

Supporting Information

Cao et al. 10.1073/pnas.1202332109

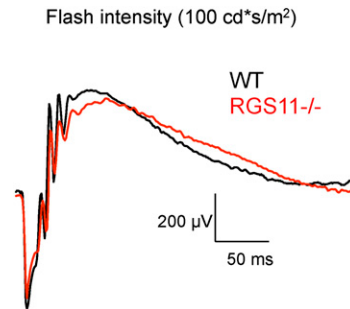


Fig. S1. RGS11-knockout mice display normal light responses as measured by electroretinography. A representative trace is shown out of four total experiments conducted with different mice, all yielding similar results.

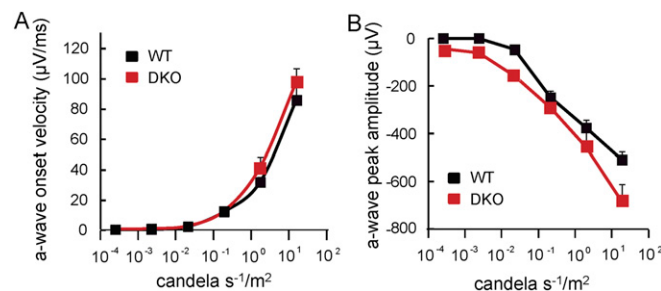


Fig. S2. Normal photoreceptor function in DKO mice as evidenced by the analysis of the ERG a-wave. ERGs were performed and analyzed as described in *Materials and Methods*. (A) The speed of the a-wave onset, which reflects the signal amplification of the phototransduction cascade, was indistinguishable between WT and DKO mice. (B) The amplitude of the a-wave was slightly larger in DKO mice consistent with the “unmasking” effect due to the much delayed onset of the b-wave that normally blunts a-wave generation.

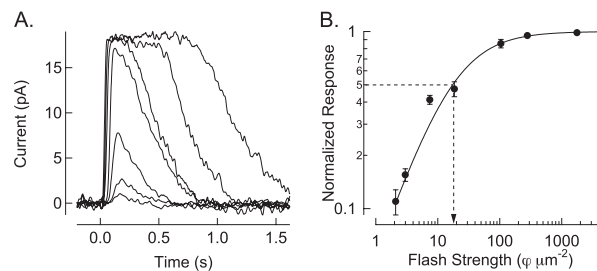


Fig. S3. Normal photoreceptor function in DKO mice as evidenced by the single cell suction electrode recordings. (A) Measurements of rod outer segment current made with suction electrodes reveal that the magnitude of the dark current and the response sensitivity in DKO rods is indistinguishable from WT rods. A 30-ms flash was delivered at time = 0 s. The average dark current from six DKO rods from one mouse was 17 ± 0.6 pA. (B) The average response-intensity relationship for six DKO rods is shown. The data were fit with a Hill curve whose exponent was fixed to a value of 1. The half-maximal flash strength of the fit was 18 photon μm^2 , within the range of WT rods from many other studies that record from rods under the same conditions (1–3).

1. Dunn FA, Doan T, Sampath AP, Rieke F (2006) Controlling the gain of rod-mediated signals in the Mammalian retina. *J Neurosci* 26:3959–3970.
2. Okawa H, et al. (2010) Optimal processing of photoreceptor signals is required to maximize behavioural sensitivity. *J Physiol* 588:1947–1960.
3. Sampath AP, et al. (2005) Recoverin improves rod-mediated vision by enhancing signal transmission in the mouse retina. *Neuron* 46:413–420.

