High sensitivity rod photoreceptor input to blue-yellow color opponent pathway in macaque retina

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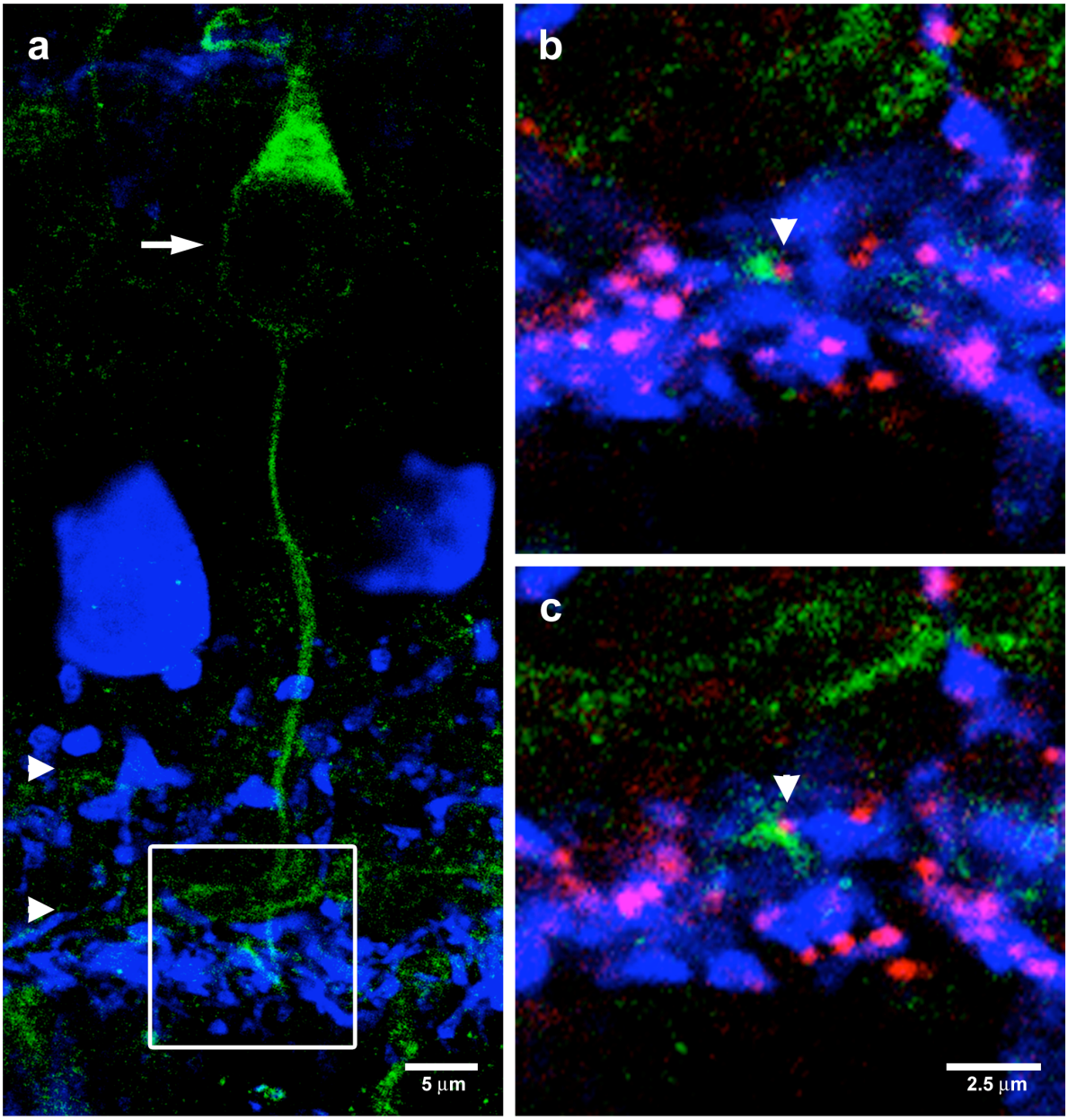
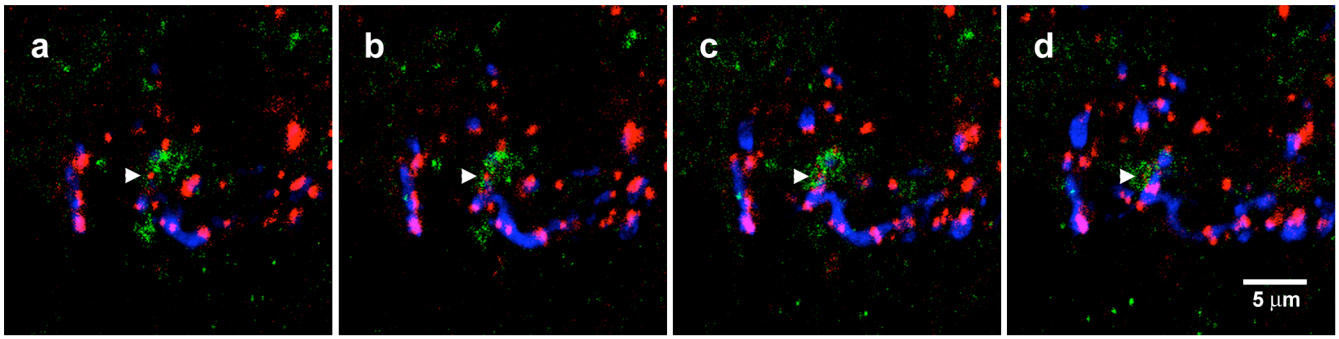
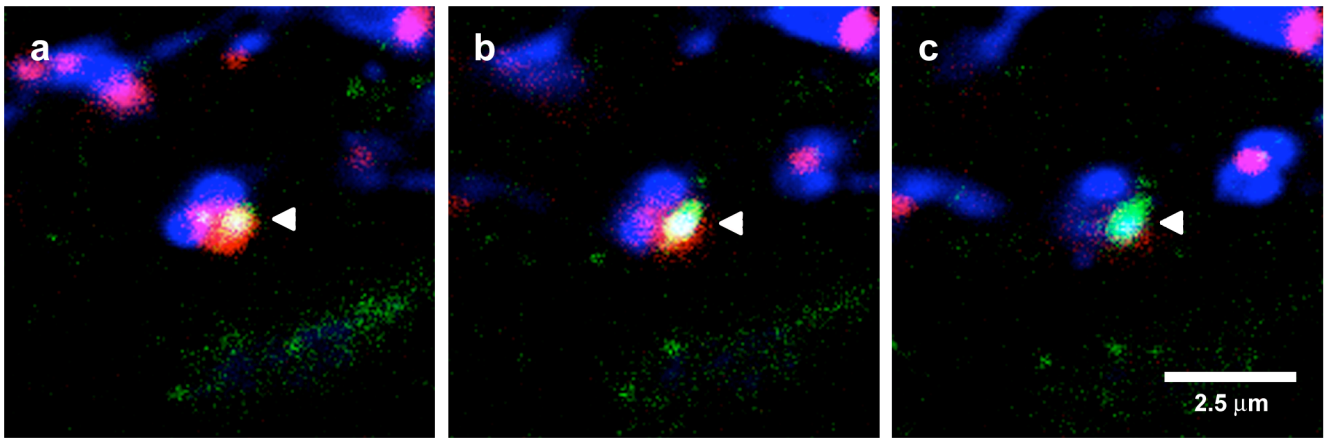


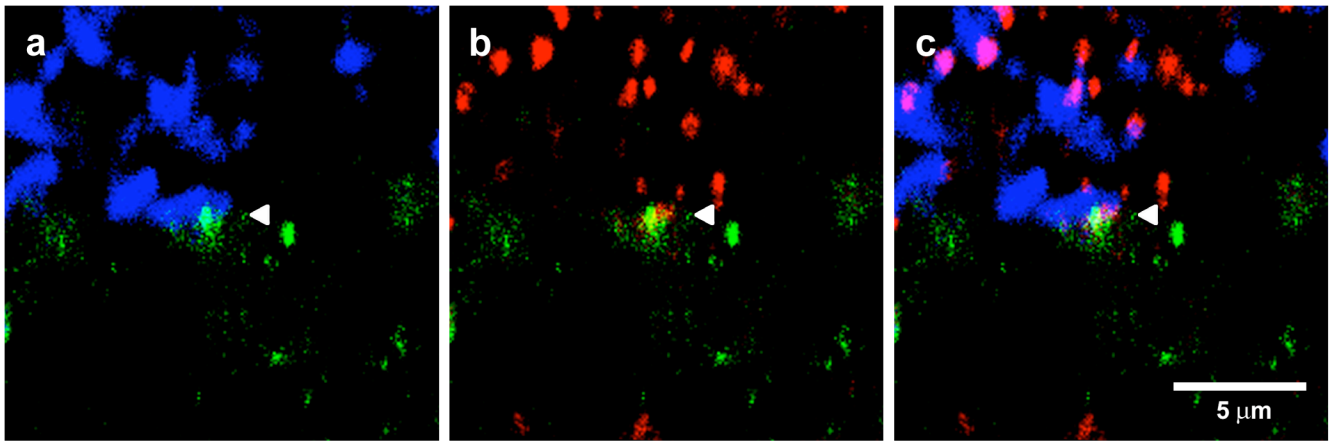
Supplemental figure 1: An example contact between an AII amacrine cell dendrite and an S cone bipolar axon in which it was possible to trace the bipolar cell terminal back to the parent axon. (**a**) A stack of 2 optical sections with an S cone bipolar cell labeled with anti-G6-gly (green) and AII amacrine cells labeled with anti-calretinin (blue). The arrow indicates the perikaryon of the S cone bipolar cell. Arrowheads indicate amacrine cell process labeled with anti-G6-gly in S4 and S2 of the IPL. (**b-c**) Consecutive (0.5 μm) single optical sections of the region indicated by the white square in **a** indicating that the S cone bipolar cell axon terminal contacts an AII amacrine cell dendrite. The arrowheads highlight the punctum of connexin 36 immunoreactivity (red) between the AII amacrine cell dendrite and S cone bipolar cell axon terminal.



Supplemental figure 2: A more extensive contact between an AII amacrine cell dendrite and a S cone bipolar cell axon terminal. (**a-d**) A series of 0.5 μm optical sections through S5 of the IPL with a G6-gly immunoreactive S cone bipolar cell axon (green) seen in all sections. A connexin 36 immunoreactive punctum (red) and a calretinin immunoreactive AII amacrine cell dendrite (blue) are seen most clearly in **b-d**. Arrowhead indicates location of contact.



Supplemental figure 3: Contacts between S cone bipolar cell axon terminals and AII amacrine cell dendrites in a second retina. (**a-c**) Three consecutive 0.5 μm optical sections through S5 of the IPL. The AII dendrite (blue) is seen most clearly in **a-b**, the connexin immunoreactive punctum (red) in **a** and the S cone bipolar cell axon (green) in **b-c**. The location of connexin 36 immunoreactivity is between the locations of the AII amacrine cell dendrite and the S cone bipolar cell axon terminal.



Supplemental figure 4: Three views of a single optical section through S5 of the IPL from a third retina. (**a**) Contact between an AII amacrine cell dendrite (blue) and an S cone bipolar cell axon (green). (**b**) The same section showing a punctum of connexin 36 immunoreactivity (red) at the tip of the S cone bipolar cell axon terminal. (**c**) The images from **a** and **b** are merged indicating connexin 36 immunoreactivity between the S cone bipolar cell axon terminal and the AII amacrine cell dendrite.

Supplemental Methods

The glycine-extended gastrin-cholecystokinin precursor, G6-gly, was used to label S cone bipolar cells (green)[1–4]. S cone bipolar cell labeling was confirmed by observing labeled bipolar cells with long dendrites that contacted a subset of cone pedicles and axons that descended to stratum 5 (S5) of the inner plexiform layer (IPL)[5], which was defined as 80-100% of the distance between the inner nuclear layer and the ganglion cell layer. S cone bipolar cell axons could readily be distinguished from labeled amacrine cell processes in S4 and S2 of the IPL based on their depth of stratification. Antibodies to calretinin labeled AII amacrine cells (blue)[6,7]. AII amacrine cell labeling was confirmed by distinctive, lobular dendrites in the outer half of the IPL and a dense plexus of dendrites in the inner half[8]. Horizontal cells were also faintly labeled with anti-calretinin[9]. Puncta labeled with antibody to connexin 36[10] (red) were distributed in the IPL as described previously in other mammals[11].

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Due to citations limits, several important references had to be removed from the main manuscript. We list this relevant literature here to acknowledge the significant contribution these studies and their authors have made to this topic.

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