Supplementary materials

Table S1. Less likely variants in *KIF11* filtered from the 814 probands with various ocular diseases.

Chromo-some	Position	Exon	Nucleotide Change	Amino Acid Change	State	Polyphen-2	SIFT	Allele frequency in ExAC	Family ID (diagnosis of proband)
chr10	94373338	8	c.994A>G	p.I332V	Hetero	PrD	D	1/120992	QT1030 (FEVR); QT878 (COD)
chr10	94408168	19	c.2747A>G	p.D916G	Hetero	PrD	T	NA	HM785 (CSNB); G539(G)

Note: Hetero, heterozygous; PrD, Probably damaging; D, Damaging; T, Tolerate; NA, Not available; COD, Cone dystrophy; CSNB, Congenital stationary night blindness; G, Glaucoma.

Table S2. Clinical Information of Individuals carrying the less likely variants in *KIF11*.

Patient NO. Gender	Age at onset/exam	Mutation	Diagnosis	First symptom	Visual acuity	Axial length (mm)	Main phenotypes right/left	ERG Rod/Cone Response
QT1030II:I/M	7y/7y	c.994A>G	FEVR	PV	20/200; 20/20	NA; NA	VCE/-	NA/NA
QT878II:9/M	EC/35y	c.994A>G	COD	PV	20/200; 20/200	26.60; 26.12	RNFLT/RNFLT	Not identifiable/Normal
QT878III:5/M	-/9y	c.994A>G	Normal	-	20/20; 20/20	24.79; 24.51	-/-	Normal/Normal
HM785II:6/M	-/57y	c.2747A>G	TC(OS)	-	20/20; 20/250	22.51; 22.61	-/LO	NA/NA
HM785III:2/M	EC/31y	c.2747A>G	CSNB	PV	20/200; 20/50	29.92; 27.71	LF/LF	Reduced/Not identifiable
HM785III:3/M	-/27y	c.2747A>G	Normal	-	20/20; 20/20	24.80; 25.30	-/-	NA/NA
G539II:5/M	51y/51y	c.2747A>G	Glaucoma	BP	20/25; 20/25	NA; NA	CA/CA	NA/NA

Note: Microcephaly, lymphedema and mental retardation were absent in all the five individuals while it was not available for QT1030III:2 and G539II:5.

M, Male; F, Female; y, Years; EC, Early childhood; COD, Cone dystrophy; TC, Traumatic Cataract; CSNB, Congenital stationary night blindness; PV, Poor vision; BP, Bilges pain in eyes; NA, Not available; VCE, Vascular circuity expansion; RNFLT, Retinal nerve fiber layer thinning; LO, Lens opacity; LF, Leopard fundus; CA, Closed angle.

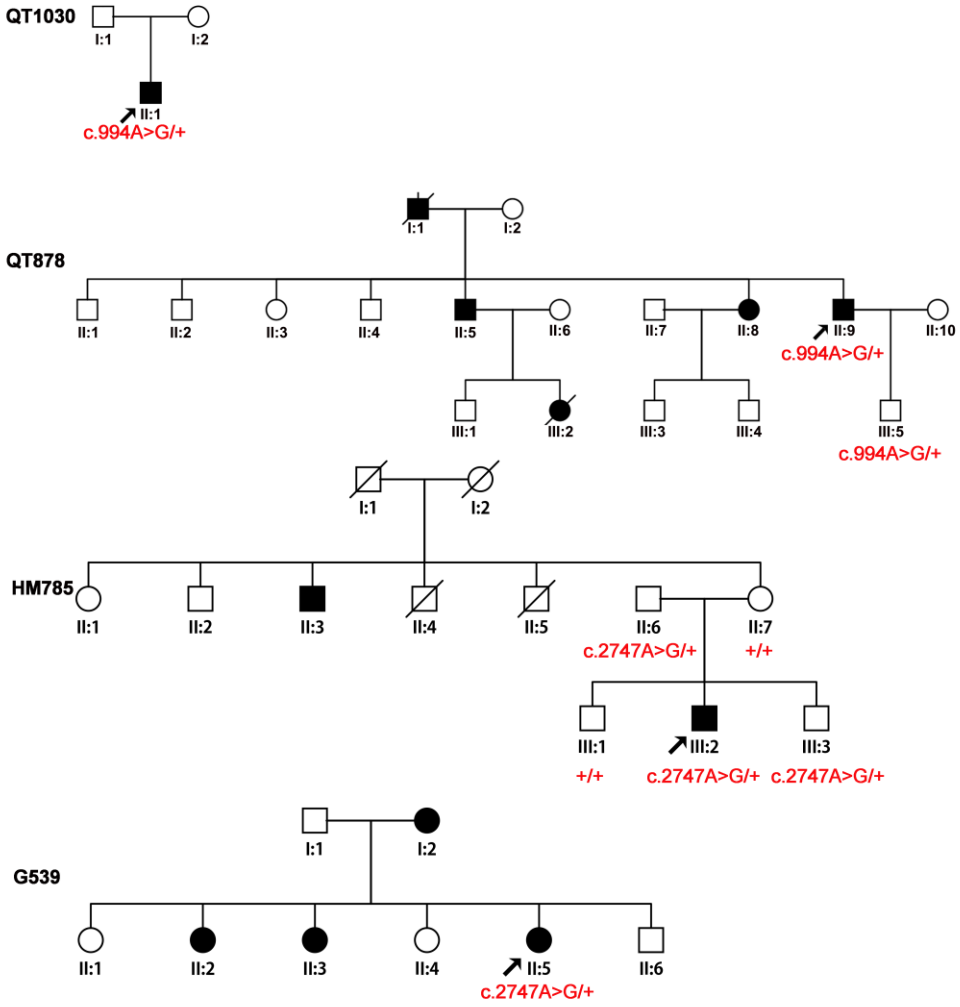

Figure S1. Pedigrees of the four families with less likely variants in *KIF11*. The family number is displayed in the left while the variant is displayed under the symbol of the carriers. + indicates the normal allele.

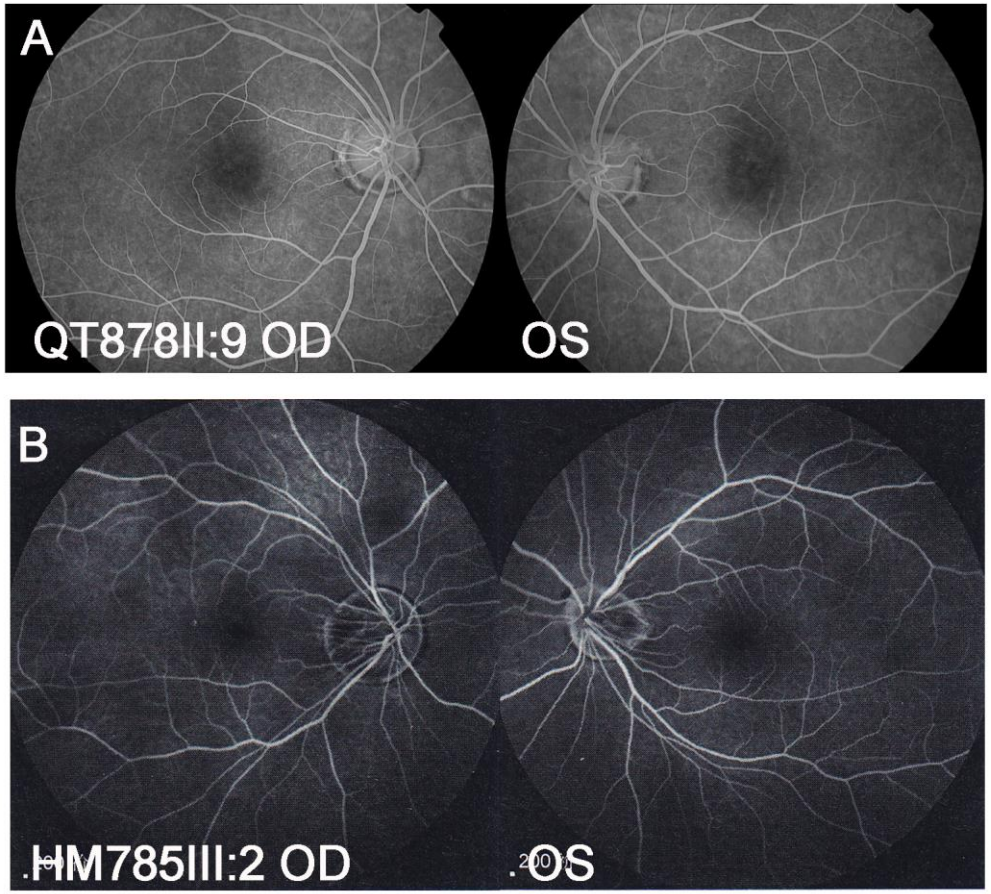

Figure S2. Fundus changes of patients with less likely variants in *KIF11*. No signs of peripheral retina vascular development of FEVR were

identified in the fundus of the two available variant carriers QT878II:9 (A) and HM785III:2 (B). The patient ID number was marked at bottom left of the picture. OD and OS represented right and left eyes, respectively.