Rods progressively escape saturation to drive visual responses in daylight conditions.

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RECOMMENDATIONS ABSTRACT COMMENTS

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Classified as

Interesting Hypothesis | Controversial

This study reports the finding that rod photoreceptors can continue to function at much higher luminance than previously supposed. These investigators recorded from the retinas (and central nervous system) of mice genetically engineered to lack cone function and showed that responses could be recorded from photoreceptors and ganglion cells even in bright, bleaching light. These findings challenge earlier psychophysical measurements in humans ({1}, see {2}) and mice {3}, as well as electrical recordings from single mammalian photoreceptors (for example {4-6}) and from other retinal neurons {7,8}, all of which seem to show that rods saturate and become essentially non-functional in relatively dim background light. While previous electrical recordings were performed over relatively short time scales, these extended recordings show that rod responses might contribute to the retinal output over longer periods of bright illumination.

This Recommendation is of an article referenced in an F1000 Faculty Review also written by Gordon Fain and Alapakkam P. Sampath.

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Relevant Sections

Neuroscience
- Neurodevelopment
- Neuronal & Glial Cell Biology
- Sensory Systems

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Disclosures
None declared

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