

## 研究業績 英文表記

和文	
表題	100Hz の点滅する青色光と点滅しない青色光の条件下での唾液メラトニン抑制
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英文	
Title	<b>Salivary melatonin suppression under 100-Hz flickering blue light and non-flickering blue light conditions</b>
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Abstract	<p><b>Background:</b> Bright light at night is known to suppress melatonin secretion. Novel photoreceptors named intrinsically photosensitive retinal ganglion cells (ipRGCs) are mainly responsible for projecting dark/bright information to the suprachiasmatic nucleus and thus regulating the circadian system. However, it has been shown that the amplitude of the electroretinogram of ipRGCs is considerably lower under flickering light at 100 Hz than at 1-5 Hz, suggesting that flickering light may also affect the circadian system. Therefore, in this study, we evaluated light-induced melatonin suppression under flickering and non-flickering light.</p> <p><b>Methods:</b> Twelve male participants between the ages of 20 and 23 years (mean <math>\pm</math> S.D. = 21.6 <math>\pm</math> 1.5 years) were exposed to three light conditions (dim, 100-Hz flickering, and non-flickering blue light) from 1:00 A.M. to 2:30 A.M., and saliva samples were obtained just before 1:00 A.M. and at 1:15, 1:30, 2:00, and 2:30 A.M.</p> <p><b>Results:</b> A repeated measures t test with Bonferroni correction showed that at 1:15 A.M., melatonin concentrations were significantly lower following exposure to non-flickering light compared with dim light, whereas there was no significant difference between the dim and 100-Hz flickering light conditions. By contrast, after 1:30 A.M., the mean melatonin concentrations were significantly lower under both 100-Hz flickering and non-flickering light than under dim light.</p> <p><b>Conclusion:</b> Although melatonin suppression rate tended to be lower under 100-Hz flickering light than under non-flickering light at the initial 15 min of the light exposure, the present study suggests that 100-Hz flickering light may have the same impact on melatonin secretion as non-flickering light.</p>
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