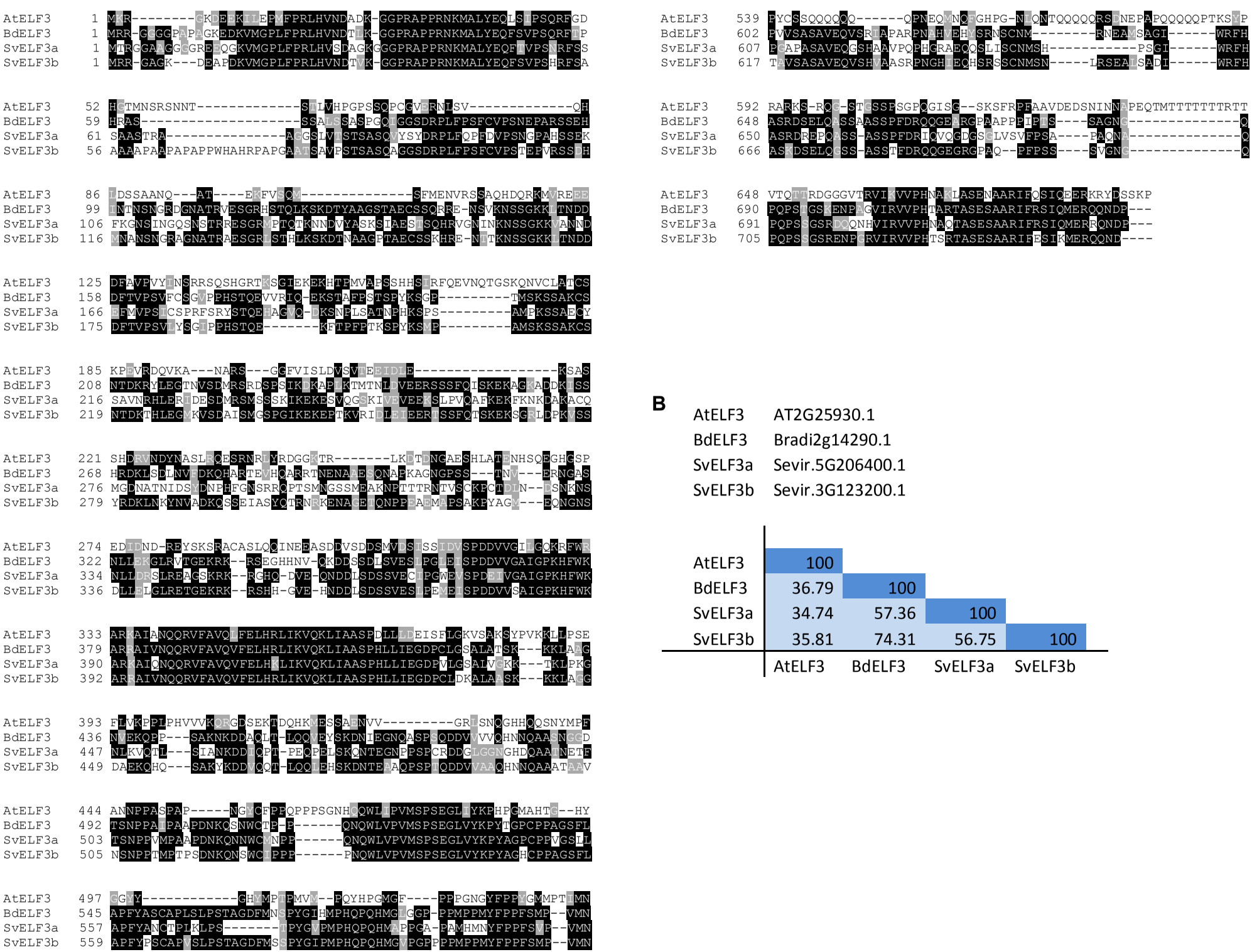
Supplemental Figure 1

A

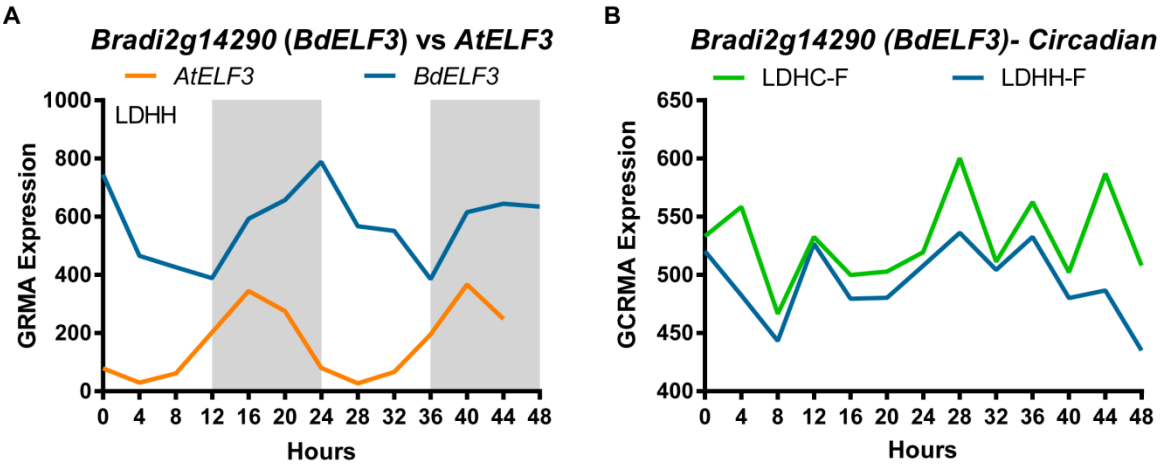


B

AtELF3	AT2G25930.1
BdELF3	Bradi2g14290.1
SvELF3a	Sevir.5G206400.1
SvELF3b	Sevir.3G123200.1

	AtELF3	BdELF3	SvELF3a	SvELF3b
AtELF3	100			
BdELF3	36.79	100		
SvELF3a	34.74	57.36	100	
SvELF3b	35.81	74.31	56.75	100

Supplemental Figure S1. Multiple sequence alignments of ELF3 orthologs **(A)** and percentage of identical amino acid sequences **(B)**. Protein sequences of AtELF3 (AT2G25930.1), BdELF3 (Bradi2g14290.1), SvELF3a (Sevir.5G206400.1) and SvELF3b (Sevir.3G123200.1) were used for multiple sequence alignments and for generating percentage of identical amino acids by Clustal Omega alignment with default parameters.



Supplemental Figure S2. Diel and circadian expression of *BdELF3* from the DIURNAL database. GCRMA (GeneChip Robust Multiarray Averaging) values from the DIURNAL database (Mockler et al., 2007) were plotted to show time-course expression profiles of *Bradi2g14290 (BdELF3)* under either diel **(A)** or circadian conditions **(B)**. Diel expression of *AtELF3* from DIURNAL database was used for comparison in **(A)**. Shade boxes indicate dark periods. In **(B)**, Circadian expression data was obtained by entraining plants with either photo- (LDHH) or thermo- (LLHC) conditions followed by sampling under the Free-Running condition (F) with constant light and temperature.

Supplemental Figure 3

Diel Explorer

Welcome | Sample Info | Search and Browse Data | Plot Data | Adding Your Own Data | Contact Us

Search Data with GENEID or GO

Search using small sets of GENEIDs

GENEIDs, Orthologs, or GO separated by a comma are allowed

example: Sevir.2G310200.1, Sevir.1G000100.1

Search using small sets of GO TERMS

example:GO:GO:0008270

Search using small sets of ORTHOLOG GENEIDs

example:AT3G17930.1,LOC_Os01g59080.1

refresh page to clear search

Search Data with File

Genes, Orthologs, or GO Selected with Search

Browse and Filter Data

Normalize Data: Yes / NO

Species: All

Entrainment: ldhhf

Benjamini-Hochberg Q-Value: 1e-06

Adjusted P-Value: 1e-06

Period: All

Lag (Phase): 2

Download Selected Data

Show 25 entries

GENEID	BH.Q	ADJ.P	PERIOD	LAG	AMPLITUDE	dataset	species	locusName
Sevir.1G324600.1	5.52e-09	4.37e-11	26	2	195.869285	ldhhf	setaria.viridis	Sevir.1G324600
Sevir.2G080100.1	5.05e-07	9.95e-09	26	2	17.908540	ldhhf	setaria.viridis	Sevir.2G080100
Sevir.2G310200.1	1.01e-12	5.19e-16	26	2	5909.517645	ldhhf	setaria.viridis	Sevir.2G310200
Sevir.3G255600.1	6.17e-08	8.12e-10	26	2	173.735429	ldhhf	setaria.viridis	Sevir.3G255600
Sevir.5G335300.1	3.07e-08	3.54e-10	26	2	3.692540	ldhhf	setaria.viridis	Sevir.5G335300
Sevir.6G185200.1	4.70e-09	3.65e-11	24	2	1.399562	ldhhf	setaria.viridis	Sevir.6G185200
Sevir.9G089300.1	2.31e-08	2.52e-10	26	2	3.249368	ldhhf	setaria.viridis	Sevir.9G089300
Sevir.9G175700.1	4.18e-10	1.73e-12	26	2	1316.979309	ldhhf	setaria.viridis	Sevir.9G175700
Sevir.9G369500.1	1.61e-07	2.50e-09	28	2	2.346460	ldhhf	setaria.viridis	Sevir.9G369500

Showing 1 to 9 of 9 entries

Previous 1 Next

Diel Explorer

Welcome | Sample Info | Search and Browse Data | Plot Data | Adding Your Own Data | Contact Us

Plot Data

Warning: Attempting to plot too much data on line graph will be slow/unresponsive and messy.

Plot Selected Data as Line Graph | Plot Selected Data as Heatmap

Color Line Graph By

Dataset

GENEID

Scale Heatmap

Row

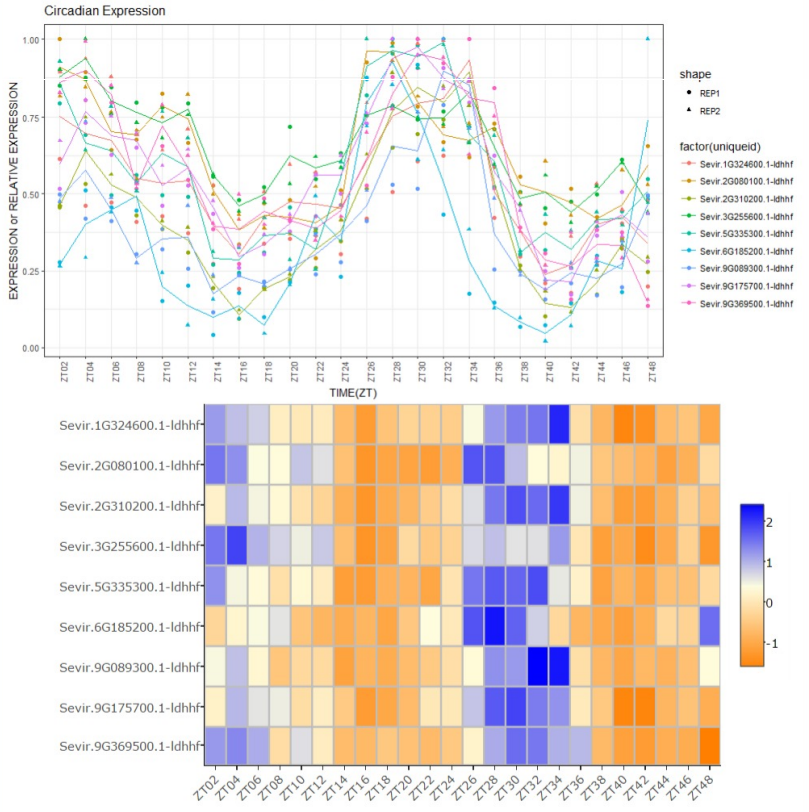
Column

Average Replicates

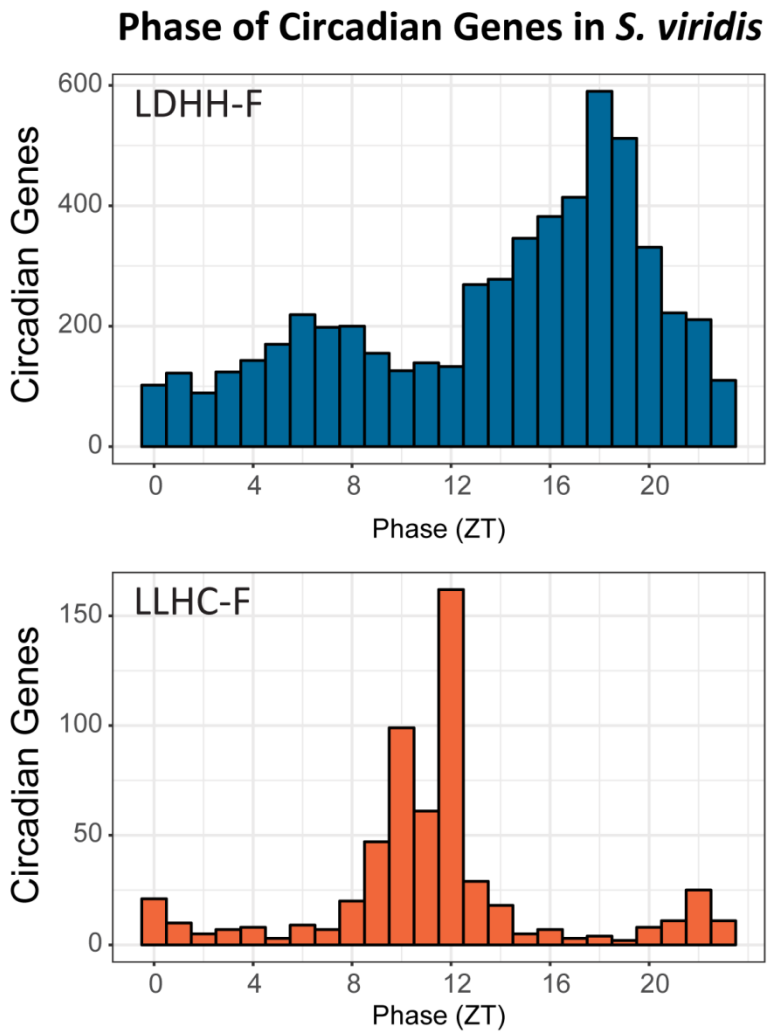
Yes

No

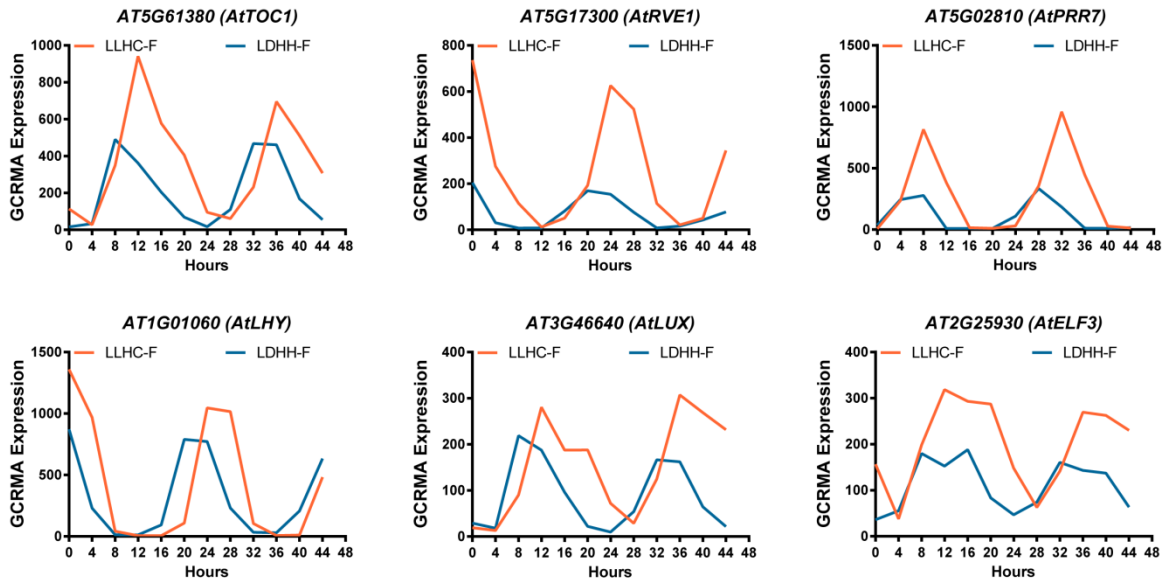
Download Line Graph | Download Heatmap



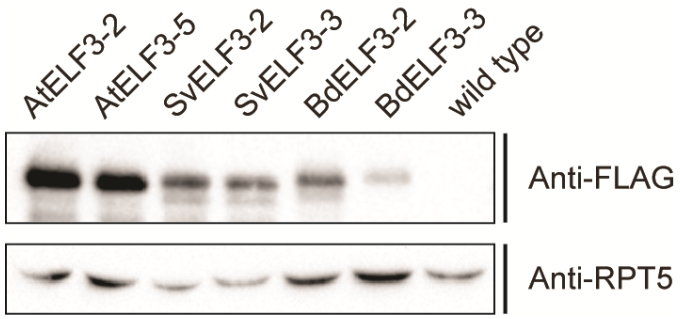
Supplemental Figure S3. Example of the Diel Explorer interface. The search interface (left) and plotting interface of Diel Explorer are shown (right). Users can search by gene or ortholog id, or by gene ontology term. Alternately, users can filter data by period, phase (lag) or significance cut offs. Data can be plotted in a line graph or heatmap.



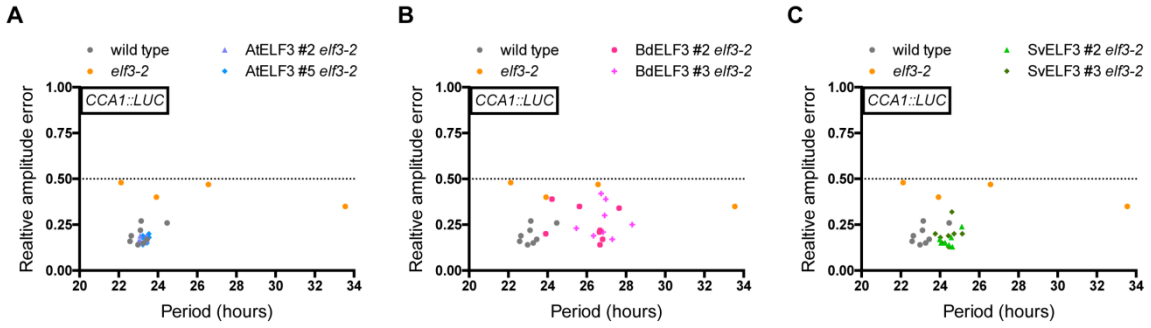
Supplemental Figure S4. Summary of circadian regulated genes in *S. viridis.* Distribution of circadian regulated genes in *S. viridis* was plotted by their phases, with the y axis showing the number of genes considered significantly (Bonferroni Adjusted P-Value < 0.001) cycling under photo- (LDHH) or thermo- (LLHC) entrainment in *S. viridis* followed by free-running condition (F).



Supplemental Figure S5. Circadian expression of selected *A. thaliana* clock genes from the DIURNAL database. GCRMA (GeneChip Robust Multiarray Averaging) values were plotted to show time-course expression profiles of selected *A. thaliana* clock genes under either photo- (LL23_LDHH) or thermo-entrainment (LL_LLHC) from the DIURNAL database (Mockler et al., 2007). Each gene cycles with a correlation of > 0.9 when compared to a best fit model (24-hour rhythm).



Supplemental Figure S6. Anti-FLAG western of ELF3 transgenic lines used for complementation analysis. Representative blot of protein extracts from day 12 seedlings taken at Zeitgeber time 12 grown under 12-hour light :12-hour dark growth conditions at 22 ˚C that were probed with FLAG antibody to detect the 3xFLAG epitope. RPT5 is used as a loading control.



Supplemental Figure S7. Relative Amplitude Error vs period plots. The periods and relative amplitude error (RAE) of 8 AtELF3 *elf3-2* **(A)**, BdELF3 *elf3-2* **(B)**, and SvELF3 *elf3-2* **(C)** seedlings were plotted along with wild type and *elf3-2* mutants (Note, only 4 of 8 *elf3* seedlings has measurable rhythms). RAE=0.5 was used as a cutoff (dotted line), above which a seedling is not considered rhythmic (Plautz et al., 1997). Note that wild type and *elf3* mutant data were reproduced on all plots for comparison purposes.