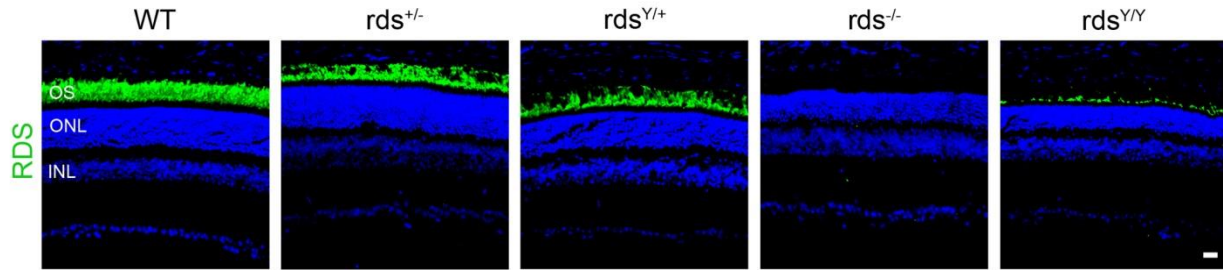


SUPPLEMENTAL MATERIALS

Supplemental Table 1

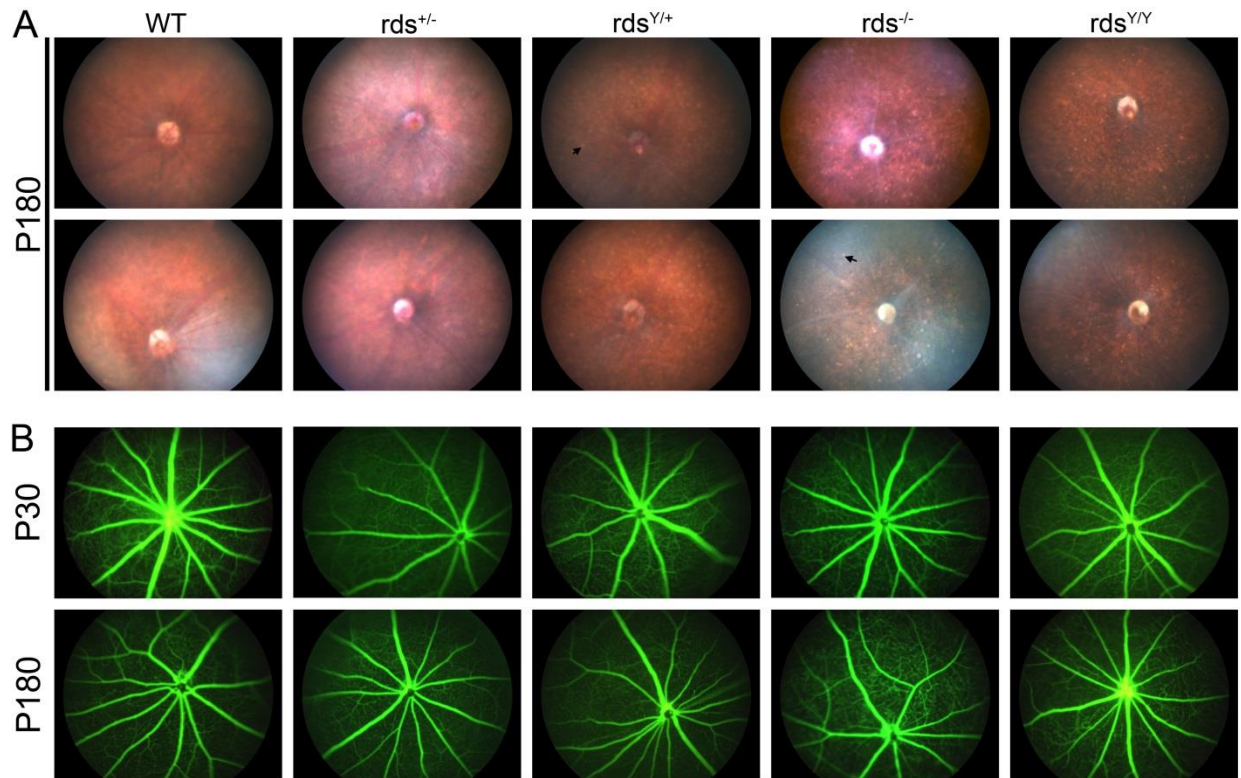
Gene	Sequence 5'-3'	F/R	Purpose
Atf4	GGACAGATTGGATGTTGGAGAAAATG	F	qRT-PCR
Atf4	GGAGATGGCCAATTGGGTTTAC	R	qRT-PCR
BIP	GTTTGCTGAGGAAGACAAAAAGCTC	F	qRT-PCR
BIP	CACTTCCATAGAGTTTGCTGATAAT	R	qRT-PCR
CHOP	GTCCAGCTGGGAGCTGGAAG	F	qRT-PCR
CHOP	CTGACTGGAATCTGGAGAG	R	qRT-PCR
XBP1	GAACCAGGAGTTAAGAACACG	F	RT-PCR
XBP1	AGGCAACAGTGTGAGAGTCC	R	RT-PCR
Hprt	GCAAACCTTTGCTTTCCCTGGTT	F	qRT-PCR
Hprt	CAAGGGCATATCCAACAACA	R	qRT-PCR
Rds	GTTCAAGTGCTGTGGGAACA	F	qRT-PCR
Rds	CTGTGTGGAGGTAGCGGAGT	R	qRT-PCR
Y141C-RDS	GGGCAAAGGTGTGGAGTGAT	F	Genotyping
Y141C-RDS	TGCTTCCCACCCTGCATAAC	R	Genotyping

Supplemental Table 1: Primer sequences used for real-time RT-PCR and genotyping.

Supplemental Figure 1

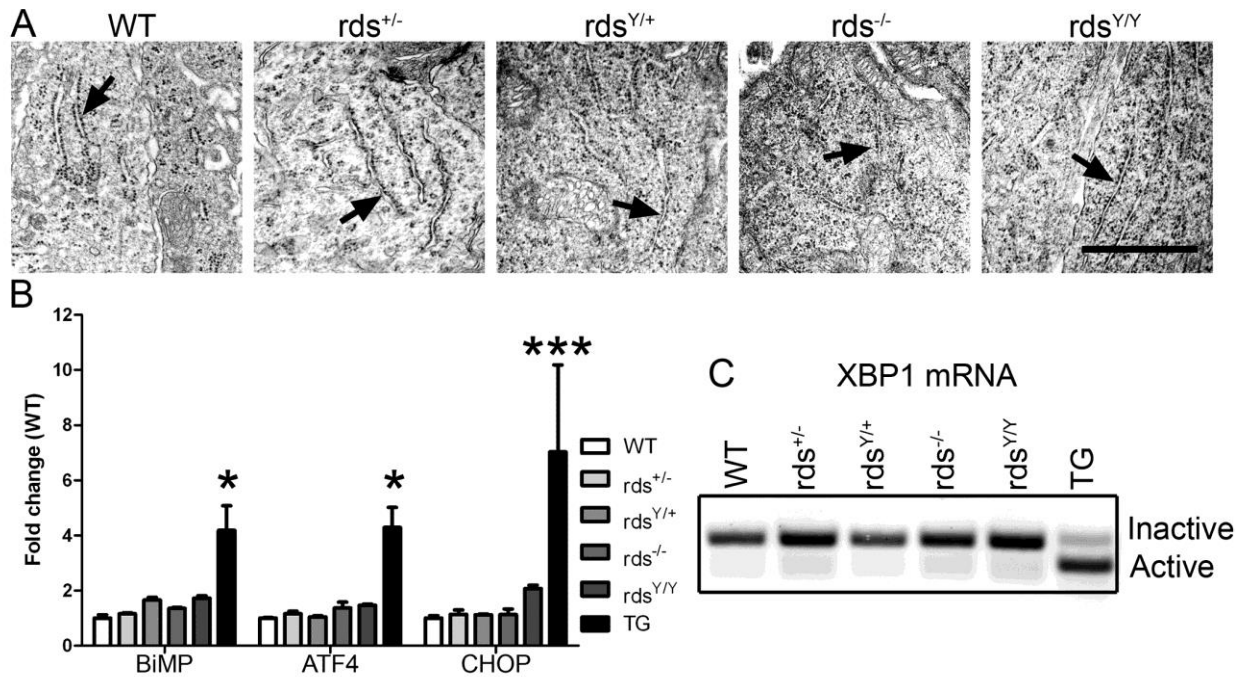
Supplemental Figure 1. Y141C RDS is localized to photoreceptors only and is not found in the ONL or photoreceptor synaptic terminals. P30 retinal sections of the indicated genotypes were immunolabeled for RDS (green) and counterstained with DAPI (blue). OS: outer segment, ONL: outer nuclear layer, INL: inner nuclear layer. Scale bar: 20 μ m.

Supplemental Figure 2



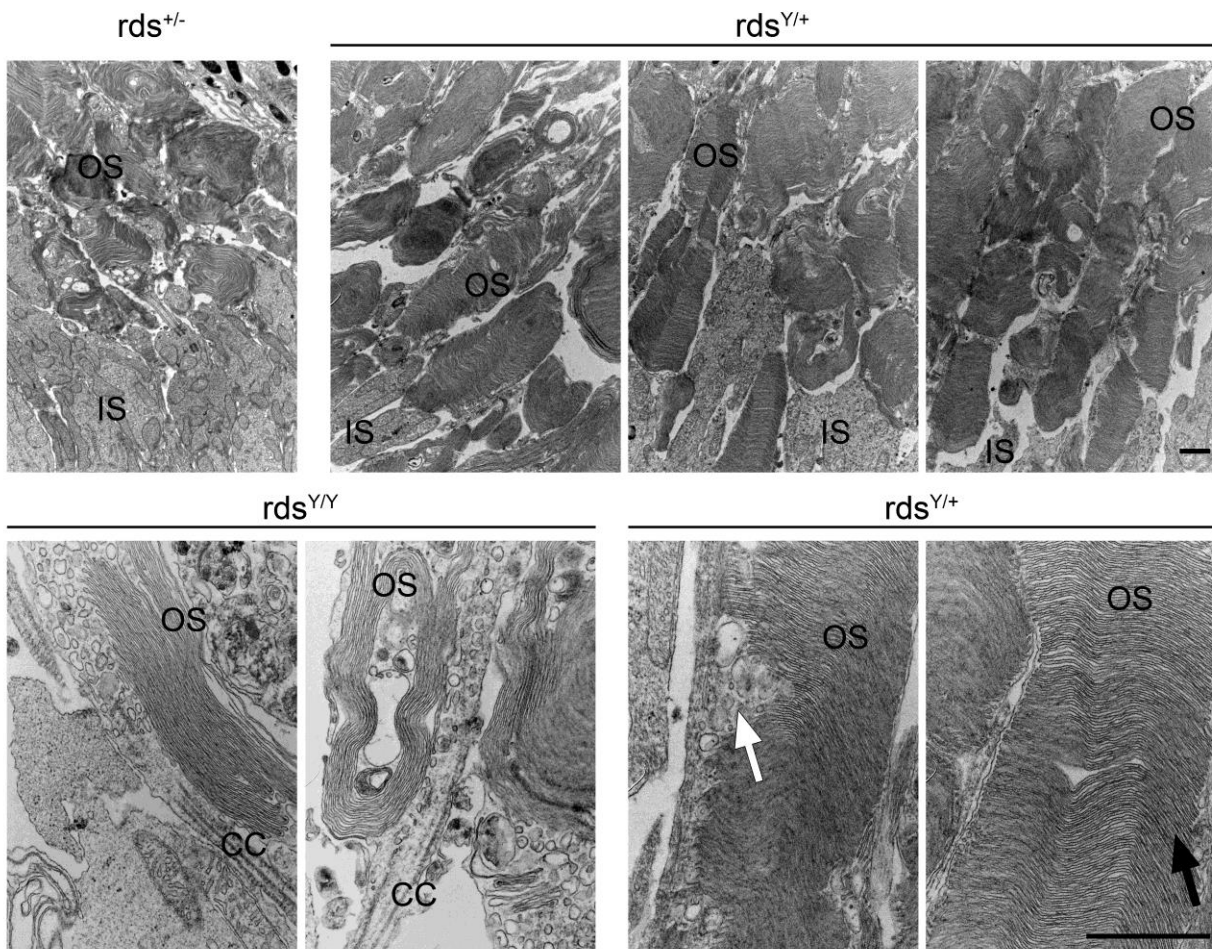
Supplemental Figure 2. No retinal vascular defects are observed in the presence of Y141C-RDS. Mice at the indicated ages and genotypes underwent funduscopy as in Fig. 5 (A) or fluorescein angiography (FA, B). FA revealed no signs of significant disruptions of retinal vasculature in any genotype or age. N=4-11 eyes/genotype/age.

Supplemental Figure 3



Supplemental Figure 3. No changes in endoplasmic reticulum stress markers are observed. Transmission electron microscopy was done on P30 retinal sections of the indicated genotypes. No observed swelling or changes in the histological characteristics of the ER are observed in any mutants when compared to WT (**A**, arrows). Expression of the mRNAs of indicated markers for ER stress were analyzed using qRT-PCR and plotted as relative to WT (**B**). Only retinal explants treated with thapsigargin (TG) showed significant signs of ER stress. Cleavage of the XBP1 mRNA occurs during the activation of ER stress signaling pathways and was analyzed using RT-PCR followed by amplification using primers specific for both the spliced and unspliced form of the mRNA (**C**). No cleavage of the XBP1 message was observed in the analyzed genotypes. *** $P < 0.001$ * $P < 0.05$ by one-way ANOVA with Bonferroni's post-hoc comparison. $N = 3$ eyes/genotype, scale bar is 500nm.

Supplemental Figure 4



Supplemental Figure 4. OS ultrastructural abnormalities are detected in the presence of the Y141C allele. Transmission electron microscopy was performed on eyes from the indicated genotypes at post natal day 30 as in Fig. 8. Scale bar 1 μm OS: outer segment, IS: inner segment, CC: connecting cilium.