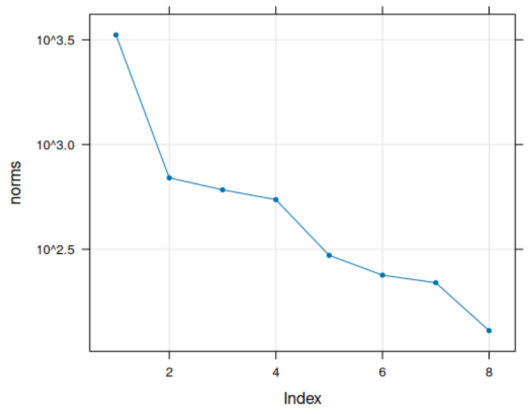
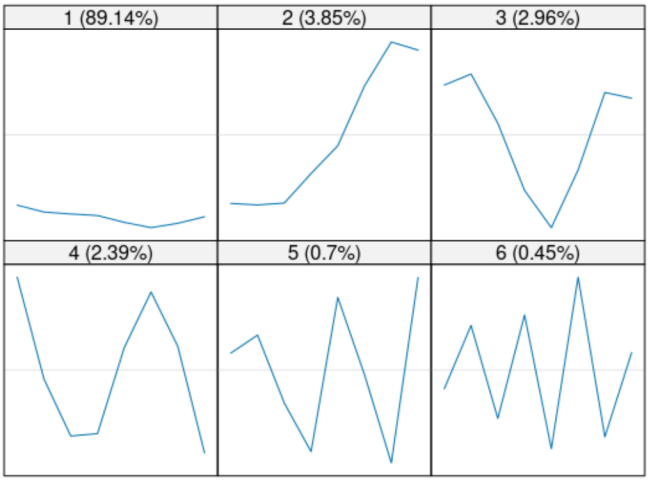
Figure S1: Singular Spectrum Analysis of Temporal Oscillations in SG Number in NIH/3T3 Cells (related to Fig. 5)

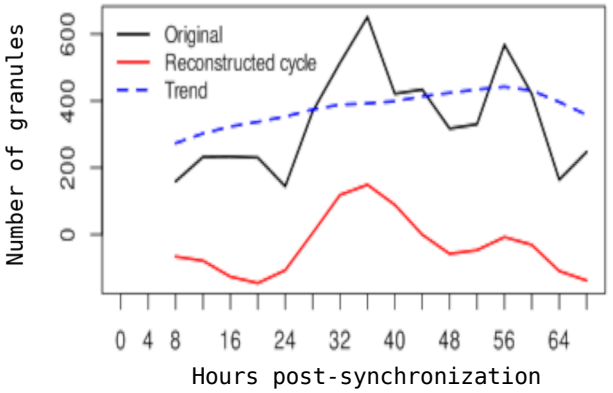
(A) Singular values (spectrum)



(B) First singular vectors



(C) Reconstructed cicadian rhythm



(D) Table of Estimated Periods

period	rate	Mod	Arg	Re	Im
35.560	0.023519	1.02380	0.18	1.00786	0.17996
-35.560	0.023519	1.02380	-0.18	1.00786	-0.17996
5.957	-0.011097	0.98896	1.05	0.48807	0.86014
-5.957	-0.011097	0.98896	-1.05	0.48807	-0.86014
2.179	-0.022117	0.97813	2.88	-0.94586	0.24916
-2.179	-0.022117	0.97813	-2.88	-0.94586	-0.24916

(A) Singular value spectrum of the time series of stress granule (SG) number. The first component (index 1) captures most of the variance. **(B)** First six singular vectors obtained from the SSA decomposition, with the proportion of variance explained indicated for each. Components 2 and 3 display oscillatory patterns consistent with circadian periodicity. **(C)** Reconstruction of the circadian rhythm in SG number. The original time series (black line) was decomposed into a trend component (blue dashed line) and a reconstructed rhythmic component (red line), revealing weak but detectable circadian oscillations. **(D)** Estimated periods derived from the spectral decomposition. The analysis identified periodicities around 35.6 h, ~6 h, and ~2.2 h. These components may reflect the mixture of trends, ultradian rhythms, and noise in the time series. Although a ~24 h periodicity is not explicitly captured in this table, the reconstructed signal in (C) suggests a weak circadian component.

Table S1 : Tukey HSD with Benjamini-Hochberg correction for relative *Bmal1* mRNA in NIH/3T3 cells (see Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	1,000	1,000					
28	0,997	1,000	0,350				
35	1,000	1,000	0,601	1,000			
42	1,000	1,000	1,000	0,857	1,000		
49	1,000	1,000	0,601	1,000	1,000	1,000	
56	0,997	1,000	0,350	1,000	1,000	0,857	1,000

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S2: Tukey HSD with Benjamini-Hochberg correction for relative *Brf1* mRNA in NIH/3T3 cells (sewe Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	1,000	1,000					
28	0,997	1,000	0,350				
35	1,000	1,000	0,601	1,000			
42	1,000	1,000	1,000	0,857	1,000		
49	1,000	1,000	0,601	1,000	1,000	1,000	
56	0,997	1,000	0,350	1,000	1,000	0,857	1,000

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S3 : Tukey HSD with Benjamini-Hochberg correction for relative *Lark1* mRNA in NIH/3T3 cells (see Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	0,442	1,000					
28	**0,001**	**0,000**	**0,000**				
35	0,933	0,147	**0,020**	**0,020**			
42	0,438	1,000	1,000	**0,000**	**0,020**		
49	1,000	1,000	0,707	**0,000**	0,635	0,701	
56	1,000	1,000	1,000	**0,000**	0,255	1,000	1,000

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S4 : Tukey HSD with Benjamini-Hochberg correction for relative *Lark2* mRNA in NIH/3T3 cells (see Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	**0,038**						
21	0,740	0,761					
28	0,207	**0,000**	**0,006**				
35	0,074	1,000	0,921	**0,000**			
42	0,749	0,749	1,000	**0,006**	0,912		
49	**0,005**	**0,000**	**0,000**	0,654	**0,000**	**0,000**	
56	0,069	1,000	0,912	**0,000**	1,000	0,912	**0,000**

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S5 : Tukey HSD with Benjamini-Hochberg correction for relative *hnRNP Q1* mRNA in NIH/3T3 cells (see Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	**0,000**						
21	**0,000**	1,000					
28	**0,000**	**0,001**	**0,001**				
35	**0,000**	0,742	0,715	**0,000**			
42	**0,000**	1,000	1,000	**0,001**	0,742		
49	**0,000**	**0,001**	**0,001**	1,000	**0,000**	**0,001**	
56	**0,000**	0,986	0,986	**0,000**	1,000	0,986	**0,000**

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S6 : Tukey HSD with Benjamini-Hochberg correction for relative *hnRNP Q2* mRNA in NIH3T3 cells (see Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	**0,000**						
21	**0,000**	1,000					
28	**0,000**	0,087	0,439				
35	**0,000**	1,000	0,411	**0,011**			
42	**0,000**	**0,041**	**0,007**	**0,000**	0,326		
49	**0,000**	1,000	1,000	0,087	1,000	**0,041**	
56	**0,000**	**0,036**	**0,006**	**0,000**	0,277	1,000	**0,036**

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S7 : Tukey HSD with Benjamini-Hochberg correction for relative *TIA1* mRNA in NIH/3T3 cells (see Fig. 3)

Time (h)	7	14	21	28	35	42	49
14	0,329						
21	0,750	**0,017**					
28	0,392	**0,007**	0,999				
35	0,999	0,633	0,392	0,181			
42	0,999	0,054	0,999	0,999	0,750		
49	**0,014**	**0,000**	0,257	0,540	**0,007**	0,097	
56	0,999	0,969	0,207	0,079	0,999	0,450	**0,004**

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S8: Tukey HSD with Benjamini -Hochberg correction for SG number per image in NIH/3T3 cells (see Fig. 5, Table 1)

Time (h)	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
12	1,000														
16	1,000	1,000													
20	1,000	1,000	1,000												
24	1,000	0,695	0,664	0,715											
28	**0,000**	**0,020**	**0,022**	**0,017**	**0,000**										
32	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,007**									
36	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,015**								
40	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000	0,512	**0,000**							
44	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000	0,764	**0,000**	1,000						
48	**0,005**	0,715	0,741	0,695	**0,001**	1,000	**0,000**	**0,000**	0,345	0,118					
52	**0,001**	0,442	0,475	0,402	**0,000**	1,000	**0,000**	**0,000**	0,649	0,312	1,000				
56	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000	0,715	**0,006**	**0,020**	**0,000**	**0,000**			
60	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000	0,491	**0,000**	1,000	1,000	0,363	0,664	**0,006**		
64	1,000	1,000	1,000	1,000	1,000	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,005**	**0,001**	**0,000**	**0,000**	
68	0,695	1,000	1,000	1,000	0,326	0,067	**0,000**	**0,000**	**0,000**	**0,000**	1,000	0,723	**0,000**	**0,000**	0,715

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S9: Tukey HSD with Benjamini -Hochberg for signal Intensity in NIH/3T3 cells (see Fig. 5, Table 1)

Time (h)	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
12	**0,005**														
16	0,197	1,000													
20	0,764	1,000	1,000												
24	0,976	0,976	1,000	1,000											
28	**0,000**	1,000	0,194	**0,020**	**0,011**										
32	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,014**									
36	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000								
40	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000	1,000							
44	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,032**	1,000	1,000	1,000						
48	**0,000**	0,386	0,014	**0,001**	**0,000**	1,000	0,248	**0,002**	**0,008**	0,428					
52	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	0,236	1,000	0,802	1,000	1,000	1,000				
56	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	0,151	1,000	1,000	0,050	**0,000**	**0,011**			
60	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	1,000	1,000	1,000	1,000	**0,011**	1,000	0,975		
64	**0,000**	1,000	0,972	0,298	0,199	1,000	**0,000**	**0,000**	**0,000**	**0,001**	1,000	**0,014**	**0,000**	**0,000**	
68	**0,000**	1,000	0,972	0,297	0,197	1,000	**0,000**	**0,000**	**0,000**	**0,001**	1,000	**0,011**	**0,000**	**0,000**	1,000

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S10: Tukey HSD with Benjamini-Hochberg correction for SG area in NIH/3T3 cells (see Fig. 5, Table 1)

Time (h)	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
12	0,741														
16	1,000	1,000													
20	1,000	1,000	1,000												
24	1,000	1,000	1,000	1,000											
28	1,000	1,000	1,000	1,000	1,000										
32	0,410	1,000	1,000	1,000	1,000	1,000									
36	1,000	1,000	1,000	1,000	1,000	1,000	1,000								
40	1,000	0,124	0,395	0,270	1,000	1,000	0,055	1,000							
44	1,000	1,000	1,000	1,000	1,000	1,000	0,724	1,000	1,000						
48	1,000	**0,001**	**0,006**	**0,003**	0,065	0,175	**0,000**	0,248	1,000	0,784					
52	1,000	**0,017**	**0,073**	**0,049**	0,440	0,907	**0,006**	1,000	1,000	1,000	1,000				
56	1,000	0,123	0,392	0,268	1,000	1,000	0,055	1,000	1,000	1,000	1,000	1,000			
60	1,000	**0,047**	0,163	0,107	0,798	1,000	**0,017**	1,000	1,000	1,000	1,000	1,000	1,000		
64	**0,037**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	0,160	**0,004**	1,000	0,813	0,162	0,390	
68	0,907	**0,000**	**0,001**	**0,000**	**0,016**	0,053	**0,000**	**0,070**	1,000	0,316	1,000	1,000	1,000	1,000	1,000

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S11: Tukey HSD with Benjamini-Hochberg correction SG number per image in *wt* cells (see Fig. 6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	1,000	1,000					
28	0,815	0,467	0,199				
35	**0,000**	**0,000**	**0,000**	**0,047**			
42	**0,000**	**0,000**	**0,000**	0,184	1,000		
49	0,893	1,000	1,000	**0,012**	**0,000**	**0,000**	
56	0,074	**0,018**	**0,005**	1,000	0,640	1,000	**0,000**

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S12: Tukey HSD with Benjamini-Hochberg correction signal intensity in *wt* cells (see Fig. 6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	1,000	1,000					
28	**0,000**	0,000	**0,000**				
35	**0,000**	**0,000**	**0,000**	1,000			
42	**0,000**	**0,000**	**0,000**	**0,001**	0,096		
49	1,000	1,000	1,000	**0,000**	**0,000**	**0,000**	
56	0,077	0,052	**0,001**	**0,000**	**0,000**	**0,003**	0,109

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S13: Tukey HSD with Benjamini-Hochberg correctionSG area in *wt* cells (see Fig. 6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	1,000	1,000					
28	**0,000**	**0,000**	**0,000**				
35	**0,000**	**0,000**	**0,000**	0,500			
42	**0,000**	**0,000**	**0,000**	**0,035**	1,000		
49	1,000	1,000	1,000	**0,000**	**0,000**	**0,001**	
56	**0,008**	**0,001**	**0,039**	**0,000**	0,276	1,000	0,050

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S14: Tukey HSD with Benjamini-Hochberg correction for SG number per image in *Bmal1 -/-* cells (see Fig. 6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	0,135						
21	**0,000**	0,592					
28	1,000	0,879	**0,013**				
35	**0,001**	**0,000**	**0,000**	**0,000**			
42	**0,000**	**0,000**	**0,000**	**0,000**	1,000		
49	0,317	**0,000**	**0,000**	**0,013**	0,592	0,146	
56	**0,000**	**0,000**	**0,000**	**0,000**	1,000	1,000	0,135

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S15: Tukey HSD with Benjamini-Hochberg correction signal intensity in *Bmal1 -/-* cells (see Fig.6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	**0,000**						
21	**0,000**	0,984					
28	**0,001**	**0,000**	**0,000**				
35	**0,000**	**0,000**	**0,000**	0,097			
42	**0,009**	**0,000**	**0,000**	1,000	0,051		
49	0,976	**0,000**	**0,000**	0,115	**0,000**	0,331	
56	**0,006**	**0,000**	**0,000**	1,000	**0,019**	1,000	0,326

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S16: Tukey HSD with Benjamini-Hochberg correction SG area in *Bmal1 -/-* cells (see Fig.6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	**0,034**						
21	**0,001**	1,000					
28	0,259	**0,000**	**0,000**				
35	**0,000**	**0,000**	**0,000**	0,292			
42	0,259	**0,000**	**0,000**	1,000	0,417		
49	**0,001**	**0,000**	**0,000**	0,834	1,000	0,945	
56	**0,000**	**0,000**	**0,000**	0,307	1,000	0,435	1,000

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S17: Tukey HSD with Benjamini-Hochberg correction for bioluminiscence in *Bmal1 -/-* cells (see Fig.6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	1,000						
21	1,000	1,000					
28	0,327	0,218	0,153				
35	0,958	0,907	0,802	0,776			
42	0,999	0,997	0,979	0,487	0,999		
49	1,000	1,000	0,996	0,373	0,989	1,000	
56	1,000	1,000	1,000	0,180	0,854	0,990	0,999

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests

Table S18: Tukey HSD with Benjamini-Hochberg correction for bioluminiscence in *wt* cells (see Fig.6, Table 1)

Time (h)	7	14	21	28	35	42	49
14	**0,001**						
21	**0,000**	0,983					
28	0,060	0,551	0,158				
35	**0,006**	0,995	0,735	0,920			
42	**0,000**	0,990	1,000	0,181	0,779		
49	**0,000**	0,994	1,000	0,199	0,809	1,000	
56	**0,001**	1,000	0,996	0,434	0,977	0,998	0,999

***In bold p≤ 0.05**. Approximate Probabilities for Post Hoc Tests