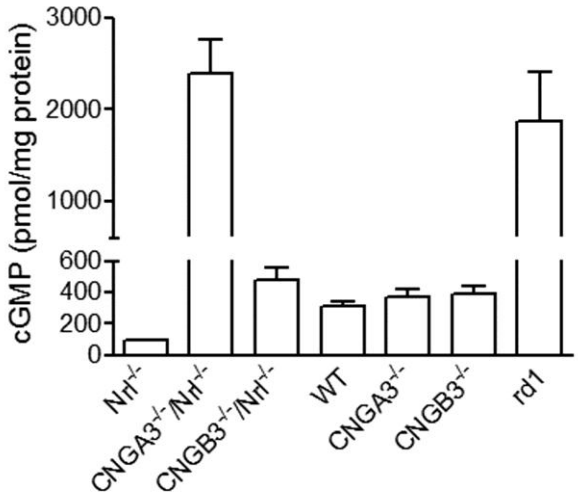
Supplemental Figures

Supplemental Figure 1. Elevation of retinal cGMP levels in *CNGA3*$^{-/-}$*/Nrl*$^{-/-}$ and *CNGB3*$^{-/-}$*/Nrl*$^{-/-}$ mice. ELISA (Assay Designs Inc., Ann Arbor, MI) was performed using light-adapted mouse retina (P30). Compared to the levels in *Nrl*$^{-/-}$ mice, *CNGA3*$^{-/-}$*/Nrl*$^{-/-}$ mice exhibited a remarkable elevation in retinal cGMP levels while *CNGB3*$^{-/-}$*/Nrl*$^{-/-}$ mice showed a moderate increase. The cGMP level was about 25-fold higher in *CNGA3*$^{-/-}$*/Nrl*$^{-/-}$ retina than that in *Nrl*$^{-/-}$ retina. No such increase was clearly detected in *CNGA3*$^{-/-}$ and *CNGB3*$^{-/-}$ mice, compared to the wild type (WT). This is likely because of the small proportion of cones in the rod-dominant retina. In addition, cGMP levels in the WT retina were significantly higher than the levels in *Nrl*$^{-/-}$ retinas. Retinas of *rd1* mice were included as an assay control. Data are represented as means ± SEM of measurements from four independent experiments using retinas from 8-10 mice.



Supplemental Figure 2. Expression of CNGA3 in *CNGB3*$^{-/-}$*/Nrl*$^{-/-}$ retinas. Western blot was performed to detect retinal expression of CNGA3 in *CNGB3*$^{-/-}$*/Nrl*$^{-/-}$ and *Nrl*$^{-/-}$ mice (P30). Shown are representative images (*left panel*) and the correlating densitometric analysis (*right panel*). Actin was probed as a loading control. Data are represented as means ± SEM of measurements from three independent experiments using retinas from 4-5 mice. Unpaired student's *t* test was used for determination of the significance (*, $P < 0.05$).