

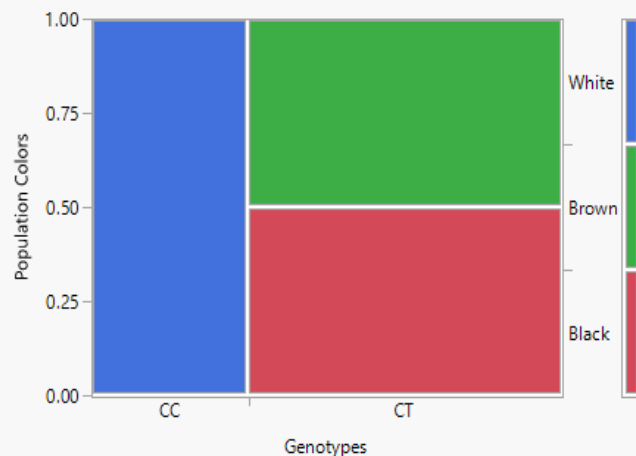
Supplementary Figure S2: Contingency analysis output files in JMP program for the sequence variants analyzed in this study. Each output file comprises a **Mosaic Plot**, a **Contingency Table**, and **Statistics Tests**; **N** - the total number of observations; **DF** - records the degrees of freedom associated with the test; **-LogLike** - negative log-likelihood; **Rsquare (U)** - shows portion of the total uncertainty attributed to the model fit. **ChiSquare** – two chi-square statistical tests; **Prob>ChiSq** - lists the probability of obtaining, by chance alone, a Chi-square value greater than the one computed if no relationship exists between phenotype and genotype.

MC1R Promotor

g.535236C>T

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

Population Colors					
Count	Black	Brown	White	Total	
Total %					
Col %					
Row %					
Genotypes	CC	0	0	4	4
		0.00	0.00	33.33	33.33
		0.00	0.00	100.00	
		0.00	0.00	100.00	
Genotypes	CT	4	4	0	8
		33.33	33.33	0.00	66.67
		100.00	100.00	0.00	
		50.00	50.00	0.00	
Total		4	4	4	12
		33.33	33.33	33.33	

Tests

N	DF	-LogLike	RSquare (U)
12	2	7.6381700	0.5794

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	15.276	0.0005*
Pearson	12.000	0.0025*

Warning: 20% of cells have expected count less than 5, ChiSquare suspect.

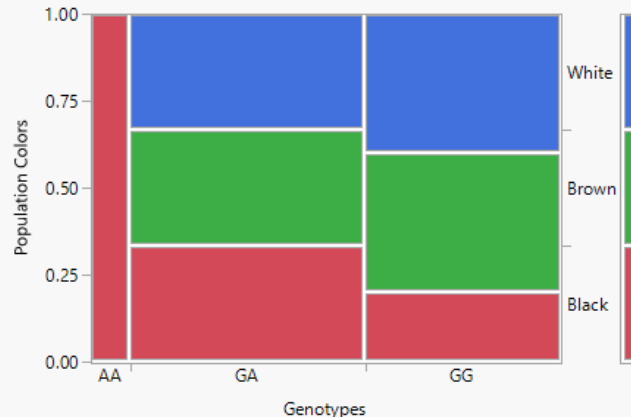
Warning: Average cell count less than 5, LR ChiSquare suspect.

MC1R Promotor

g.536482G>A

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

Population Colors					
Count	Black	Brown	White	Total	
Total %					
Col %					
Row %					
Genotypes	AA	1	0	0	1
		8.33	0.00	0.00	8.33
		25.00	0.00	0.00	
		100.00	0.00	0.00	
	GA	2	2	2	6
		16.67	16.67	16.67	50.00
		50.00	50.00	50.00	
		33.33	33.33	33.33	
	GG	1	2	2	5
		8.33	16.67	16.67	41.67
		25.00	50.00	50.00	
		20.00	40.00	40.00	
Total	4	4	4	12	
	33.33	33.33	33.33		

Tests

N	DF	-LogLike	RSquare (U)
12	4	1.3170729	0.0999

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	2.634	0.6208
Pearson	2.400	0.6626

Warning: 20% of cells have expected count less than 5, ChiSquare suspect.

Warning: Average cell count less than 5, LR ChiSquare suspect.

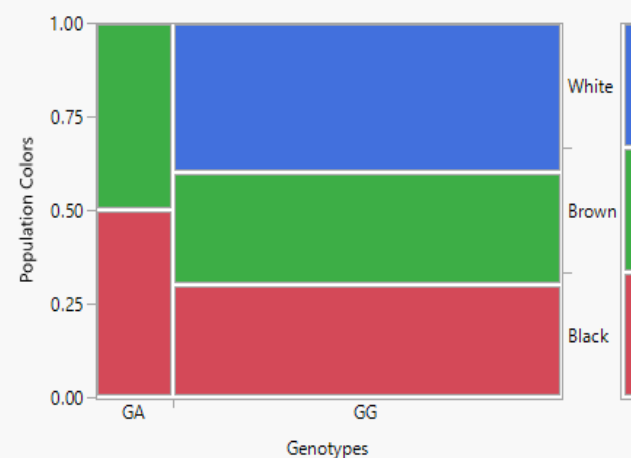
MC1R Promotor & 5' UTR

g.536623G>A; g.537027G>A; g.537028A>T

3 Variants have identical P-values

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

Population Colors					
Count	Black	Brown	White	Total	
Total %					
Col %					
Row %					
Genotypes	GA	1	1	0	
		8.33	8.33	0.00	16.67
		25.00	25.00	0.00	
		50.00	50.00	0.00	
	GG	3	3	4	1
		25.00	25.00	33.33	83.33
		75.00	75.00	100.00	
		30.00	30.00	40.00	
	Total	4	4	4	1
		33.33	33.33	33.33	

Tests

N	DF	-LogLike	RSquare (U)
12	2	0.90805335	0.0689

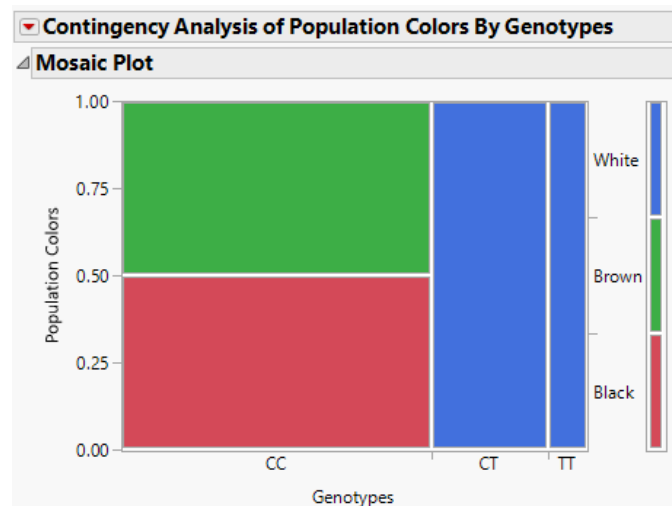
Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	1.816	0.4033
Pearson	1.200	0.5488

Warning: 20% of cells have expected count less than 5, ChiSquare suspect.

Warning: Average cell count less than 5, LR ChiSquare suspect.

MC1R Exon

c.901C>T



Contingency Table

	Population Colors			
	Count	Black	Brown	White
	Total %			
	Col %			
	Row %			
Genotypes	CC	4	4	0
		33.33	33.33	0.00
		100.00	100.00	0.00
		50.00	50.00	0.00
CT		0	0	3
		0.00	0.00	25.00
		0.00	0.00	75.00
		0.00	0.00	100.00
TT		0	0	1
		0.00	0.00	8.33
		0.00	0.00	25.00
		0.00	0.00	100.00
Total		4	4	4
		33.33	33.33	33.33

Tests

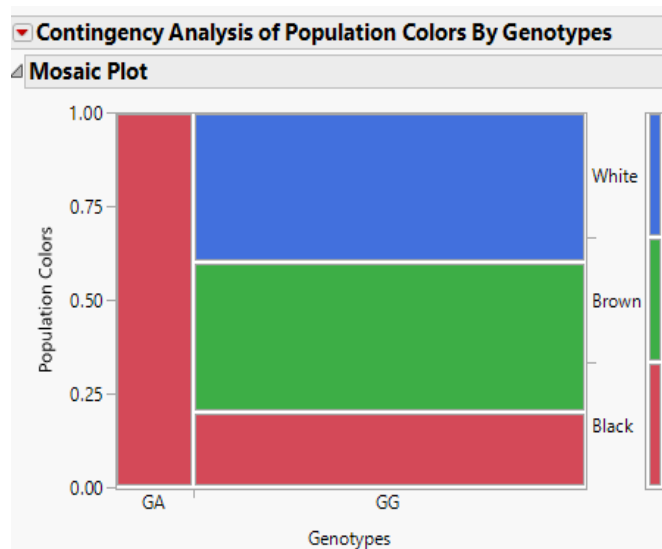
N	DF	-LogLike	RSquare (U)
12	4	7.6381700	0.5794

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	15.276	0.0042*
Pearson	12.000	0.0174*

Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

MC1R 3' UTR

g.538058G>A



Contingency Table

	Population Colors			
	Count	Black	Brown	White
	Total %			
	Col %			
	Row %			
Genotypes	GA	2	0	0
		16.67	0.00	0.00
		50.00	0.00	0.00
		100.00	0.00	0.00
GG		2	4	4
		16.67	33.33	33.33
		50.00	100.00	100.00
		20.00	40.00	40.00
Total		4	4	4
		33.33	33.33	33.33

Tests

N	DF	-LogLike	RSquare (U)
12	2	2.6341458	0.1998

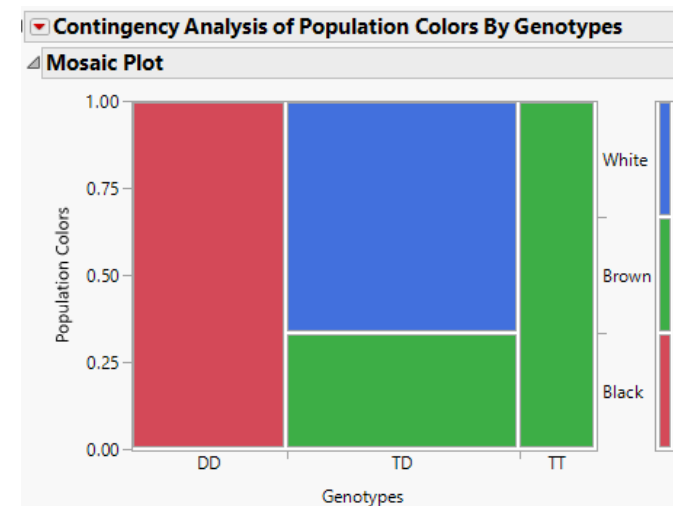
Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	5.268	0.0718
Pearson	4.800	0.0907

Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

ASIP Exon 2

c.23T_del; c.25A>G

*2 Variants have identical P-values



Contingency Table

	Population Colors			
	Count	Black	Brown	White
	Total %			
	Col %			
	Row %			
Genotypes	DD	4	0	0
		33.33	0.00	0.00
		100.00	0.00	0.00
		100.00	0.00	0.00
TD		0	2	4
		0.00	16.67	33.33
		0.00	50.00	100.00
		0.00	33.33	66.67
TT		0	2	0
		0.00	16.67	0.00
		0.00	50.00	0.00
		0.00	100.00	0.00
Total		4	4	4
		33.33	33.33	33.33

Tests

N	DF	-LogLike	RSquare (U)
12	4	9.3642625	0.7103

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	18.729	0.0009*
Pearson	16.000	0.0030*

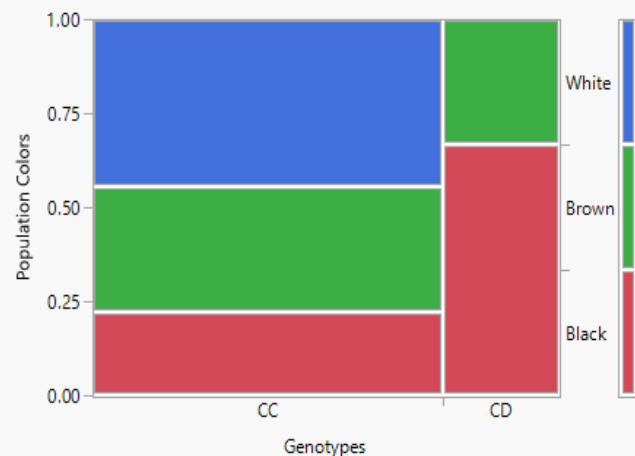
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

ASIP Exon 4

g.178388C_del

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
Genotypes	Count	Black	Brown	White	Total
	Total %				
	Col %				
	Row %				
CC	2	3	4	9	
	16.67	25.00	33.33	75.00	
	50.00	75.00	100.00		
	22.22	33.33	44.44		
CD	2	1	0	3	
	16.67	8.33	0.00	25.00	
	50.00	25.00	0.00		
	66.67	33.33	0.00		
Total	4	4	4	12	
	33.33	33.33	33.33		

Tests

N	DF	-LogLike	RSquare (U)
12	2	1.7260924	0.1309

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	3.452	0.1780
Pearson	2.667	0.2636

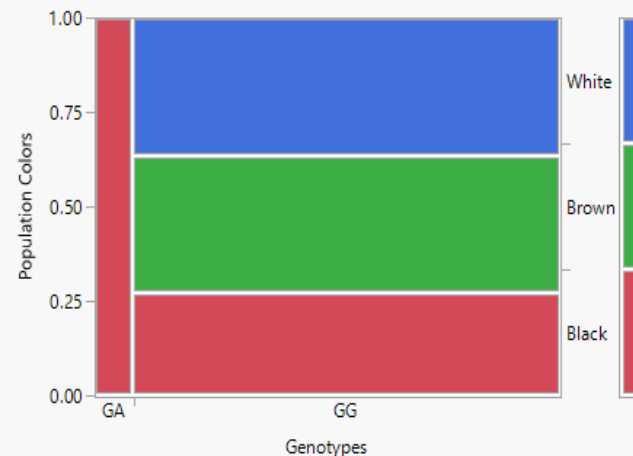
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 Intron 1

g.6544484G>A

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
	Count	Black	Brown	White	Total
Genotypes	Total %				
	Col %				
	Row %				
	GA	1	0	0	1
	8.33	0.00	0.00	8.33	
	25.00	0.00	0.00		
	100.00	0.00	0.00		
	GG	3	4	4	11
	25.00	33.33	33.33	91.67	
	75.00	100.00	100.00		
27.27	36.36	36.36			
Total	4	4	4	12	
	33.33	33.33	33.33		

Tests

N	DF	-LogLike	RSquare (U)
12	2	1.1926912	0.0905

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	2.385	0.3034
Pearson	2.182	0.3359

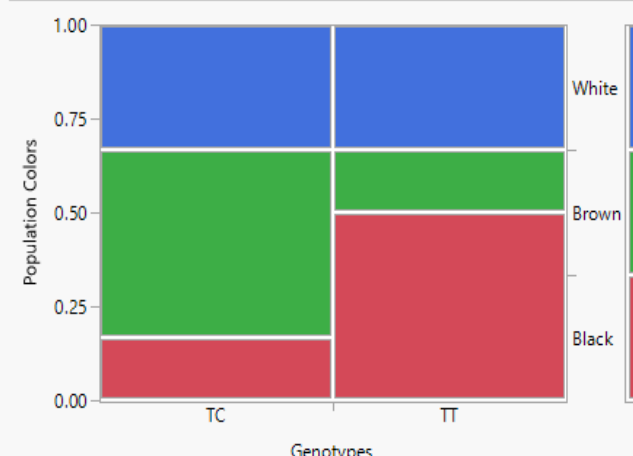
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 Intron 2

g.6544049T>C

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
Genotypes	Count	Black	Brown	White	Total
	Total %				
	Col %				
	Row %				
TC	1	3	2		
	8.33	25.00	16.67	50.00	
	25.00	75.00	50.00		
	16.67	50.00	33.33		
TT	3	1	2		
	25.00	8.33	16.67	50.00	
	75.00	25.00	50.00		
	50.00	16.67	33.33		
Total	4	4	4	1	
	33.33	33.33	33.33		

Tests

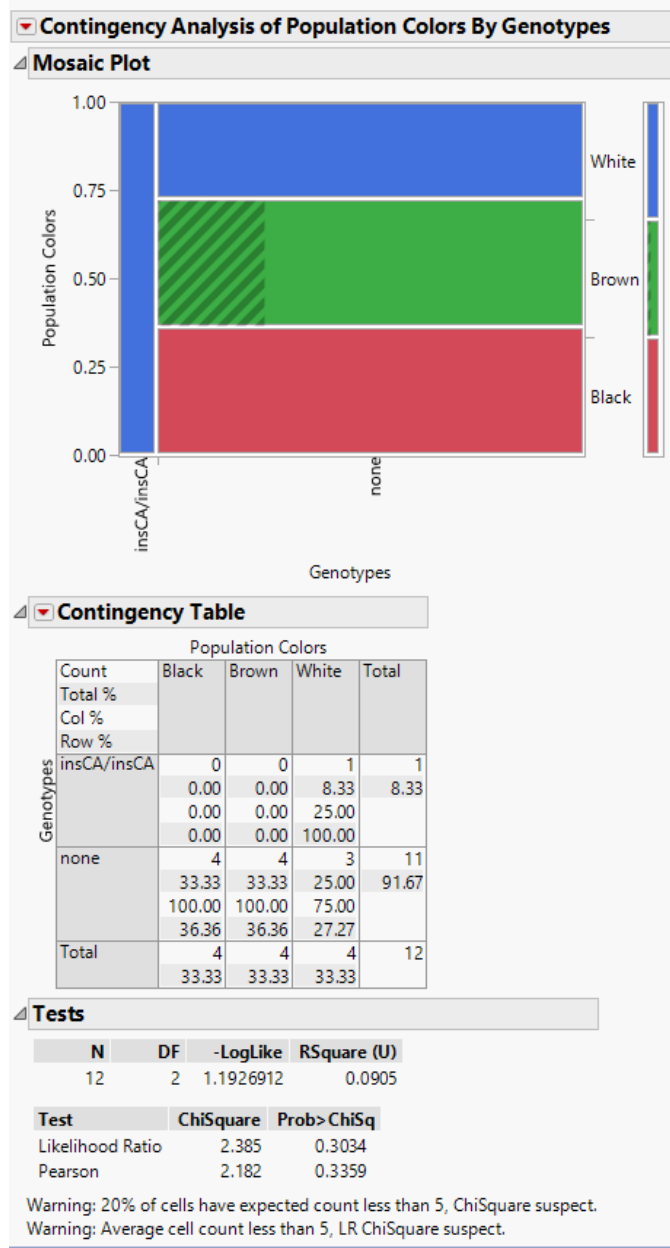
N	DF	-LogLike	RSquare (U)
12	2	1.0464963	0.0794

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	2.093	0.3512
Pearson	2.000	0.3679

Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

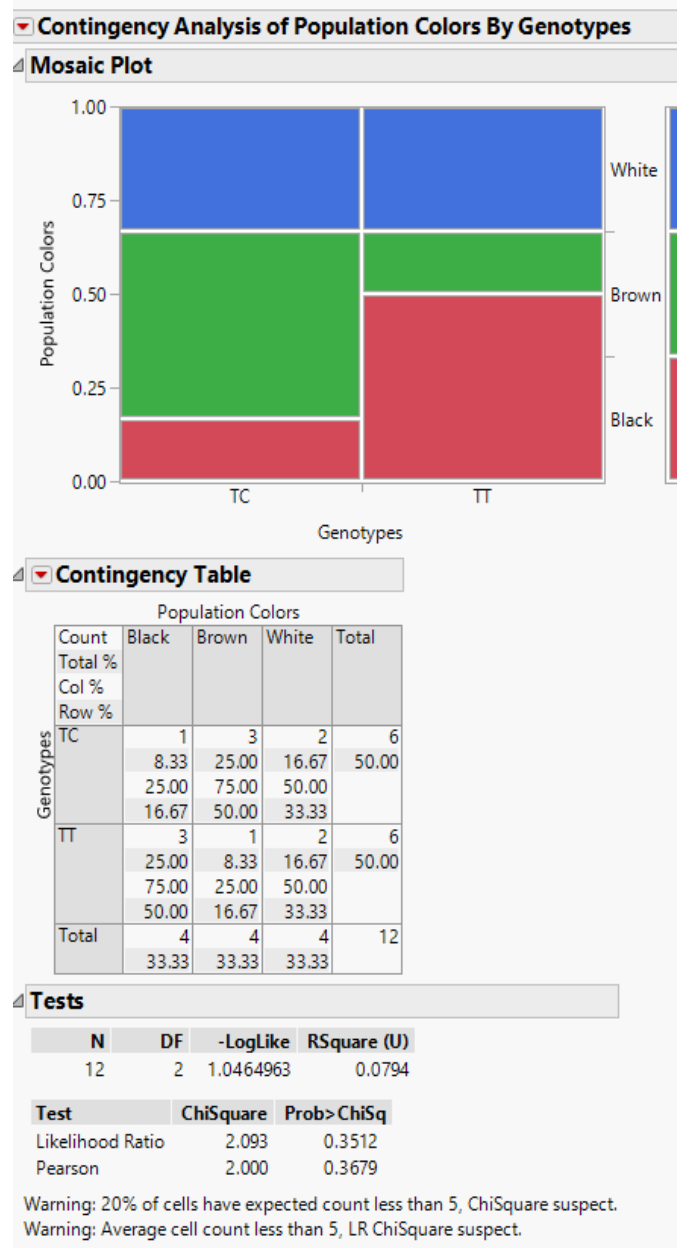
TYRP1 Intron 3

g.65372260_g.65372261insCA



TYRP1 Intron 4

g.6537183T>C



TYRP1 3'UTR

g.6529345A>T

