

Appendix 1. Potential causative variants and clinical characteristics of 42 patients with suspected retinitis pigmentosa

Patient	Gender, Current age (y)	Gene	Inheritance Pattern in RP	Variant	Zygoty	ACMG	Novelty / Possible origin of Inheritance*	Familial history of visual loss	Current BCVA (OD/OS)	FAF	SD-OCT
1	F, 32	<i>RHO</i>	AD/AR	chr3-129532321-G-T c.601G>T p.Glu201* nonsense	Hom	LP	No / European	No	20/30 20/30	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrana, small cysts in the internal layers. Central macula: preserved EZ. Perifoveal macula: not detected EZ. CMT: OD= 286, OS= 275 micra
2	F, 51	<i>RHO</i>	AD/AR	chr3-129529049-G-A c.316G>A p.Gly106Arg missense	Het	P	No / European, South Asian, Ashkenazi Jewish	Two maternal uncles	20/30 20/30	OU: Normal FAF appearance.	OU: Central macula: preserved EZ. Perifoveal macula: disorganized EZ. CMT: OD= 282, OS=276 micra
3	M, 49	<i>RHO</i>	AD/AR	Chr3-129528873-T-G c.140T>G p.Leu47Arg missense	Het	P	Yes / NA	No	20/30 20/30	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Small cysts in the internal layers. Central macula: preserved EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 253, OS= 247 micra
4	M, 47	<i>RHO</i>	AD/AR	chr3-129530917-C-T c.403C>T p.Arg135Trp missense	Het	P	No / European	The mother, a sister (P5) and three nieces (P6-P8)	20/160 20/400	OU: Foveal hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Small cysts in the internal layers. Central macula: disorganized EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 212, OS= 217 micra
5	F, 45	<i>RHO</i>	AD/AR	chr3-129530917-C-T c.403C>T p.Arg135Trp missense	Het	P	No / European	The mother, a brother (P4) and three daughters (P6-P8)	20/64 20/50	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OD: Large cysts in the internal and external layers and surrounding hyperreflective plaques in outer retina (Macroaneurysm). EZ analysis unfeasible. OS: Epiretinal membrana, small cysts in the internal layers. Central macula: preserved EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 630, OS= 296 micra
6	F, 28	<i>RHO</i>	AD/AR	chr3-129530917-C-T c.403C>T p.Arg135Trp missense	Het	P	No / European	The maternal grandmother, the mother (P5), an uncle (P4) and two sisters (P7, P8)	20/30 20/30	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Small cysts in the external layers. Central macula: preserved EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 231, OS= 226 micra
7	F, 18	<i>RHO</i>	AD/AR	chr3-129530917-C-T c.403C>T p.Arg135Trp missense	Het	P	No / European	The maternal grandmother, the mother (P5), an uncle (P4) and two sisters (P6, P8)	20/40 20/50	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Small cysts in the external layers. Central macula: preserved EZ. Perifoveal macula: not detected EZ. CMT: OD= 228, OS= 219 micra
8	F, 9	<i>RHO</i>	AD/AR	chr3-129530917-C-T c.403C>T p.Arg135Trp missense	Het	P	No / European	The maternal grandmother, the mother (P5), an uncle (P4) and two sisters (P6, P7)	20/50 20/50	OD: Hyperautofluorescent ring in the macular region. In periphery, multi temporal hypoautofluorescences. OS: Unfeasible.	OU: Small cysts in the internal and external layers. Central macula: preserved EZ. Perifoveal macula: not detected EZ. CMT: OD= 292, OS= 293 micra
9	F, 20	<i>RPGR</i>	XL	chrX-38285947-CCTCT-C c.3048_3051delAGAG p.Glu1017Lysfs*71 frameshift	Het	LP	Yes / NA	No	20/30 20/25	OU: Normal FAF appearance.	OU: Central macula: preserved EZ. Perifoveal macula: disorganized EZ. CMT: OD= 231, OS= 229 micra
10	M, 23	<i>RPGR</i>	XL	chrX-38323399-C-T c.154G>A p.Gly52Arg missense	Hemi	P	Yes / NA	The maternal grandmother, four maternal uncles and three maternal cousins	20/125 20/100	OU: NP	OU: NP
11	F, 46	<i>RPGR</i>	XL	ChrX-38286592-CCT-C c.2405_2406delAG p.Glu802Glyfs*32 frameshift	Het	P	No / European, East Asian	The son (P12)	20/80 20/80	OU: Foveal hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrana, small cysts in the internal and external layers. Central macula: HRF, disorganized EZ. Perifoveal macula: HRF, not detected EZ. OD: Macular hole. OS: VMT. CMT: OD= 260, OS= 312 micra
12	M, 23	<i>RPGR</i>	XL	ChrX-38286592-CCT-C c.2405_2406delAG p.Glu802Glyfs*32 frameshift	Hemi	P	No / European, East Asian	The mother (P11)	20/50 20/400	OD: Foveal hyperautofluorescence. OS: Sharply demarcated hypoautofluorescence in the fovea. OU: Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrana. Central macula: HRF, disorganized EZ in OD and not detected EZ in OS. Perifoveal macula: HRF, not detected EZ. CMT: OD= 192, OS= 188 micra
13	M, 39	<i>RPGR</i>	XL	ChrX-38286033-TCC-T c.2964_2965delGG p.Glu989Glyfs*89 frameshift	Hemi	P	Yes / NA	The maternal grandmother, one maternal uncle, one maternal aunt and the brother (P14)	20/63 20/80	OU: Patch macular hypoautofluorescence near the arcades. In the periphery, multi hypoautofluorescences.	OU: Central macula: not detected EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 174, OS= 165 micra
14	M, 27	<i>RPGR</i>	XL	ChrX-38286033-TCC-T c.2964_2965delGG p.Glu989Glyfs*89 frameshift	Hemi	P	Yes / NA	The maternal grandmother, one maternal uncle, one maternal aunt and the brother (P13)	20/100 20/125	OU: Foveal hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: disorganized EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 140, OS= 133 micra
15	M, 20	<i>RPGR</i>	XL	ChrX-38323416-T-C c.137A>G p.His46Arg missense	Hemi	VUS	Yes / NA	No	20/32 20/40	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: disorganized EZ. Perifoveal macula: disorganized EZ. CMT: OD= 278, OS= 280 micra
16	M, 49	<i>USH2A</i>	AR	chr1-216083475 - 216083476-TC-T p.Asp1760Metfs*10 frameshift	Compound Het ¹	P	No / Admixed American	No	20/32 20/32	OU: NP	OU: Epiretinal membrana. Central macula: disorganized EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 196, OS= 190 micra

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		<i>USH2A</i>	AR	Chr1-215680298-C-T c.12145G>A p.Ala4049Thr missense	Compound Het ¹	LP	No / European, Admixed American, African				
17	M, 40	<i>USH2A</i>	AR	chr1-216196611 - 216196612-TC-T c.4192delG p.Asp1398Thrfs*34 frameshift	Compound Het ¹	LP	Yes / NA	No	20/25 20/32	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, cysts (large in OS) in the internal layers. Central macula: disorganized. Perifoveal macula: not detected EZ. CMT: OD= 256, OS= 282 micra
		<i>USH2A</i>	AR	Chr1-215900144-G-A c.7525C>T p.Arg2509Trp missense	Compound Het ¹	LP	No / European, South Asian, African				
18	M, 38	<i>USH2A</i>	AR	chr1-215-817-134-G-A / rs267598373 c.9433C>T p.Leu3145Phe missense	Hom	VUS	No / European, South Asian, Admixed American	No	20/30 20/30	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: disorganized EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 216, OS= 203 micra
19	M, 45	<i>USH2A</i>	AR	chr1-215837987-215900905-del (exon 39 through 47 deletion) copy number variant	Compound Het ¹	P	NA / NA	No	20/50 20/30	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, small cysts in the internal layers. Central macula: disorganized EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 278, OS= 288 micra
		<i>USH2A</i>	AR	chr1-216247092-A-G / rs1052375050 c.2302T>C p.Cys768Arg missense	Compound Het ¹	P	No / South Asian				
20	M, 36	<i>AH1I</i>	AR	chr6-135323294-G-A c.3196C>T p.Arg1066* nonsense	Compound Het ¹	P	No / European, Middle Eastern, African, Admixed American	The brother (P17)	20/50 20/50	OU: Foveal hyperautofluorescence with surrounding patchy hypoautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: HRF, disorganized EZ. Perifoveal macula: HRF, not detected EZ. OS: Small cysts in the outer layers of the retina. CMT: OD= 232, OS= 219 micra
		<i>AH1I</i>	AR	chr6-135433027-C-G c.2266G>C p.Gly756Arg missense	Compound Het ¹	LP	Yes / NA				
21	M, 34	<i>AH1I</i>	AR	chr6-135323294-G-A c.3196C>T p.Arg1066* nonsense	Compound Het ¹	P	No / European, Middle Eastern, African, Admixed American	The brother (P16)	20/100 20/100	OU: Foveal hyperautofluorescence with surrounding patchy hypoautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Small cysts in the internal layers. Central macula: HRF, disorganized EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 161, OS= 158 micra
		<i>AH1I</i>	AR	chr6-135433027-C-G c.2266G>C p.Gly756Arg missense	Compound Het ¹	LP	Yes / NA				
22	M, 13	<i>CLN3</i>	AR	chr16-28486347-28486673-del (deletion of exons 7 and 8) copy number variant	Hom	P	NA / NA	No	Light perception Light perception	OU: Foveal hypoautofluorescence with surrounding patchy hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: not identifiable EZ. Perifoveal: not detected EZ. CMT: OU= Unfeasible
23	M, 10	<i>CLRN1</i>	AR	chr3-150690368-C-A c.128G>T p.Gly43Val missense	Hom	P	Yes / NA	No	20/30 20/30	OU: Foveal hyperautofluorescence with surrounding patchy hypoautofluorescence. In the periphery, multi nasal hypoautofluorescences.	OU: Epiretinal membrane, small cysts in the internal layers. Central macula: preserved EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 251, OS= 243 micra
24	F, 18	<i>CRB1</i>	AR	Chr1-197427831-C-A c.2506C>A p.Pro836Thr missense	Compound Het ¹	P	No / African, Middle Eastern, Admixed American	No	20/200 20/125	OU: Foveal hypoautofluorescence with surrounding patchy hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, large cysts in the internal layers. Central macula: HRF, not detected EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 227, OS= 246 micra
		<i>CRB1</i>	AR	Chr1-197434706-G-A c.2843G>A p.Cys948Tyr missense	Compound Het ¹	P	No / European, Admixed American, Ashkenazi jewish, East Asian				
25	M, 11	<i>CRB1</i>	AR	Chr1-197427831-C-A c.2506C>A p.Pro836Thr missense	Compound Het ¹	P	No / African, Middle Eastern, Admixed American	No	20/63 20/50	OU: Foveal hyperautofluorescence surrounded by patchy hypoautofluorescence and then hyperautofluorescent area. In periphery, normal FAF appearance.	OU: Central macula: HRF, disorganized EZ. Perifoveal macula: disorganized EZ. CMT: OD= 136, OS= 140 micra
		<i>CRB1</i>	AR	chr1-197421665-T-TTGG c.1838_1840 p.Leu613_Gly614insVal dup insertion	Compound Het ¹	LP	Yes / NA				
26	F, 56	<i>EYS</i>	AR	Chr6-63999114-TG-T c.6794delC p.Pro2265Glnfs*46 frameshift	Compound Het ¹	P	No / African, Admixed American, South Asian	A brother (P27)	20/50 20/50	OU: In the macular region, hyperautofluorescent ring and a broad banded hyperautofluorescent leading edge near the arcades. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane. Central macula: preserved EZ. Perifoveal macula: disorganized EZ. OD: VMT, schises. CMT: OD= 209, OS= 215 micra
		<i>EYS</i>	AR	chr6-64997502-65057730 Exon 13-14 deletion copy number variant	Compound Het ¹	P if confirmed	NA / NA				
27	M, 55	<i>EYS</i>	AR	Chr6-63999114-TG-T c.6794delC p.Pro2265Glnfs*46 frameshift	Compound Het ¹	P	No / African, Admixed American, South Asian	A sister (P26)	20/125 20/100	OU: Mild macular hypoautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, large cysts in the internal layers. Central macula: HRF, not detected EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 218, OS= 433 micra
		<i>EYS</i>	AR	chr6-64997502-65057730 Exon 13-14 deletion copy number variant	Compound Het ¹	P if confirmed	NA / NA				
28	M, 59	<i>EYS</i>	AR	Chr6-63720728-TTGAG-T c.9299_9302delCTCA p.Thr3100Lysfs*26 frameshift	Compound Het ¹	P	No / European	No	20/25 20/32	OU: Hyperautofluorescence with vertical sparing in macula. Peripapillary sparing. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: preserved EZ. Perifoveal macula: not detected EZ. CMT: OD= 282, OS= 290 micra
		<i>EYS</i>	AR	chr6-64997502-65057730-del Exon 13-14 deletion copy number variant	Compound Het ¹	P	NA / NA				

Patient	Gender, Current age (y)	Gene	Inheritance Pattern in RP	Variant	Zygoty	ACMG	Novelty / Possible origin of Inheritance*	Familiar history of visual loss	Current BCVA (OD/OS)	FAF	SD-OCT
29	M, 90	<i>FSCN2</i>	AD	chr17-81535129-A-T c.904A>T p.Lys302* nonsense	Het	LP	No / European, Admixed American	The mother and a maternal aunt	Count fingers Count fingers	OU: Sharply demarcated hypoautofluorescence in the central macula. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane. Central macula: not detected EZ. Perifoveal macula: not detected EZ. OD: Macular hole. CMT: OD= 499, OS= 96 micra
30	F, 25	<i>OPA1</i>	AD	chr3-193647175-T-A c.1865T>A p.Phe622Tyr missense	Het	VUS	Yes / NA	No	20/80 20/32	OU: Hyperautofluorescent ring in the macular region OD: Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: preserved EZ. Perifoveal macula: not detected EZ. OS: Epiretinal membrane CMT: OD= 261, OS= 242 micra
31	F, 49	<i>PCARE</i>	AR	Chr2-29071301-GC-G c.2960delG p.Ser987Thrfs*48 frameshift	Hom	P	No / Middle Eastern	A sister (P32)	20/400 20/800	OU: Multifocal hypoautofluorescences in macula. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, small cysts in the internal layers. Central macula: not detected EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 215, OS= 225 micra
32	F, 44	<i>PCARE</i>	AR	Chr2-29071301-GC-G c.2960delG p.Ser987Thrfs*48 frameshift	Hom	P	No / Middle Eastern	A sister (31)	20/50 20/63	OU: Multifocal hypoautofluorescences in macula. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, cysts (large in OD) in the internal and external layers. Central macula: disorganized EZ HRF. Perifoveal macula: HRF, not detected EZ. CMT: OD=342, OS= 286 micra
33	F, 50	<i>PDE6A</i> <i>PDE6A</i>	AR AR	chr5-149883511-C-T c.2053G>A p.Val685Met missense chr5:149,895,206 c.1705C>A p.Gln569Lys missense	Compound Het ¹ Compound Het ¹	LP P	No / European, Middle Eastern, Admixed American, East Asian No / European, Admixed American	A sister and a brother	20/100 20/200	OU: Foveal hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: NP
34	F, 49	<i>PHYC</i>	AR	chr10-13294444-T-G c.398A>C p.Tyr133Ser missense	Hom	LP	No / Admixed American	No	20/30 20/70	OU: Localized macular and peripapillary sparing. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: preserved EZ. Perifoveal macula: preserved EZ. OD: Epiretinal membrane. CMT: OD= 336, OS= 281 micra
35	F, 56	<i>PRCD</i>	AR	chr17-76540523-T-TGGGGCAGCTA c.102_111dup p.Ser38* nonsense	Hom	P	No / European, Admixed American, South Asian	Four sisters (P36) and two brothers	20/400 Count fingers	OD: Diffuse macular hypoautofluorescence with extension to the arcades. Patchy hypoautofluorescence surrounding the arcades. OS: Unfeasible.	OU: VMT, epiretinal membrane. Central macula: not detected EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 268, OS= Unfeasible
36	F, 50	<i>PRCD</i>	AR	chr17-76540523-T-TGGGGCAGCTA c.102_111dup p.Ser38* nonsense	Hom	P	No / European, Admixed American, South Asian	Four sisters (P35) and two brothers	Count fingers 20/120	OU: Diffuse macular hypoautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: VMT, epiretinal membrana. Central macula: not detected EZ. Perifoveal macula: HRF, not detected EZ. CMT: OD= 342, OS= Unfeasible
37	F, 39	<i>PRPF8</i>	AD	Chr17-1651286-C-CA c.6674dup p.Thr2226Aspfs*32 frameshift	Het	P	Yes / NA	No	20/25 20/25	OU: Hyperautofluorescent ring in the macular region. Patchy hypoautofluorescence surrounding the arcades.	OU: Small cysts in the internal and external layers. Central macula: preserved EZ. Perifoveal macula: disorganized EZ. CMT: OD= 252, OS= 252 micra
38	M, 46	<i>PRPF31</i>	AD	chr19-54131311-TG-T c.1381delG p.Glu461Argfs*3 frameshift	Het	LP	Yes / NA	No	20/25 20/32	OU: Patchy hypoautofluorescence surrounding the fovea. Patchy hypoautofluorescence surrounding the arcades.	OU: Central macula: HRF, preserved EZ. Perifoveal macula: not detected EZ. CMT: OD= 265, OS= 266 micra
39	F, 57	<i>PRPH2</i>	AD/AR	chr6-42698437-TCA-T c.897_898del p.Ser301Argfs*90 frameshift	Het	P	Yes / NA	No	20/40 20/40	OU: NP	OU: Small cysts in the internal and external layers. Central macula: not detected EZ. Perifoveal macula: HRF, disorganized EZ. CMT: OD= 231, OS= 274 micra
40	F, 12	<i>RPE65</i> <i>RPE65</i>	AD/AR AD/AR	chr1-68449890-C-T c.11+5G>A intronic chr1-68429858-G-A c.1520C>T p.Ala507Val missense	Compound Het ¹ Compound Het ¹	P LP	No / European, African No / European	No	20/60 20/60	OU: Unfeasible	OU: Central macula: disorganized EZ. Perifoveal macula: not detected EZ. CMT: OD= 247, OS= 247 micra
41	F, 59	<i>RPE65</i> <i>RPE65</i>	AD/AR AD/AR	chr1-68444858-G-A c.271C>T p.Arg91Trp missense Chr1-68440936-C-T c.560G>A p.Gly187Glu missense	Compound Het ¹ Compound Het ¹	P LP	No / European, African, Admixed American, South Asian, Ashkenazi jewish, East Asian No / European, Admixed American	A brother	20/60 20/60	OU: NP	OU: NP
42	M, 62	<i>SDCCAG8</i> <i>SDCCAG8</i>	AR AR	chr1-243274633-G-T c.397G>T p.Glu133* nonsense chr1-243344276-AG-A c.1420delG p.Glu474Serfs*20 frameshift	Compound Het ¹ Compound Het ¹	P P	No / European, Admixed American, African No / African	No	20/60 20/800	OU: Foveal hyperautofluorescence. Patchy hypoautofluorescence surrounding the arcades.	OU: Epiretinal membrane, small cysts in the internal layers. Central macula: disorganized EZ. Perifoveal macula: HRF, not detected EZ. OD: Macular hole. CMT: OD= 281, OS= 264 micra

¹ Presumed *Populations in which the allele has been detected based on gnomAD Exomes

Legend: F: Female; M: Male, AR: Autosomal Recessive; AD: Autosomal Dominant; XL: X-Linked; Chr: Chromosome; Het: Heterozygous; Hemi: Hemizygous; Homo: Homozygous; ACMG: American College of Medical Genetics and Genomics; P: Pathogenic; LP: Likely Pathogenic; Y: Years; OD: Right Eye; OS: Left Eye; OU: Both Eyes; FAF: Fundus Autofluorescence; SD-OCT: Spectral Domain Optical Coherence Tomography; CMT: Central Macular Thickness; HRF: Hyperreflective Foci; VMT: Vitreomacular Traction. NA: Not Applicable. NP: Not Performed.