

Table S24. Phenotypes of two selected regions including the protein-encoding genes of chitinases (*CHIs*) and ionotropic glutamate receptors (*GRIPs*).

Gene ID	Chromosome	Position	mutation type	Nucleotide change	Amino acid change	sites (S)	Sensistive		sites (R)	Resistant		$\pi$ ratio	Fst	$\pi_S$	$\pi_R$
Cil_09G_0199V2	chr09	3163608	missense_variant	c.196C>G	p.Pro66Ala	112	C:0.80 3571	G:0.196 429	60	C:0.833 333	G:0.166 667	1.12 8	- 0.007	-	-
	chr09	3164389	missense_variant	c.769G>C	p.Glu257Gln	110	G:0.74 5455	C:0.254 545	60	G:0.933 333	C:0.066 6667	3.02 6	0.1 01	-	-
	chr09	3190099	missense_variant	c.230C>T	p.Ser77Phe	112	C:0.97 3214	T:0.026 7857	60	C:0.666 667	T:0.333 333	0.11 6	0.3 27	-	-
Cil_09G_0200V2	chr09	3190114	missense_variant	c.245T>C	p.Leu82Ser	112	T:0.63 3929	C:0.366 071	58	T:0.948 276	C:0.051 7241	4.69 2	0.2 21	-	-
	chr09	3190142	missense_variant	c.273C>A	p.His91Gln	110	C:0.36 3636	A:0.636 364	60	C:0.033 3333	A:0.966 667	7.12 7	0.2 48	-	-
	chr09	3190203	missense_variant	c.334G>A	p.Gly112Ser	112	G:0.94 6429	A:0.053 5714	60	G:0.616 667	A:0.383 333	0.21 3	0.3 15	-	-
	chr09	3190363	intron_variant	c.427+67C>T		110	C:0.47 2727	T:0.527 273	60	C:0.683 333	T:0.316 667	1.14 3	0.0 80	-	-
Cil_15G_0015V2	chr15	299519	missense_variant	c.3416C>T	p.Pro113Leu	112	G:0.15 1786	A:0.848 214	60	G:0.033 3333	A:0.966 667	3.96 4	0.0 59	0.2 60	0.0 66
	chr15	299557	synonymous_variant	c.3378C>T	p.Asp1126Asp	112	G:0.29 4643	A:0.705 357	60	G:0.15	A:0.85	1.61 7	0.0 45	0.4 19	0.2 59
	chr15	299580	missense_variant	c.3355C>A	p.Pro1119Thr	112	G:0.29 4643	T:0.705 357	60	G:0.15	T:0.85	1.61 7	0.0 45	0.4 19	0.2 59

chr15	2995 90	synonymous_variant	c.3345A> G	p.Leu111 5Leu	112	T:0.67 8571	C:0.321 429	60	T:0.95	C:0.05	4.55 6	0.1 83	0.4 40	0.0 97
chr15	2997 49	missense_variant	c.3186A> T	p.Arg106 2Ser	112	T:0.88 3929	A:0.116 071	60	T:0.916 667	A:0.083 3333	1.33 3	- 0.0 07	0.2 07	0.1 55
chr15	2997 69	missense_variant	c.3166G> A	p.Val105 6Ile	112	C:0.29 4643	T:0.705 357	60	C:0.15	T:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	2997 96	missense_variant	c.3139A> G	p.Lys104 7Glu	112	T:0.88 3929	C:0.116 071	60	T:0.916 667	C:0.083 3333	1.33 3	- 0.0 07	0.2 07	0.1 55
chr15	2998 74	missense_variant	c.3061C> G	p.Gln102 1Glu	112	G:0.29 4643	C:0.705 357	60	G:0.15	C:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	2999 09	missense_variant	c.3026T> A	p.Leu100 9Gln	112	A:0.29 4643	T:0.705 357	60	A:0.15	T:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	3007 94	downstream_gene_vari ant	c.*1765A >T		112	A:0.30 3571	T:0.696 429	60	A:0.15	T:0.85	1.64 5	0.0 51	0.4 27	0.2 59
chr15	3008 42	downstream_gene_vari ant	c.*1813A >C		112	A:0.29 4643	C:0.705 357	60	A:0.15	C:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	3008 82	downstream_gene_vari ant	c.*1853C >A		112	C:0.29 4643	A:0.705 357	60	C:0.15	A:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	3009 51	downstream_gene_vari ant	c.*1922C >T		110	C:0.3	T:0.7	60	C:0.15	T:0.85	1.63 4	0.0 48	0.4 24	0.2 59
chr15	3009 93	downstream_gene_vari ant	c.*1964A >G		112	A:0.29 4643	G:0.705 357	58	A:0.155 172	G:0.844 828	1.57 2	0.0 41	0.4 19	0.2 67
chr15	3010 95	missense_variant	c.2772G> C	p.Met92 4Ile	112	C:0.30 3571	G:0.696 429	58	C:0.155 172	G:0.844 828	1.59 9	0.0 47	0.4 27	0.2 67

chr15	3011 22	missense_variant	c.2745C> G	p.His915 Gln	110	G:0.88 1818	C:0.118 182	60	G:0.916 667	C:0.083 3333	1.35 4	- 0.0 07	0.2 10	0.1 55
chr15	3021 86	synonymous_variant	c.1935A> G	p.Thr645 Thr	112	T:0.17 8571	C:0.821 429	60	T:0.066 6667	C:0.933 333	2.33 9	0.0 39	0.2 96	0.1 27
chr15	3022 34	downstream_gene_vari ant	c.*3205C >T		112	C:0.28 5714	T:0.714 286	58	C:0.155 172	T:0.844 828	1.54 4	0.0 35	0.4 12	0.2 67
chr15	3022 51	downstream_gene_vari ant	c.*3222C >A		112	C:0.28 5714	A:0.714 286	58	C:0.155 172	A:0.844 828	1.54 4	0.0 35	0.4 12	0.2 67
chr15	3023 80	downstream_gene_vari ant	c.*3351T >C		112	T:0.29 4643	C:0.705 357	60	T:0.233 333	C:0.766 667	1.15 3	- 0.0 02	0.4 19	0.3 64
chr15	3023 90	downstream_gene_vari ant	c.*3361G >C		112	G:0.17 8571	C:0.821 429	60	G:0.066 6667	C:0.933 333	2.33 9	0.0 39	0.2 96	0.1 27
chr15	3024 27	downstream_gene_vari ant	c.*3398A >G		112	A:0.29 4643	G:0.705 357	60	A:0.15	G:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	3025 18	downstream_gene_vari ant	c.*3489C >T		112	C:0.29 4643	T:0.705 357	60	C:0.15	T:0.85	1.61 7	0.0 45	0.4 19	0.2 59
chr15	3027 24	downstream_gene_vari ant	c.*3695A >C		112	A:0.91 0714	C:0.089 2857	60	A:0.966 667	C:0.033 3333	2.50 4	0.0 12	0.1 64	0.0 66
chr15	3027 36	downstream_gene_vari ant	c.*3707C >A		110	C:0.29 0909	A:0.709 091	60	C:0.15	A:0.85	1.60 6	0.0 43	0.4 16	0.2 59
chr15	3027 77	downstream_gene_vari ant	c.*3748T >G		110	T:0.14 5455	G:0.854 545	60	T:0.033 3333	G:0.966 667	3.82 8	0.0 54	0.2 51	0.0 66
chr15	3028 45	synonymous_variant	c.1878T> C	p.Val626 Val	112	A:0.13 3929	G:0.866 071	60	A:0.016 6667	G:0.983 333	7.02 2	0.0 68	0.2 34	0.0 33

Cil_15G_0016V2	chr15	3036 63	synonymous_variant	c.1146C> T	p.Thr382 Thr	112	G:0.88 3929	A:0.116 071	60	G:0.916 667	A:0.083 3333	1.33 3	- 0.0 07	0.2 07	0.1 55
	chr15	3041 46	synonymous_variant	c.663T>G	p.Ser221 Ser	112	A:0.91 9643	C:0.080 3571	60	A:0.95	C:0.05	1.54 4	- 0.0 07	0.1 49	0.0 97
	chr15	3043 23	synonymous_variant	c.486T>C	p.Tyr162 Tyr	112	A:0.29 4643	G:0.705 357	60	A:0.15	G:0.85	1.61 7	0.0 45	0.4 19	0.2 59
	chr15	3047 76	missense_variant	c.171C>A	p.Asp57 Glu	110	G:0.29 0909	T:0.709 091	60	G:0.15	T:0.85	1.60 6	0.0 43	0.4 16	0.2 59
	chr15	3048 81	synonymous_variant	c.66T>C	p.Val22 Val	112	A:0.29 4643	G:0.705 357	60	A:0.15	G:0.85	1.61 7	0.0 45	0.4 19	0.2 59
	chr15	3048 93	synonymous_variant	c.54A>G	p.Ser18S er	112	T:0.29 4643	C:0.705 357	60	T:0.15	C:0.85	1.61 7	0.0 45	0.4 19	0.2 59
	chr15	3070 17	missense_variant	c.2632G> A	p.Val878 Ile	112	C:0.30 3571	T:0.696 429	58	C:0.189 655	T:0.810 345	1.36 4	0.0 22	0.4 27	0.3 13
	chr15	3070 19	missense_variant	c.2630G> T	p.Arg877 Met	112	C:0.30 3571	A:0.696 429	58	C:0.189 655	A:0.810 345	1.36 4	0.0 22	0.4 27	0.3 13
	chr15	3073 06	synonymous_variant	c.2343C> T	p.Leu781 Leu	112	G:0.29 4643	A:0.705 357	60	G:0.183 333	A:0.816 667	1.37 7	0.0 22	0.4 19	0.3 05
	chr15	3076 32	upstream_gene_variant	c.- 2686C>T		112	G:0.62 5	A:0.375	60	G:0.283 333	A:0.716 667	1.14 5	0.1 98	0.4 73	0.4 13
chr15	3076 49	upstream_gene_variant	c.- 2703A>G		112	T:0.62 5	C:0.375	60	T:0.283 333	C:0.716 667	1.14 5	0.1 98	0.4 73	0.4 13	
chr15	3076 92	upstream_gene_variant	c.- 2746A>G		110	T:0.62 7273	C:0.372 727	60	T:0.283 333	C:0.716 667	1.14 3	0.2 00	0.4 72	0.4 13	

chr15	3077 41	upstream_gene_variant	c.- 2795A>G		112	T:0.62 5	C:0.375	60	T:0.283 333	C:0.716 667	1.14 5	0.1 98	0.4 73	0.4 13
chr15	3080 84	synonymous_variant	c.2157C> T	p.Asp71 9Asp	112	G:0.72 3214	A:0.276 786	60	G:0.583 333	A:0.416 667	0.81 7	0.0 37	0.4 04	0.4 94
chr15	3084 48	upstream_gene_variant	c.- 3502A>G		110	T:0.68 1818	C:0.318 182	60	T:0.266 667	C:0.733 333	1.10 1	0.2 82	0.4 38	0.3 98
chr15	3084 84	upstream_gene_variant	c.- 3538C>T		112	G:0.67 8571	A:0.321 429	60	G:0.266 667	A:0.733 333	1.10 7	0.2 78	0.4 40	0.3 98
chr15	3086 62	upstream_gene_variant	c.- 3716G>A		112	C:0.67 8571	T:0.321 429	60	C:0.9 T:0.1		2.40 5	0.1 17	0.4 40	0.1 83
chr15	3089 59	synonymous_variant	c.1650C> T	p.Ser550 Ser	112	G:0.41 0714	A:0.589 286	60	G:0.15 A:0.85		1.88 3	0.1 38	0.4 88	0.2 59
chr15	3092 79	missense_variant	c.1499T> C	p.Leu500 Ser	112	A:0.13 3929	G:0.866 071	60	A:0.016 6667	G:0.983 333	7.02 2	0.0 68	0.2 34	0.0 33
chr15	3093 40	missense_variant	c.1438C> A	p.Pro480 Thr	112	G:0.67 8571	T:0.321 429	60	G:0.266 667	T:0.733 333	1.10 7	0.2 78	0.4 40	0.3 98
chr15	3097 17	missense_variant	c.1061T> C	p.Ile354 Thr	112	A:0.67 8571	G:0.321 429	60	A:0.266 667	G:0.733 333	1.10 7	0.2 78	0.4 40	0.3 98
chr15	3097 29	missense_variant	c.1049T> C	p.Leu350 Ser	112	A:0.67 8571	G:0.321 429	58	A:0.275 862	G:0.724 138	1.08 3	0.2 67	0.4 40	0.4 07
chr15	3097 42	missense_variant	c.1036C> T	p.Arg346 Cys	112	G:0.67 8571	A:0.321 429	58	G:0.275 862	A:0.724 138	1.08 3	0.2 67	0.4 40	0.4 07
chr15	3098 39	synonymous_variant	c.939G>A	p.Gly313 Gly	112	C:0.68 75	T:0.312 5	60	C:0.283 333	T:0.716 667	1.05 0	0.2 70	0.4 34	0.4 13
chr15	3100 67	missense_variant	c.797C>T	p.Ser266 Phe	112	G:0.66 9643	A:0.330 357	60	G:0.266 667	A:0.733 333	1.12 2	0.2 67	0.4 46	0.3 98

Cil_15G_0017V2	chr15	310138	missense_variant	c.726A>T	p.Glu242 Asp	112	T:0.67 8571	A:0.321 429	60	T:0.95	A:0.05	4.55 6	0.1 83	0.4 40	0.0 97
	chr15	310382	missense_variant	c.482G>A	p.Gly161 Glu	112	C:0.66 9643	T:0.330 357	60	C:0.266 667	T:0.733 333	1.12 2	0.2 67	0.4 46	0.3 98
	chr15	310443	synonymous_variant	c.421C>A	p.Arg141 Arg	112	G:0.88 3929	T:0.116 071	60	G:0.9	T:0.1	1.13 1	- 0.0 12	0.2 07	0.1 83
	chr15	310669	intron_variant	c.259+34 G>A		112	C:0.67 8571	T:0.321 429	60	C:0.266 667	T:0.733 333	1.10 7	0.2 78	0.4 40	0.3 98
	chr15	310678	intron_variant	c.259+25 A>T		112	T:0.67 8571	A:0.321 429	60	T:0.916 667	A:0.083 3333	2.83 3	0.1 37	0.4 40	0.1 55
	chr15	310683	intron_variant	c.259+20 G>A		112	C:0.67 8571	T:0.321 429	60	C:0.266 667	T:0.733 333	1.10 7	0.2 78	0.4 40	0.3 98
	chr15	310802	missense_variant	c.160C>G	p.His54 Asp	112	G:0.66 9643	C:0.330 357	60	G:0.266 667	C:0.733 333	1.12 2	0.2 67	0.4 46	0.3 98
	chr15	310900	missense_variant	c.62T>C	p.Val21 Ala	112	A:0.13 3929	G:0.866 071	60	A:0.016 6667	G:0.983 333	7.02 2	0.0 68	0.2 34	0.0 33
	chr15	322495	missense_variant	c.2631G> A	p.Met87 Ile	110	C:0.83 6364	T:0.163 636	60	C:0.333 333	T:0.666 667	0.61 1	0.4 20	0.2 76	0.4 52
	chr15	322572	missense_variant	c.2554C> A	p.Gln852 Lys	112	G:0.83 9286	T:0.160 714	60	G:0.95	T:0.05	2.81 8	0.0 45	0.2 72	0.0 97
chr15	323615	splice_region_variant& intron_variant	c.1909+8 T>A		112	A:0.33 0357	T:0.669 643	60	A:0.133 333	T:0.866 667	1.89 9	0.0 88	0.4 46	0.2 35	
chr15	324197	intron_variant	c.1600- 39T>C		112	A:0.33 0357	G:0.669 643	60	A:0.15	G:0.85	1.72 2	0.0 72	0.4 46	0.2 59	

Cil_15G_0018V2	chr15	3244 70	missense_variant	c.1417G> A	p.Val473 Ile	112	C:0.84 8214	T:0.151 786	60	C:0.966 667	T:0.033 3333	3.96 4	0.0 48	0.2 60	0.0 66
	chr15	3251 37	synonymous_variant	c.750C>T	p.Tyr250 Tyr	112	G:0.16 0714	A:0.839 286	60	G:0.083 3333	A:0.916 667	1.75 2	0.0 15	0.2 72	0.1 55
	chr15	3254 97	synonymous_variant	c.390T>C	p.Pro130 Pro	112	A:0.33 0357	G:0.669 643	60	A:0.133 333	G:0.866 667	1.89 9	0.0 88	0.4 46	0.2 35
	chr15	3257 26	intron_variant	c.262+22 A>G		112	T:0.13 3929	C:0.866 071	60	T:0.05	C:0.95	2.42 3	0.0 26	0.2 34	0.0 97
	chr15	3336 18	synonymous_variant	c.2274T> C	p.Leu758 Leu	112	A:0.47 3214	G:0.526 786	60	A:0.133 333	G:0.866 667	2.14 0	0.2 14	0.5 03	0.2 35
	chr15	3338 22	intron_variant	c.2101- 31C>A		112	G:0.47 3214	T:0.526 786	60	G:0.15	T:0.85	1.94 0	0.1 93	0.5 03	0.2 59
	chr15	3339 98	intron_variant	c.2100+10 3G>A		112	C:0.37 5	T:0.625	60	C:0.083 3333	T:0.916 667	3.04 4	0.1 87	0.4 73	0.1 55
	chr15	3340 58	intron_variant	c.2100+43 T>C		112	A:0.47 3214	G:0.526 786	60	A:0.183 333	G:0.816 667	1.65 2	0.1 55	0.5 03	0.3 05
	chr15	3342 69	synonymous_variant	c.1932T> C	p.Leu644 Leu	112	A:0.85 7143	G:0.142 857	60	A:1	G:0	### #	0.1 04	0.2 47	0.0 00
	chr15	3345 20	intron_variant	c.1694- 13T>C		112	A:0.13 3929	G:0.866 071	60	A:0.05	G:0.95	2.42 3	0.0 26	0.2 34	0.0 97
	chr15	3347 70	intron_variant	c.1661+89 A>G		112	T:0.87 5	C:0.125	60	T:0.366 667	C:0.633 333	0.46 7	0.4 49	0.2 21	0.4 72
	chr15	3363 14	synonymous_variant	c.300T>C	p.Asp10 0Asp	112	A:0.91 9643	G:0.080 3571	60	A:0.966 667	G:0.033 3333	2.27 6	0.0 06	0.1 49	0.0 66
	chr15	3366 17	intron_variant	c.47- 50G>C		112	C:0.47 3214	G:0.526 786	60	C:0.133 333	G:0.866 667	2.14 0	0.2 14	0.5 03	0.2 35

Cil_15G_0 0019V2	chr15	3582 59	synonymous_variant	c.4338A> G	p.Gly144 6Gly	112	T:0.87 5	C:0.125	60	T:0.366 667	C:0.633 333	0.46 7	0.4 49	0.2 21	0.4 72
	chr15	3586 31	synonymous_variant	c.3966C> T	p.Ala132 2Ala	112	G:0.91 0714	A:0.089 2857	60	G:0.966 667	A:0.033 3333	2.50 4	0.0 12	0.1 64	0.0 66
	chr15	3588 65	intron_variant	c.3939+19 0G>A		112	C:0.87 5	T:0.125	60	C:0.366 667	T:0.633 333	0.46 7	0.4 49	0.2 21	0.4 72
	chr15	3591 19	missense_variant	c.3875T> C	p.Phe129 2Ser	110	A:0.91 8182	G:0.081 8182	60	A:0.966 667	G:0.033 3333	2.31 4	0.0 07	0.1 52	0.0 66
	chr15	3595 01	intron_variant	c.3533- 40A>G		112	T:0.83 9286	C:0.160 714	60	T:0.3	C:0.7	0.63 7	0.4 66	0.2 72	0.4 27
	chr15	3595 91	synonymous_variant	c.3522T> C	p.Phe117 4Phe	110	A:0.83 6364	G:0.163 636	60	A:0.3	G:0.7	0.64 7	0.4 61	0.2 76	0.4 27
	chr15	3599 85	synonymous_variant	c.3315C> A	p.Val110 5Val	112	G:0.91 0714	T:0.089 2857	60	G:0.966 667	T:0.033 3333	2.50 4	0.0 12	0.1 64	0.0 66
	chr15	3603 78	synonymous_variant	c.3019C> A	p.Arg100 7Arg	112	G:0.83 9286	T:0.160 714	60	G:0.316 667	T:0.683 333	0.61 8	0.4 47	0.2 72	0.4 40
	chr15	3604 19	missense_variant	c.2978A> C	p.Lys993 Thr	112	T:0.85 7143	G:0.142 857	60	T:1	G:0	### #	0.1 04	0.2 47	0.0 00
	chr15	3607 09	splice_region_variant& intron_variant	c.2779+4 G>A		112	C:0.91 9643	T:0.080 3571	60	C:1	T:0	### #	0.0 52	0.1 49	0.0 00
	chr15	3616 89	missense_variant	c.1900C> A	p.Pro634 Thr	112	G:0.85 7143	T:0.142 857	60	G:1	T:0	### #	0.1 04	0.2 47	0.0 00
	chr15	3618 17	missense_variant	c.1772T> C	p.Ile591 Thr	112	A:0.42 8571	G:0.571 429	60	A:0.1	G:0.9	2.70 0	0.2 16	0.4 94	0.1 83



chr15	3622 13	intron_variant	c.1709- 333T>G	112	A:0.36 6071	C:0.633 929	60	A:0.1	C:0.9	2.55 8	0.1 57	0.4 68	0.1 83
chr15	3622 26	intron_variant	c.1709- 346G>A	112	C:0.57 1429	T:0.428 571	60	C:0.883 333	T:0.116 667	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3624 60	intron_variant	c.1709- 580T>C	112	A:0.46 4286	G:0.535 714	60	A:0.166 667	G:0.833 333	1.77 7	0.1 70	0.5 02	0.2 82
chr15	3624 81	intron_variant	c.1709- 601G>A	112	C:0.83 9286	T:0.160 714	60	C:0.316 667	T:0.683 333	0.61 8	0.4 47	0.2 72	0.4 40
chr15	3625 25	intron_variant	c.1709- 645C>T	112	G:0.46 4286	A:0.535 714	60	G:0.183 333	A:0.816 667	1.64 8	0.1 52	0.5 02	0.3 05
chr15	3625 50	intron_variant	c.1709- 670G>T	112	C:0.85 7143	A:0.142 857	60	C:1	A:0	### #	0.1 04	0.2 47	0.0 00
chr15	3625 78	intron_variant	c.1709- 698G>A	110	C:0.6	T:0.4	60	C:0.866 667	T:0.133 333	2.06 1	0.1 49	0.4 84	0.2 35
chr15	3625 84	intron_variant	c.1709- 704A>G	112	T:0.53 5714	C:0.464 286	60	T:0.833 333	C:0.166 667	1.77 7	0.1 70	0.5 02	0.2 82
chr15	3627 81	intron_variant	c.1709- 901A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3629 39	intron_variant	c.1709-1059A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3630 42	intron_variant	c.1708+1098A>C	112	T:0.86 6071	G:0.133 929	60	T:0.95	G:0.05	2.42 3	0.0 26	0.2 34	0.0 97
chr15	3632 44	intron_variant	c.1708+89 6T>C	112	A:0.42 8571	G:0.571 429	60	A:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10

chr15	3632 65	intron_variant	c.1708+87 5A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3638 91	intron_variant	c.1708+24 9G>A	110	C:0.88 1818	T:0.118 182	60	C:0.366 667	T:0.633 333	0.44 5	0.4 60	0.2 10	0.4 72
chr15	3639 19	intron_variant	c.1708+22 1C>G	112	G:0.87 5	C:0.125	60	G:0.383 333	C:0.616 667	0.45 9	0.4 30	0.2 21	0.4 81
chr15	3639 60	intron_variant	c.1708+18 0T>C	112	A:0.76 7857	G:0.232 143	60	A:0.966 667	G:0.033 3333	5.48 9	0.1 26	0.3 60	0.0 66
chr15	3639 61	intron_variant	c.1708+17 9T>C	112	A:0.42 8571	G:0.571 429	60	A:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3641 22	intron_variant	c.1708+18 G>T	112	C:0.46 4286	A:0.535 714	60	C:0.166 667	A:0.833 333	1.77 7	0.1 70	0.5 02	0.2 82
chr15	3644 56	intron_variant	c.1592- 200C>T	112	G:0.57 1429	A:0.428 571	60	G:0.883 333	A:0.116 667	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3644 86	intron_variant	c.1592- 230T>C	112	A:0.42 8571	G:0.571 429	58	A:0.086 2069	G:0.913 793	3.08 3	0.2 34	0.4 94	0.1 60
chr15	3646 07	intron_variant	c.1592- 351A>G	112	T:0.36 6071	C:0.633 929	60	T:0.1 667	C:0.9 333	2.55 8	0.1 57	0.4 68	0.1 83
chr15	3646 13	intron_variant	c.1592- 357A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3646 73	intron_variant	c.1592- 417A>G	112	T:0.36 6071	C:0.633 929	60	T:0.1 667	C:0.9 333	2.55 8	0.1 57	0.4 68	0.1 83
chr15	3647 31	intron_variant	c.1592- 475A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10

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chr15	3648 29	intron_variant	c.1591+50 8T>C	112	A:0.46 4286	G:0.535 714	60	A:0.15	G:0.85	1.93 6	0.1 90	0.5 02	0.2 59	
chr15	3648 37	intron_variant	c.1591+50 0A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10	
chr15	3648 59	intron_variant	c.1591+47 8T>G	112	A:0.86 6071	C:0.133 929	60	A:0.95	C:0.05	2.42 3	0.0 26	0.2 34	0.0 97	
chr15	3648 82	intron_variant	c.1591+45 5C>T	112	G:0.31 25	A:0.687 5	60	G:0.033 3333	A:0.966 667	6.61 6	0.1 99	0.4 34	0.0 66	
chr15	3649 92	intron_variant	c.1591+34 5G>A	112	C:0.5	T:0.5	60	C:0.366 667	T:0.633 333	1.06 8	0.0 33	0.5 05	0.4 72	
chr15	3650 48	intron_variant	c.1591+28 9G>A	110	C:0.64 5455	T:0.354 545	60	C:0.9	T:0.1	2.52 3	0.1 47	0.4 62	0.1 83	
chr15	3651 81	intron_variant	c.1591+15 6T>C	112	A:0.42 8571	G:0.571 429	60	A:0.133 333	G:0.866 667	2.10 3	0.1 75	0.4 94	0.2 35	
chr15	3652 69	intron_variant	c.1591+68 C>T	112	G:0.83 9286	A:0.160 714	60	G:0.333 333	A:0.666 667	0.60 2	0.4 28	0.2 72	0.4 52	
chr15	3652 74	intron_variant	c.1591+63 G>A	112	C:0.46 4286	T:0.535 714	60	C:0.2	T:0.8	1.54 2	0.1 34	0.5 02	0.3 25	
chr15	3652 79	intron_variant	c.1591+58 G>A	112	C:0.57 1429	T:0.428 571	60	C:0.883 333	T:0.116 667	2.35 8	0.1 95	0.4 94	0.2 10	
chr15	3653 19	intron_variant	c.1591+18 G>A	112	C:0.46 4286	T:0.535 714	60	C:0.166 667	T:0.833 333	1.77 7	0.1 70	0.5 02	0.2 82	
chr15	3654 59	missense_variant	c.1469C> T	p.Pro490 Leu	112	G:0.42 8571	A:0.571 429	60	G:0.116 667	A:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10

chr15	3655 00	synonymous_variant	c.1428T> C	p.Asn47 6Asn	112	A:0.41 0714	G:0.589 286	60	A:0.15	G:0.85	1.88 3	0.1 39	0.4 88	0.2 59
chr15	3655 76	intron_variant	c.1376- 24T>C		112	A:0.42 8571	G:0.571 429	60	A:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3656 22	intron_variant	c.1375+23 T>C		112	A:0.56 25	G:0.437 5	60	A:0.133 333	G:0.866 667	2.11 3	0.3 07	0.4 97	0.2 35
chr15	3663 19	intron_variant	c.1250- 45A>C		110	T:0.85 4545	G:0.145 455	60	T:0.45	G:0.55	0.49 8	0.3 19	0.2 51	0.5 03
chr15	3668 55	intron_variant	c.1114- 57A>G		112	T:0.42 8571	C:0.571 429	60	T:0.1	C:0.9	2.70 0	0.2 17	0.4 94	0.1 83
chr15	3668 57	intron_variant	c.1114- 59C>T		112	G:0.47 3214	A:0.526 786	60	G:0.25	A:0.75	1.31 9	0.0 95	0.5 03	0.3 81
chr15	3669 40	stop_gained	c.1090C> T	p.Gln364 *	112	G:0.42 8571	A:0.571 429	60	G:0.116 667	A:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3669 60	splice_region_variant& intron_variant	c.1075- 5A>G		112	T:0.42 8571	C:0.571 429	60	T:0.1	C:0.9	2.70 0	0.2 16	0.4 94	0.1 83
chr15	3669 88	intron_variant	c.1075- 33C>T		112	G:0.91 0714	A:0.089 2857	60	G:0.966 667	A:0.033 3333	2.50 4	0.0 12	0.1 64	0.0 66
chr15	3670 70	intron_variant	c.1075- 115G>A		112	C:0.46 4286	T:0.535 714	60	C:0.166 667	T:0.833 333	1.77 7	0.1 70	0.5 02	0.2 82
chr15	3671 26	intron_variant	c.1075- 171A>G		112	T:0.53 5714	C:0.464 286	58	T:0.827 586	C:0.172 414	1.72 9	0.1 63	0.5 02	0.2 90
chr15	3672 79	intron_variant	c.1075- 324T>C		112	A:0.46 4286	G:0.535 714	58	A:0.189 655	G:0.810 345	1.60 5	0.1 45	0.5 02	0.3 13

chr15	3673 07	intron_variant	c.1075- 352A>G	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3675 55	intron_variant	c.1075- 600G>C	112	C:0.86 6071	G:0.133 929	60	C:0.95	G:0.05	2.42 3	0.0 26	0.2 34	0.0 97
chr15	3676 12	intron_variant	c.1075- 657A>T	112	T:0.86 6071	A:0.133 929	60	T:0.983 333	A:0.016 6667	7.02 2	0.0 68	0.2 34	0.0 33
chr15	3676 97	intron_variant	c.1075- 742C>T	112	G:0.76 7857	A:0.232 143	60	G:0.966 667	A:0.033 3333	5.48 9	0.1 26	0.3 60	0.0 66
chr15	3677 15	intron_variant	c.1075- 760G>A	112	C:0.76 7857	T:0.232 143	60	C:0.966 667	T:0.033 3333	5.48 9	0.1 26	0.3 60	0.0 66
chr15	3680 16	intron_variant	c.1075-1061G>T	110	C:0.95 4545	A:0.045 4545	60	C:1	A:0	### #	0.0 23	0.0 88	0.0 00
chr15	3680 28	intron_variant	c.1075-1073T>C	110	A:0.95 4545	G:0.045 4545	60	A:1	G:0	### #	0.0 23	0.0 88	0.0 00
chr15	3680 42	intron_variant	c.1075-1087A>G	112	T:0.31 25	C:0.687 5	60	T:0.05	C:0.95	4.48 8	0.1 74	0.4 34	0.0 97
chr15	3680 44	intron_variant	c.1075-1089C>T	112	G:0.85 7143	A:0.142 857	60	G:1	A:0	### #	0.1 04	0.2 47	0.0 00
chr15	3681 17	intron_variant	c.1074+1118A>G	112	T:0.42 8571	C:0.571 429	58	T:0.086 2069	C:0.913 793	3.08 3	0.2 34	0.4 94	0.1 60
chr15	3682 81	intron_variant	c.1074+95 4C>A	112	G:0.85 7143	T:0.142 857	60	G:1	T:0	### #	0.1 04	0.2 47	0.0 00
chr15	3684 79	intron_variant	c.1074+75 6C>A	112	G:0.93 75	T:0.062 5	60	G:1	T:0	### #	0.0 37	0.1 18	0.0 00

chr15	3684 92	intron_variant	c.1074+74 3T>C	112	A:0.42 8571	G:0.571 429	58	A:0.103 448	G:0.896 552	2.61 8	0.2 11	0.4 94	0.1 89	
chr15	3686 05	intron_variant	c.1074+63 0G>C	112	C:0.85 7143	G:0.142 857	60	C:1	G:0	### #	0.1 04	0.2 47	0.0 00	
chr15	3686 34	intron_variant	c.1074+60 1A>G	112	T:0.57 1429	C:0.428 571	60	T:0.883 333	C:0.116 667	2.35 8	0.1 95	0.4 94	0.2 10	
chr15	3688 10	intron_variant	c.1074+42 5T>C	112	A:0.53 5714	G:0.464 286	60	A:0.833 333	G:0.166 667	1.77 7	0.1 70	0.5 02	0.2 82	
chr15	3696 05	intron_variant	c.924+29 G>A	112	C:0.91 0714	T:0.089 2857	60	C:0.966 667	T:0.033 3333	2.50 4	0.0 12	0.1 64	0.0 66	
chr15	3698 63	missense_variant	c.829G>A	p.Gly277 Ser	112	C:0.83 9286	T:0.160 714	60	C:0.3	T:0.7	0.63 7	0.4 66	0.2 72	0.4 27
chr15	3700 07	missense_variant	c.685T>A	p.Cys229 Ser	112	A:0.94 6429	T:0.053 5714	60	A:1	T:0	### #	0.0 30	0.1 02	0.0 00
chr15	3700 15	missense_variant	c.677G>A	p.Cys226 Tyr	112	C:0.94 6429	T:0.053 5714	60	C:1	T:0	### #	0.0 30	0.1 02	0.0 00
chr15	3700 32	synonymous_variant	c.660A>G	p.Leu220 Leu	112	T:0.94 6429	C:0.053 5714	60	T:1	C:0	### #	0.0 30	0.1 02	0.0 00
chr15	3700 53	intron_variant	c.654- 15A>T		112	T:0.93 75	A:0.062 5	60	T:1	A:0	### #	0.0 37	0.1 18	0.0 00
chr15	3700 57	intron_variant	c.654- 19G>A		112	C:0.93 75	T:0.062 5	60	C:1	T:0	### #	0.0 37	0.1 18	0.0 00
chr15	3700 62	intron_variant	c.654- 24G>T		112	C:0.96 4286	A:0.035 7143	60	C:1	A:0	### #	0.0 15	0.0 69	0.0 00

chr15	3700 98	intron_variant	c.654- 60G>C	110	C:0.94 5455	G:0.054 5455	60	C:1	G:0	### #	0.0 31	0.1 04	0.0 00
chr15	3701 40	intron_variant	c.654- 102A>G	110	T:0.94 5455	C:0.054 5455	60	T:1	C:0	### #	0.0 31	0.1 04	0.0 00
chr15	3701 42	intron_variant	c.654- 104C>T	112	G:0.94 6429	A:0.053 5714	60	G:1	A:0	### #	0.0 30	0.1 02	0.0 00
chr15	3702 03	intron_variant	c.654- 165T>A	112	A:0.93 75	T:0.062 5	60	A:1	T:0	### #	0.0 37	0.1 18	0.0 00
chr15	3702 08	intron_variant	c.654- 170C>T	112	G:0.93 75	A:0.062 5	60	G:1	A:0	### #	0.0 37	0.1 18	0.0 00
chr15	3702 23	intron_variant	c.654- 185C>T	112	G:0.90 1786	A:0.098 2143	60	G:0.966 667	A:0.033 3333	2.72 7	0.0 18	0.1 79	0.0 66
chr15	3702 27	intron_variant	c.654- 189A>C	112	T:0.42 8571	G:0.571 429	60	T:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3702 50	intron_variant	c.654- 212T>C	112	A:0.93 75	G:0.062 5	60	A:1	G:0	### #	0.0 37	0.1 18	0.0 00
chr15	3702 65	intron_variant	c.654- 227A>G	112	T:0.93 75	C:0.062 5	60	T:1	C:0	### #	0.0 37	0.1 18	0.0 00
chr15	3702 66	intron_variant	c.654- 228G>A	112	C:0.93 75	T:0.062 5	60	C:1	T:0	### #	0.0 37	0.1 18	0.0 00
chr15	3703 52	intron_variant	c.654- 314C>T	112	G:0.85 7143	A:0.142 857	60	G:1	A:0	### #	0.1 04	0.2 47	0.0 00
chr15	3704 90	intron_variant	c.654- 452G>A	112	C:0.83 0357	T:0.169 643	60	C:0.3	T:0.7	0.66 6	0.4 52	0.2 84	0.4 27

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chr15	3708 77	intron_variant	c.653+73 C>T		110	G:0.46 3636	A:0.536 364	60	G:0.183 333	A:0.816 667	1.64 8	0.1 51	0.5 02	0.3 05
chr15	3709 12	intron_variant	c.653+38 T>C		112	A:0.42 8571	G:0.571 429	60	A:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3709 82	synonymous_variant	c.621A>G	p.Arg207 Arg	112	T:0.42 8571	C:0.571 429	60	T:0.116 667	C:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3710 01	missense_variant	c.602C>T	p.Ala201 Val	112	G:0.46 4286	A:0.535 714	60	G:0.15	A:0.85	1.93 6	0.1 90	0.5 02	0.2 59
chr15	3710 23	missense_variant	c.580A>C	p.Asn19 4His	112	T:0.42 8571	G:0.571 429	60	T:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3710 37	missense_variant	c.566C>A	p.Pro189 Gln	112	G:0.62 5	T:0.375	60	G:0.883 333	T:0.116 667	2.25 6	0.1 45	0.4 73	0.2 10
chr15	3710 58	splice_region_variant& intron_variant	c.553- 8C>T		112	G:0.96 4286	A:0.035 7143	60	G:0.966 667	A:0.033 3333	1.06 0	- 13	0.0 69	0.0 66
chr15	3714 96	intron_variant	c.366+57 T>C		112	A:0.45 5357	G:0.544 643	60	A:0.25	G:0.75	1.31 2	0.0 81	0.5 00	0.3 81
chr15	3715 37	intron_variant	c.366+16 T>C		112	A:0.42 8571	G:0.571 429	60	A:0.116 667	G:0.883 333	2.35 8	0.1 95	0.4 94	0.2 10
chr15	3715 77	synonymous_variant	c.342G>A	p.Leu114 Leu	112	C:0.46 4286	T:0.535 714	60	C:0.166 667	T:0.833 333	1.77 7	0.1 70	0.5 02	0.2 82