

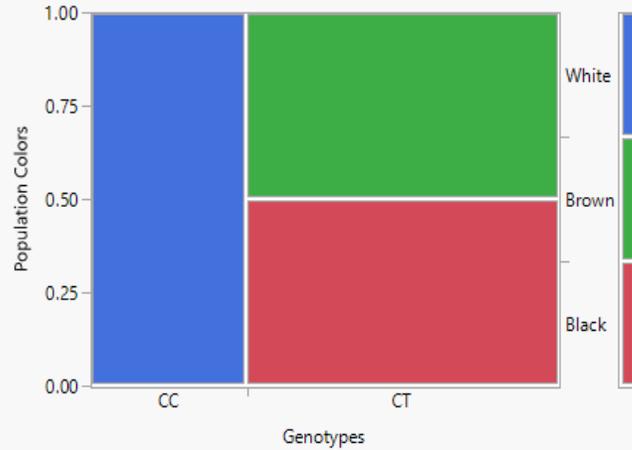
Supplementary Figure S2: Contingency analysis output files in JMP program for the sequence variants analyzed in this study. Each output file comprises a **Mosaic Plot**, a **Contingency Table**, and **Statistics Tests**; **N** - the total number of observations; **DF** - records the degrees of freedom 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			
		Black	Brown	White	Total
Genotypes	Count				
	Total %				
CC	Col %	0	0	4	4
	Row %	0.00	0.00	33.33	33.33
CT	Col %	4	4	0	8
	Row %	33.33	33.33	0.00	66.67
Total	Col %	50.00	50.00	0.00	100.00
	Row %	33.33	33.33	33.33	100.00

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*

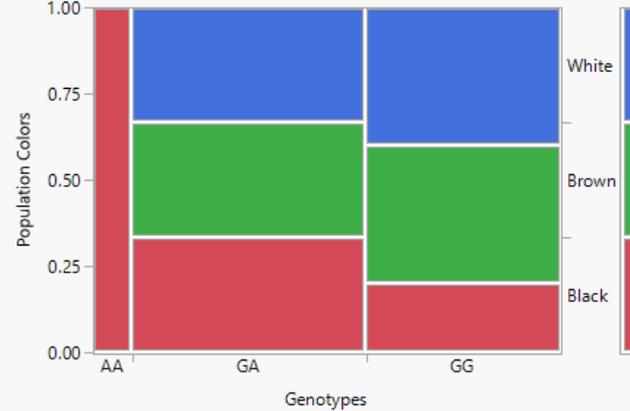
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

MC1R Promotor

g.536482G>A

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

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

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

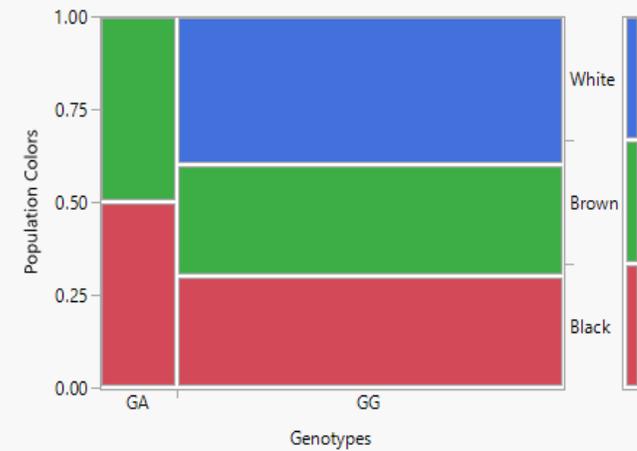
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

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			
		Black	Brown	White	Total
Genotypes	Count				
	Total %				
GA	Col %	1	1	0	2
	Row %	8.33	8.33	0.00	16.67
GG	Col %	3	3	4	10
	Row %	25.00	25.00	33.33	83.33
Total	Col %	30.00	30.00	40.00	100.00
	Row %	33.33	33.33	33.33	100.00

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

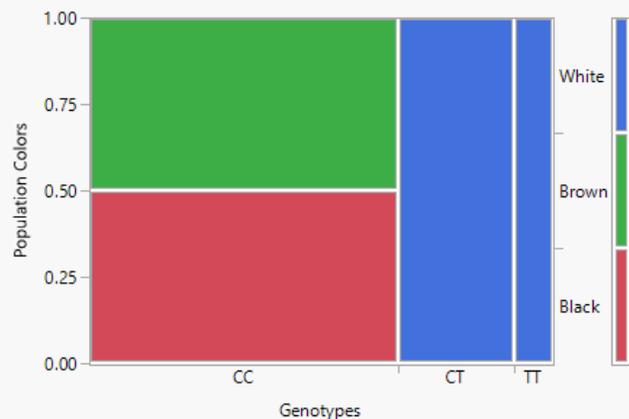
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

MC1R Exon

c.901C>T

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Count					
Total %					
Col %					
Row %					
Genotypes	CC	4	4	0	8
		33.33	33.33	0.00	66.67
		100.00	100.00	0.00	
		50.00	50.00	0.00	
CT		0	0	3	3
		0.00	0.00	25.00	25.00
		0.00	0.00	75.00	
		0.00	0.00	100.00	
TT		0	0	1	1
		0.00	0.00	8.33	8.33
		0.00	0.00	25.00	
		0.00	0.00	100.00	
Total		4	4	4	12
		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*

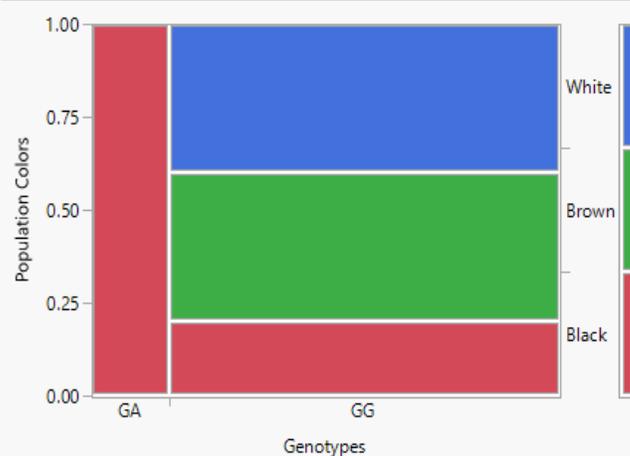
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

MC1R 3' UTR

g.538058G>A

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Count					
Total %					
Col %					
Row %					
Genotypes	GA	2	0	0	2
		16.67	0.00	0.00	16.67
		50.00	0.00	0.00	
		100.00	0.00	0.00	
GG		2	4	4	10
		16.67	33.33	33.33	83.33
		50.00	100.00	100.00	
		20.00	40.00	40.00	
Total		4	4	4	12
		33.33	33.33	33.33	

Tests

N	DF	-LogLike	RSquare (U)
12	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.

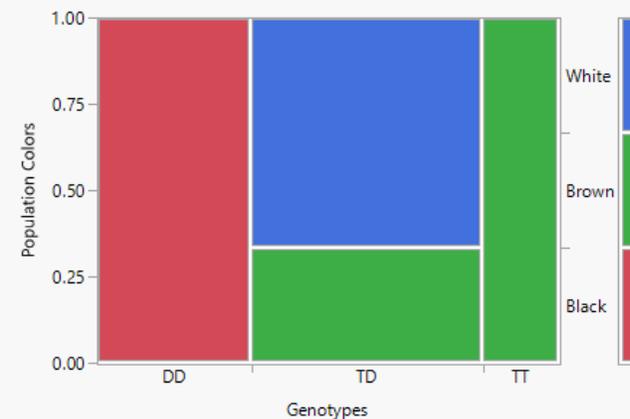
ASIP Exon 2

c.23T_del; c.25A>G

*2 Variants have identical P-values

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Count					
Total %					
Col %					
Row %					
Genotypes	DD	4	0	0	4
		33.33	0.00	0.00	33.33
		100.00	0.00	0.00	
		100.00	0.00	0.00	
TD		0	2	4	6
		0.00	16.67	33.33	50.00
		0.00	50.00	100.00	
		0.00	33.33	66.67	
TT		0	2	0	2
		0.00	16.67	0.00	16.67
		0.00	50.00	0.00	
		0.00	100.00	0.00	
Total		4	4	4	12
		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*

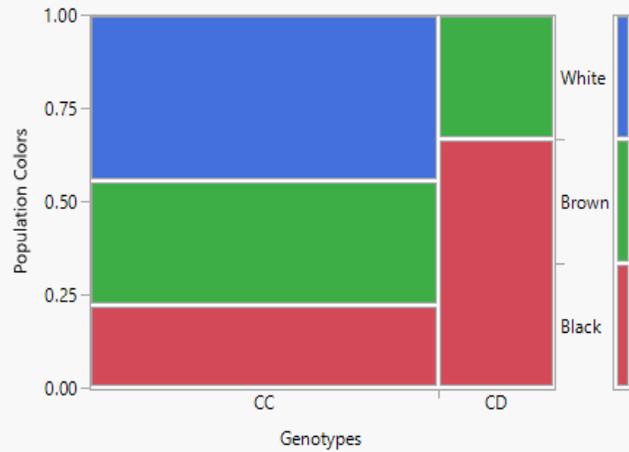
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

ASIP Exon 4

g.178388C_del

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

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

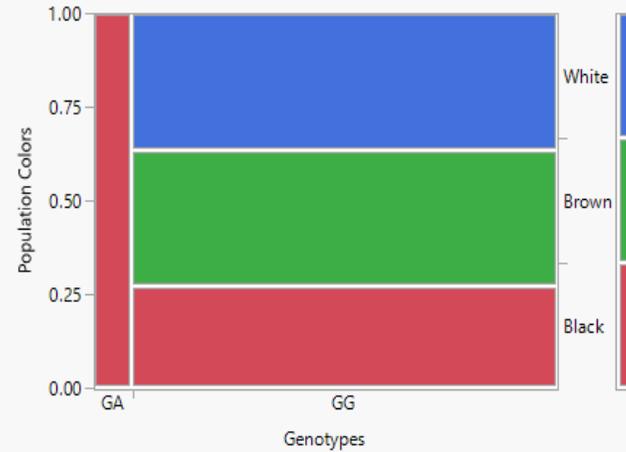
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 Intron 1

g.6544484G>A

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

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

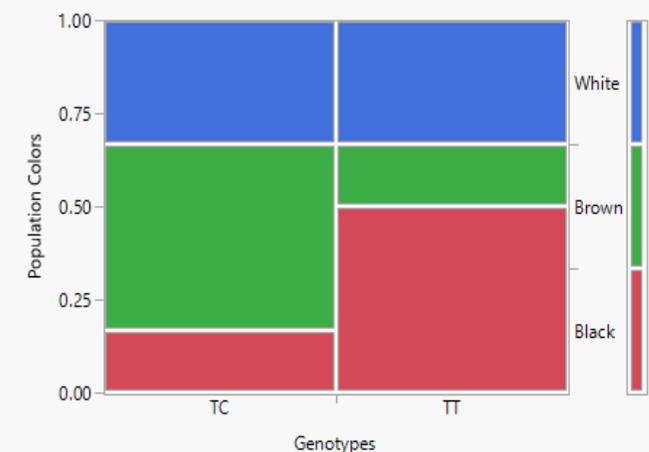
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 Intron 2

g.6544049T>C

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Genotypes	Count	1	3	2	6
	Total %	8.33	25.00	16.67	50.00
	Col %	25.00	75.00	50.00	
	Row %	16.67	50.00	33.33	
	TC				
Genotypes	Count	3	1	2	6
	Total %	25.00	8.33	16.67	50.00
	Col %	75.00	25.00	50.00	
	Row %	50.00	16.67	33.33	
	TT				
Total	4	4	4	12	
	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

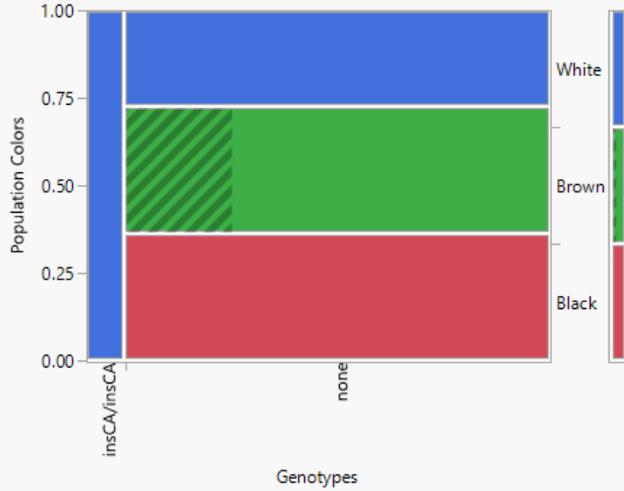
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 Intron 3

g.65372260_g.65372261insCA

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Genotypes	insCA/insCA	0	0	1	1
		0.00	0.00	8.33	8.33
none		0.00	0.00	25.00	
		0.00	0.00	100.00	
		4	4	3	11
		33.33	33.33	25.00	91.67
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

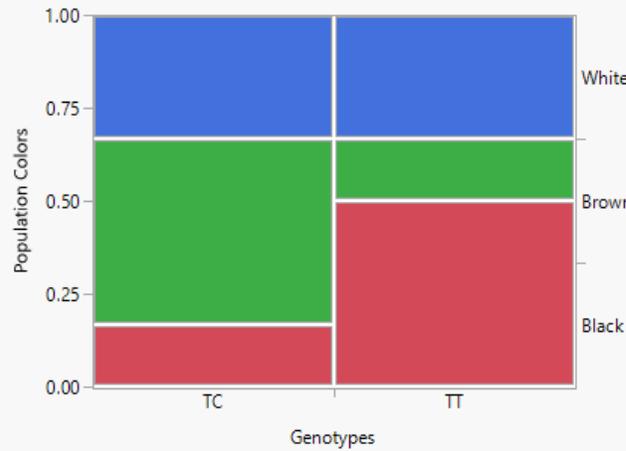
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 Intron 4

g.6537183T>C

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Genotypes	TC	1	3	2	6
		8.33	25.00	16.67	50.00
		25.00	75.00	50.00	
		16.67	50.00	33.33	
TT		3	1	2	6
		25.00	8.33	16.67	50.00
		75.00	25.00	50.00	
		50.00	16.67	33.33	
Total		4	4	4	12
		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

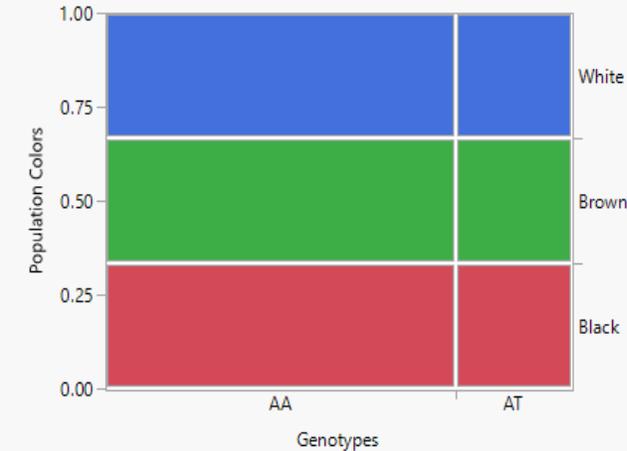
Warning: 20% of cells have expected count less than 5, ChiSquare suspect.
Warning: Average cell count less than 5, LR ChiSquare suspect.

TYRP1 3'UTR

g.6529345A>T

Contingency Analysis of Population Colors By Genotypes

Mosaic Plot



Contingency Table

		Population Colors			
		Black	Brown	White	Total
Genotypes	AA	3	3	3	9
		25.00	25.00	25.00	75.00
		75.00	75.00	75.00	
		33.33	33.33	33.33	
AT		1	1	1	3
		8.33	8.33	8.33	25.00
		25.00	25.00	25.00	
		33.33	33.33	33.33	
Total		4	4	4	12
		33.33	33.33	33.33	

Tests

N	DF	-LogLike	RSquare (U)
12	2	1.7764e-15	0.0000

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	0.000	1.0000
Pearson	0.000	1.0000

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