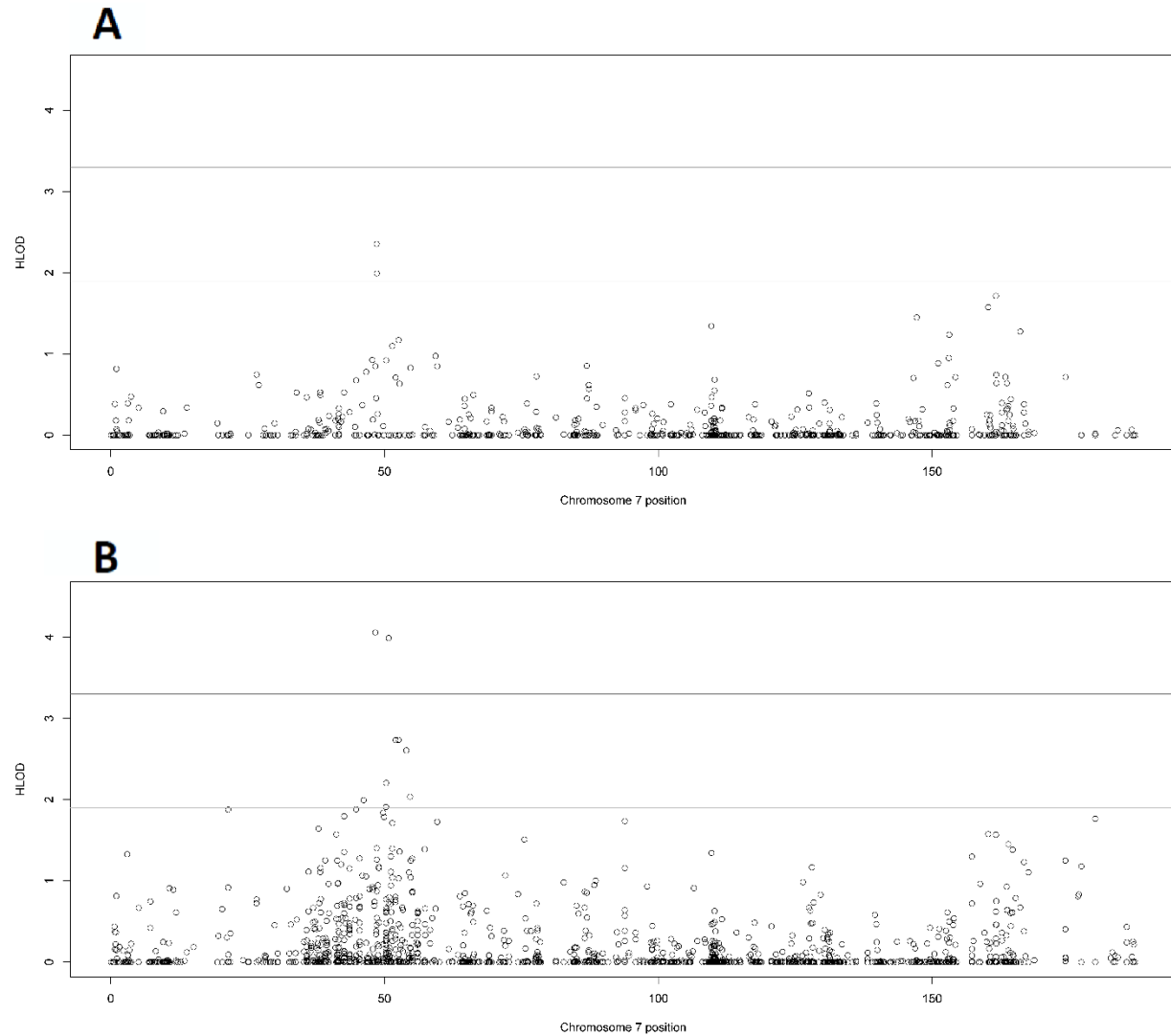


Supplementary Figure S1: Chromosome 7 HLODs scores for gene-based two-point linkage analysis.



(A) the gene-based HLOD scores using only the rare variants (MAF ≥ 0.05) and (B) the gene-based HLOD scores using all variants. The lines at 3.3 and 1.9 represent the respective significant and suggestive thresholds as suggested by Lander and Kruglyak

Supplementary Figure S2: Heat map of mean ocular expression values for significant and suggestive genes from variant-based two-point linkage analysis.

CHR	POS	HLOD	GENE	Choroid.PLIER	Ciliary_body.PLIER	Cornea.PLIER	Iris.PLIER	Lens.PLIER	Optic_nerve.PLIER	Optic_nerve_head.PLIER	Retina.PLIER	Sclera.PLIER	Trabecular_meshwork.PLIER
7	25997536	4.34	NFE2L3	23.0	4.8	7.9	31.0	17.0	12.1	18.4	19.8	10.4	7.4
7	28754095	3.01	CREB5	51.6	46.0	32.7	36.9	67.9	96.4	113.0	44.6	49.9	47.4
7	27562660	2.82	HIBADH	53.5	55.9	67.2	51.1	91.0	70.7	74.7	59.8	50.6	108.2
7	27562660	2.82	EVX1	27.3	44.5	33.6	28.4	34.9	34.0	42.4	27.1	38.0	36.4
20	23424613	2.75	CSTL1	66.8	45.2	77.5	31.0	68.8	85.4	76.8	71.4	96.6	73.3
2	41792845	2.59	SLC8A1	20.6	16.7	10.8	21.9	19.7	28.8	33.3	54.9	30.8	22.2
7	33959239	2.49	BMPER	41.3	35.9	47.6	27.2	27.6	26.8	34.6	29.4	41.9	49.9
9	117118379	2.48	AKNA	34.5	35.8	35.0	30.8	40.0	40.3	40.3	41.8	43.4	34.3
7	31877261	2.42	PDE1C	57.7	21.7	13.0	39.5	32.3	76.8	71.9	30.8	71.8	46.9
7	36438709	2.40	ANLN	8.6	11.9	34.3	7.4	8.1	374.1	377.0	8.7	7.5	9.8
7	32611392	2.35	AVL9	25.4	17.4	45.8	25.3	39.3	38.4	44.3	43.2	23.2	42.3
6	152708310	2.29	SYNE1	39.4	42.4	52.4	27.2	31.0	46.4	73.2	73.0	54.1	70.5
1	26607726	2.27	SH3BGRL3	59.4	66.7	133.1	56.6	28.2	57.2	50.8	33.5	49.4	34.5
1	26612460	2.27	UBXN11	35.9	41.1	39.0	26.1	28.2	45.9	34.1	33.5	49.4	34.5
19	53086032	2.26	ZNF701	15.9	7.7	39.0	3.3	22.1	12.5	6.8	17.3	12.6	18.1
10	5920244	2.26	ANKRD16	35.2	27.4	32.5	28.3	25.2	28.9	28.6	22.8	33.9	33.7
18	3458997	2.26	TGIF1	42.4	38.3	46.0	28.7	40.7	37.2	30.9	26.5	42.6	43.5
6	160610124	2.23	SLC22A2	22.3	33.7	22.5	23.6	22.4	30.9	35.8	28.5	22.0	24.0
6	160610124	2.23	SLC22A1	44.1	44.0	46.9	31.1	37.0	45.8	46.0	43.7	43.1	41.7
7	29647662	2.16	PRR15	66.2	97.1	76.2	46.7	51.5	66.4	71.5	70.5	65.6	64.9
7	24571485	2.15	MPP6	29.8	22.8	128.6	19.1	281.5	83.7	105.8	42.2	63.3	50.4
7	24571485	2.15	NPY	56.7	112.8	87.9	73.9	86.9	111.9	109.3	89.6	118.1	112.2
7	31178749	2.14	NEUROD6	11.3	19.4	9.4	21.7	9.3	14.6	10.4	14.3	16.6	8.2
7	31178749	2.14	ADCYAP1R1	37.5	31.2	42.2	33.3	30.8	65.0	70.0	42.9	40.8	38.6
1	1223385	2.13	SCNN1D	34.5	38.4	37.0	32.5	38.5	42.2	42.3	36.8	42.5	36.8
6	167438292	2.12	FGFR1OP	30.7	28.7	37.4	34.2	29.2	38.6	45.8	51.9	26.9	36.0
7	9266388	2.11	NXPH1	26.1	34.4	28.0	26.8	29.8	32.9	33.0	35.8	39.6	30.0
7	35423720	2.11	HERPUD2	59.7	60.6	62.2	44.5	120.8	59.5	81.8	61.6	55.3	59.5
2	73868446	2.11	NAT8	16.5	24.1	22.7	11.1	22.1	18.0	21.8	18.7	14.7	19.6
3	11400019	2.10	ATG7	34.3	27.0	37.8	24.1	30.2	34.0	46.1	35.2	40.5	49.3
7	26695215	2.08	SKAP2	64.6	35.9	29.6	28.1	69.3	43.1	64.1	36.9	75.7	40.9
9	37638744	2.05	TOMM5	245.6	306.6	107.3	272.8	300.6	86.8	94.6	80.4	112.8	210.6
9	37638744	2.05	FRMPD1	33.4	22.3	32.8	24.5	42.0	28.1	26.7	143.8	26.8	26.5
5	13769974	2.01	DNAH5	13.9	16.1	13.1	11.2	13.2	15.9	20.0	14.0	13.8	12.9
7	24311069	1.95	STK31	16.9	17.1	22.0	18.7	13.4	19.1	16.9	16.1	15.5	16.5
7	22929061	1.94	FAM126A	74.1	30.6	71.4	34.5	19.0	35.6	69.8	43.2	88.0	124.0
10	129903016	1.93	MKI67	17.2	15.4	34.4	12.1	17.6	18.0	16.3	15.0	24.4	16.6
1	36764770	1.92	THRAP3	116.1	106.7	173.0	69.5	162.7	162.6	195.9	131.7	112.2	173.5
20	36956026	1.92	BPI	23.1	22.1	24.2	21.6	23.7	26.9	26.9	23.0	25.3	22.2
7	33571828	1.91	BBS9	50.8	26.3	37.7	28.3	50.4	56.8	76.2	172.9	39.3	37.8

Genes are from the variant-based linkage analysis and were ranked by HLOD scores. The columns represent the chromosome, position, LOD and HLOD scores, gene symbol and ten eye tissues. Scale and color intensity represent PLIER values as reported in the ocular tissue database.

Supplementary Figure S3: Heat map of mean ocular expression values for significant and suggestive genes from gene-based two-point linkage analysis.

CHR	POS	HLOD	GENE	Choroid.PLIER	Ciliary_body.PLIER	Cornea.PLIER	Iris.PLIER	Lens.PLIER	Optic_nerve.PLIER	Optic_nerve_head.PLIER	Retina.PLIER	Sclera.PLIER	Trabecular_meshwork.PLIER
7	24571485	2.15	MPP6	29.8	22.8	128.6	19.1	281.5	83.7	105.8	42.2	63.3	50.4
7	24571485	2.15	NPY	56.7	112.8	87.9	73.9	86.9	111.9	109.3	89.6	118.1	112.2
7	31178749	2.14	NEUROD6	11.3	19.4	9.4	21.7	9.3	14.6	10.4	14.3	16.6	8.2
7	31178749	2.14	ADCYAP1R1	37.5	31.2	42.2	33.3	30.8	65.0	70.0	42.9	40.8	38.6
1	1223385	2.13	SCNN1D	34.5	38.4	37.0	32.5	38.5	42.2	42.3	36.8	42.5	36.8
6	167438292	2.12	FGFR1OP	30.7	28.7	37.4	34.2	29.2	38.6	45.8	51.9	26.9	36.0
7	9266388	2.11	NXPH1	26.1	34.4	28.0	26.8	29.8	32.9	33.0	35.8	39.6	30.0
7	35423720	2.11	HERPUD2	59.7	60.6	62.2	44.5	120.8	59.5	81.8	61.6	55.3	59.5
2	73868446	2.11	NAT8	16.5	24.1	22.7	11.1	22.1	18.0	21.8	18.7	14.7	19.6
3	11400019	2.10	ATG7	34.3	27.0	37.8	24.1	30.2	34.0	46.1	35.2	40.5	49.3
7	26695215	2.08	SKAP2	64.6	35.9	29.6	28.1	69.3	43.1	64.1	36.9	75.7	40.9
9	37638744	2.05	TOMM5	245.6	306.6	107.3	272.8	300.6	86.8	94.6	80.4	112.8	210.6
9	37638744	2.05	FRMPD1	33.4	22.3	32.8	24.5	42.0	28.1	26.7	143.8	26.8	26.5
5	13769974	2.01	DNAH5	13.9	16.1	13.1	11.2	13.2	15.9	20.0	14.0	13.8	12.9
7	24311069	1.95	STK31	16.9	17.1	22.0	18.7	13.4	19.1	16.9	16.1	15.5	16.5
7	22929061	1.94	FAM126A	74.1	30.6	71.4	34.5	19.0	35.6	69.8	43.2	88.0	124.0
10	129903016	1.93	MKI67	17.2	15.4	34.4	12.1	17.6	18.0	16.3	15.0	24.4	16.6
1	36764770	1.92	THRAP3	116.1	106.7	173.0	69.5	162.7	162.6	195.9	131.7	112.2	173.5
20	36956026	1.92	BPI	23.1	22.1	24.2	21.6	23.7	26.9	26.9	23.0	25.3	22.2
7	33571828	1.91	BBS9	50.8	26.3	37.7	28.3	50.4	56.8	76.2	172.9	39.3	37.8

Genes are from the gene-based linkage analysis and were ranked by HLOD scores. The columns represent the chromosome, position, LOD and HLOD scores, gene symbol and ten eye tissues. Scale and color intensity represent PLIER values as reported in the ocular tissue database.