

Supplementary Materials

Note: In the supplementary tables 1-8, the Mean \pm SEM are displayed in the percentage of dead bacterial colonies (CFU). The initial time points, 0 minute (min) or hour (h) are not shown because all bacterial colonies are considered intact without having dead bacteria, indicating “0” consistently.

1 Supplementary Tables 1A: The termination rates of *E. coli* are listed in a time-dependent manner at 25cm. (Mean \pm SEM)

Time (min)	10W	20W	24W	White light
3.75	1.68 \pm 13.77	4.71 \pm 8.35	-0.75 \pm 11.98	6.65 \pm 16.20
7.5	4.29 \pm 11.66	10.40 \pm 7.64	8.11 \pm 10.68	3.05 \pm 17.00
15	23.37 \pm 12.45	31.15 \pm 10.99	30.92 \pm 15.88	5.05 \pm 12.54
30	61.17 \pm 15.25	73.21 \pm 11.08	69.95 \pm 13.61	1.73 \pm 17.60
60	93.19 \pm 5.98	96.63 \pm 4.25	95.31 \pm 6.26	-5.87 \pm 30.32

2 Supplementary Tables 1B: The termination rates of *E. coli* are listed in a time-dependent manner at 50cm. (Mean \pm SEM)

Time (h)	10W	20W	24W	White light
1	81.26 \pm 11.65	86.54 \pm 6.99	85.34 \pm 8.81	0.89 \pm 16.84
2	88.66 \pm 8.27	90.85 \pm 7.56	92.62 \pm 6.70	-2.08 \pm 29.83
4	97.93 \pm 2.59	99.66 \pm 0.51	99.43 \pm 0.76	-5.89 \pm 20.91

3 Supplementary Tables 1C: The termination rates of *E. coli* are listed in a time-dependent manner at 1m. (Mean \pm SEM)

Time (h)	10W	20W	24W	White light
1	52.73±20.08	59.21±12.12	58.83±9.49	-2.57±27.78
2	48.05±8.69	65.53±12.59	62.14±14.16	-11.34±25.46
4	72.59±8.02	84.48±7.82	82.93±9.12	-5.91±29.96
6	89.29±7.03	94.39±3.98	93.29±5.37	1.09±22.68

4 Supplementary Tables 1D: The termination rates of *E. coli* are listed in a time-dependent manner at 2m. (Mean ± SEM)

Time (h)	10W	20W	24W	White light
1	8.61±22.73	17.58±9.75	15.23±15.41	3.73±20.81
2	7.39±23.61	15.01±17.93	17.84±20.32	-17.65±35.84
4	34.73±15.48	40.82±12.50	40.75±11.15	-3.79±24.44
6	56.19±16.61	62.38±15.34	64.09±14.29	15.79±19.16
8	88.09±11.94	91.44±9.77	92.41±7.89	8.46±16.05

5 Supplementary Tables 2A: The termination rates of *S. aureus* are listed in a time-dependent manner at 25cm. (Mean ± SEM)

Time (min)	10W	20W	24W	White light
15	7.78±14.02	7.44±4.67	4.33±6.14	5.22±8.41
30	21±6.86	17.44±7.18	20.89±5.67	-3.78±13.25
60	51.67±6.93	50.44±5.77	45.67±3.74	0.56±8.88

120	94.78±3.42	96.89±2.67	95.67±3.87	2.11±6.35
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6 Supplementary Tables 2B: The termination rates of *S. aureus* are listed in a time-dependent manner at 50cm. (Mean ± SEM)

Time (h)	10W	20W	24W	White light
1	15.42±21.15	19.31±11.21	19.93±13.92	-1.29±17.82
2	32.49±5.79	41.13±6.71	42.76±8.77	-0.16±8.14
4	65.75±6.33	75.71±6.43	70.08±13.72	-4.29±12.49
6	98.35±1.51	99.02±1.12	98.79±1.10	3.13±13.10

7 Supplementary Tables 2C: The termination rates of *S. aureus* are listed in a time-dependent manner at 1m. (Mean ± SEM)

Time (h)	10W	20W	24W	White light
1	4.96±16.67	4.91±11.23	5.42±13.23	-2.49±22.51
2	14.43±11.87	18.78±7.86	19.14±9.90	-2.83±13.44
4	32.37±11.57	40.71±8.51	38.56±10.50	3.63±11.22
6	67.41±10.18	81.49±6.30	78.03±8.50	0.36±15.25
8	94.25±3.71	98.99±1.10	99.33±0.82	0.84±20.80

8 Supplementary Tables 2D: The termination rates of *S. aureus* are listed in a time-dependent manner at 2m. (Mean ± SEM)

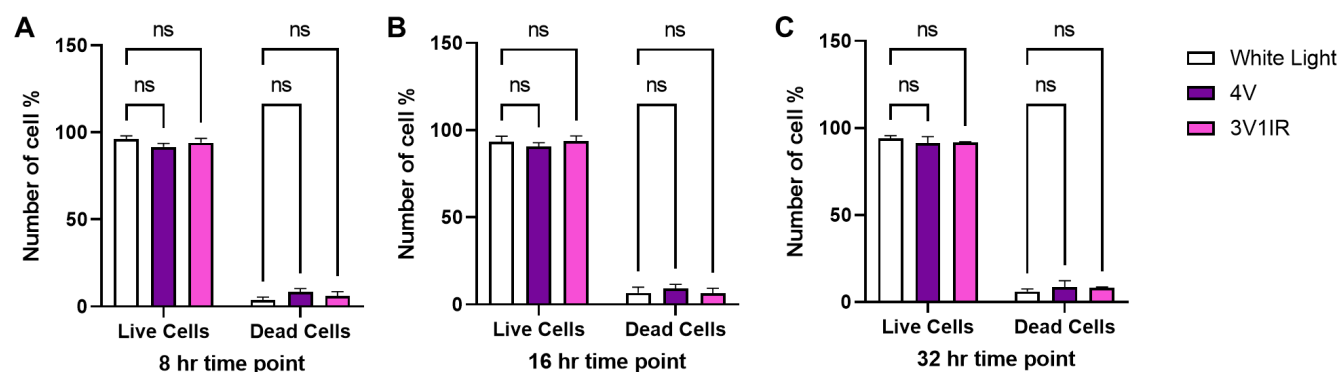
Time (h)	10W	20W	24W	White light
1	8.61±22.73	17.58±9.75	15.23±15.41	3.73±20.81

2	7.39±23.61	15.01±17.93	17.84±20.32	-17.65±35.84
4	34.73±15.48	40.82±12.50	40.75±11.15	-3.79±24.44
6	56.19±16.61	62.38±15.34	64.09±14.29	15.79±19.16
8	88.09±11.94	91.44±9.77	92.41±7.89	8.46±16.05

9 The relative levels of ROS were measured after 1.5 hours of light exposure.

Time (h)	No Light	W. Light	10 W	20 W
1.5	60.19±25.97	48.89±39.71	137.95±56.37	204.66±107.59

Supplementary Figure 1



SUPPLEMENTARY FIGURE 1. The 4V or 3V1IR did not interfere with the normal growth of N27 rat dopamine cells, compared to white light control. Data are presented as mean \pm SEM and analyzed by using GraphPad Prism 10.01 software using One ANOVA, Dunnett's multiple comparisons test.