

Supplementary Table 3: Genotyping and statistical results for SNPs - grouped genotypes											
	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
Stage at Diagnosis	MMP9_1562	0	38 (66%)	20 (35%)				3 (5%)	55 (95%)		
	MMP9_1562	I	352 (71%)	147 (30%)				9 (2%)	490 (98%)		
	MMP9_1562	II	170 (73%)	63 (27%)				1 (0%)	232 (100%)		
	MMP9_1562	III	128 (77%)	39 (23%)				3 (2%)	164 (98%)		
	MMP9_1562	IV	8 (89%)	1 (11%)	0.04	Trend		0 (0%)	9 (100%)	0.16	Trend
Current Stage	MMP9_1562	0	36 (64%)	20 (36%)				3 (5%)	53 (95%)		
	MMP9_1562	I	300 (70%)	131 (30%)				8 (2%)	423 (98%)		
	MMP9_1562	II	118 (75%)	40 (25%)				0 (0%)	158 (100%)		
	MMP9_1562	III	159 (74%)	55 (26%)				4 (2%)	210 (98%)		
	MMP9_1562	IV	100 (78%)	28 (22%)	<0.01	Trend		2 (2%)	126 (98%)	0.32	Trend
Thickness	MMP9_1562	in situ	38 (66%)	20 (35%)				3 (5%)	55 (95%)		
	MMP9_1562	<1.01	218 (69%)	99 (31%)				6 (2%)	311 (98%)		
	MMP9_1562	1.01 - 2.00	203 (75%)	68 (25%)				3 (1%)	268 (99%)		
	MMP9_1562	2.01 - 4.00	118 (74%)	41 (26%)				3 (2%)	156 (98%)		
	MMP9_1562	>4.00	85 (71%)	34 (29%)	0.2	Trend		1 (1%)	118 (99%)	0.16	Trend
Clark Level	MMP9_1562	I = in situ	38 (66%)	20 (35%)				3 (5%)	55 (95%)		
	MMP9_1562	II	74 (69%)	33 (31%)				2 (2%)	105 (98%)		
	MMP9_1562	III	99 (67%)	49 (33%)				4 (3%)	144 (97%)		
	MMP9_1562	IV	355 (74%)	128 (27%)				5 (1%)	478 (99%)		
	MMP9_1562	V	46 (67%)	23 (33%)	0.28	Trend		1 (1%)	68 (99%)	0.04	Trend
Tumor Infiltrating Lymphocytes	MMP9_1562	absent	148 (73%)	56 (28%)				4 (2%)	200 (98%)		
	MMP9_1562	non-brisk	281 (72%)	110 (28%)				3 (1%)	388 (99%)		
	MMP9_1562	brisk	23 (74%)	8 (26%)	1	Trend		0 (0%)	31 (100%)	0.16	Trend
Number of Moles	MMP9_1562	none	187 (72%)	72 (28%)				6 (2%)	253 (98%)		
	MMP9_1562	few	358 (73%)	135 (27%)				8 (2%)	485 (98%)		
	MMP9_1562	moderate	116 (70%)	50 (30%)				2 (1%)	164 (99%)		
	MMP9_1562	many	29 (73%)	11 (28%)	0.72	Trend		1 (3%)	39 (98%)	0.56	Trend
	MMP9_1562	6 = many	4 (67%)	2 (33%)	0.6	Trend		0 (0%)	6 (100%)	0.12	Trend
Phenotypic Index	MMP9_1562	1 = low risk	24 (63%)	14 (37%)				0 (0%)	38 (100%)		
	MMP9_1562	2	159 (76%)	49 (24%)				1 (1%)	207 (100%)		
	MMP9_1562	3	220 (70%)	93 (30%)				8 (3%)	305 (97%)		
	MMP9_1562	4	241 (74%)	85 (26%)				5 (2%)	321 (99%)		
	MMP9_1562	5 = high risk	71 (68%)	33 (32%)	0.76	Trend		3 (3%)	101 (97%)	0.16	Trend
Sex	MMP9_1562	F	310 (73%)	115 (27%)				8 (2%)	417 (98%)		
	MMP9_1562	M	406 (72%)	162 (29%)	0.6	Fisher		9 (2%)	559 (98%)	0.8	Fisher
Family History	MMP9_1562	N	599 (73%)	220 (27%)				13 (2%)	806 (98%)		
	MMP9_1562	Y	112 (68%)	53 (32%)	0.2	Fisher		4 (2%)	161 (98%)	0.52	Fisher
Multiple Primary	MMP9_1562	N	614 (73%)	229 (27%)				15 (2%)	828 (98%)		

	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
Dysplastic Nevus	MMP9_1562	Y	102 (69%)	47 (32%)	0.28	Fisher		2 (1%)	147 (99%)	1	Fisher
	MMP9_1562	N	396 (73%)	145 (27%)				9 (2%)	532 (98%)		
Ulceration	MMP9_1562	Y	143 (66%)	73 (34%)	0.08	Fisher		4 (2%)	212 (98%)	1	Fisher
	MMP9_1562	absent	379 (71%)	154 (29%)				9 (2%)	524 (98%)		
Regression	MMP9_1562	present	138 (74%)	49 (26%)	0.52	Fisher		2 (1%)	185 (99%)	0.72	Fisher
	MMP9_1562	absent	270 (72%)	103 (28%)				3 (1%)	370 (99%)		
Lymphovascular Invasion	MMP9_1562	present	184 (71%)	75 (29%)	0.72	Fisher		4 (2%)	255 (99%)	0.44	Fisher
	MMP9_1562	absent	404 (72%)	159 (28%)				7 (1%)	556 (99%)		
Perineural Invasion	MMP9_1562	present	50 (74%)	18 (27%)	0.88	Fisher		1 (2%)	67 (99%)	0.6	Fisher
	MMP9_1562	absent	306 (72%)	117 (28%)				5 (1%)	418 (99%)		
Mitotic Index	MMP9_1562	present	42 (68%)	20 (32%)	0.44	Fisher		0 (0%)	62 (100%)	1	Fisher
	MMP9_1562	absent	73 (72%)	29 (28%)				2 (2%)	100 (98%)		
Satellites	MMP9_1562	present	327 (72%)	129 (28%)	1	Fisher		4 (1%)	452 (99%)	0.32	Fisher
	MMP9_1562	absent	191 (76%)	60 (24%)				1 (0%)	250 (100%)		
Solar Elastosis	MMP9_1562	present	25 (83%)	5 (17%)	0.48	Fisher		0 (0%)	30 (100%)	1	Fisher
	MMP9_1562	absent	18 (82%)	4 (18%)				0 (0%)	22 (100%)		
Distant Metastasis	MMP9_1562	present	31 (78%)	9 (23%)	0.76	Fisher		0 (0%)	40 (100%)	0.76	Fisher
	MMP9_1562	N	615 (71%)	247 (29%)				15 (2%)	847 (98%)		
Intransit Metastasis	MMP9_1562	Y	101 (78%)	28 (22%)	0.12	Fisher		2 (2%)	127 (98%)	1	Fisher
	MMP9_1562	N	668 (72%)	265 (28%)				16 (2%)	917 (98%)		
Tan/Burn Index	MMP9_1562	Y	21 (78%)	6 (22%)	0.68	Fisher		1 (4%)	26 (96%)	0.4	Fisher
	MMP9_1562	tend to tan	59 (65%)	32 (35%)				2 (2%)	89 (98%)		
Race	MMP9_1562	tend to sunburn	657 (73%)	245 (27%)	0.12	Fisher		15 (2%)	887 (98%)	0.68	Fisher
	MMP9_1562	White non-Hispanic	682 (72%)	270 (28%)				16 (2%)	936 (98%)		
Site	MMP9_1562	Hispanic	9 (82%)	2 (18%)				0 (0%)	11 (100%)		
	MMP9_1562	Black non-Hispanic	10 (91%)	1 (9%)				1 (9%)	10 (91%)		
	MMP9_1562	Asian/Indian	2 (67%)	1 (33%)	0.48	Chi-Square		0 (0%)	3 (100%)	0.28	Chi-Square
	MMP9_1562	extremities	378 (71%)	155 (29%)				10 (2%)	523 (98%)		
Histology	MMP9_1562	head & neck	49 (69%)	22 (31%)				1 (1%)	70 (99%)		
	MMP9_1562	non-cutaneous	6 (55%)	5 (46%)				2 (18%)	9 (82%)		
	MMP9_1562	trunk	249 (74%)	87 (26%)	0.4	Chi-Square		4 (1%)	332 (99%)	<0.01	Chi-Square
	MMP9_1562	desmoplastic	17 (74%)	6 (26%)				0 (0%)	23 (100%)		
Stage at Diagnosis	MMP9_1562	other	171 (71%)	69 (29%)				4 (2%)	236 (98%)		
	MMP9_1562	spitzoid	8 (80%)	2 (20%)				0 (0%)	10 (100%)		
	MMP9_1562	unknown	520 (72%)	200 (28%)	0.92	Chi-Square		13 (2%)	707 (98%)	0.88	Chi-Square
Current Stage	MMP9_279	0	27 (47%)	31 (53%)				9 (16%)	49 (85%)		
	MMP9_279	I	200 (40%)	304 (60%)				72 (14%)	432 (86%)		
	MMP9_279	II	91 (39%)	143 (61%)				26 (11%)	208 (89%)		
	MMP9_279	III	82 (49%)	87 (52%)				20 (12%)	149 (88%)		
	MMP9_279	IV	4 (44%)	5 (56%)	0.24	Trend		0 (0%)	9 (100%)	0.16	Trend
Thickness	MMP9_279	0	25 (45%)	31 (55%)				9 (16%)	47 (84%)		
	MMP9_279	I	174 (40%)	261 (60%)				62 (14%)	373 (86%)		
	MMP9_279	II	60 (38%)	99 (62%)				15 (9%)	144 (91%)		
	MMP9_279	III	99 (46%)	117 (54%)				25 (12%)	191 (88%)		
Thickness	MMP9_279	IV	59 (46%)	70 (54%)	0.2	Trend		18 (14%)	111 (86%)	0.44	Trend
	MMP9_279	in situ	27 (47%)	31 (53%)				9 (16%)	49 (85%)		

	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
	MMP9_279	<1.01	127 (40%)	194 (60%)				45 (14%)	276 (86%)		
	MMP9_279	1.01 - 2.00	117 (43%)	155 (57%)				38 (14%)	234 (86%)		
	MMP9_279	2.01 - 4.00	65 (41%)	95 (59%)				21 (13%)	139 (87%)		
	MMP9_279	>4.00	43 (36%)	78 (65%)	0.36	Trend		11 (9%)	110 (91%)	0.2	Trend
Clark Level	MMP9_279	I = in situ	27 (47%)	31 (53%)				9 (16%)	49 (85%)		
	MMP9_279	II	38 (35%)	70 (65%)				13 (12%)	95 (88%)		
	MMP9_279	III	64 (43%)	86 (57%)				21 (14%)	129 (86%)		
	MMP9_279	IV	194 (40%)	294 (60%)				67 (14%)	421 (86%)		
	MMP9_279	V	26 (38%)	43 (62%)	0.64	Trend		7 (10%)	62 (90%)	0.72	Trend
Tumor Infiltrating Lymphocytes	MMP9_279	absent	89 (43%)	117 (57%)				19 (9%)	187 (91%)		
	MMP9_279	non-brisk	155 (39%)	241 (61%)				46 (12%)	350 (88%)		
	MMP9_279	brisk	14 (45%)	17 (55%)	0.6	Trend		4 (13%)	27 (87%)	0.36	Trend
Number of Moles	MMP9_279	none	117 (45%)	143 (55%)				36 (14%)	224 (86%)		
	MMP9_279	few	201 (40%)	296 (60%)				64 (13%)	433 (87%)		
	MMP9_279	moderate	69 (41%)	100 (59%)				22 (13%)	147 (87%)		
	MMP9_279	many	17 (43%)	23 (58%)	0.44	Trend		5 (13%)	35 (88%)	0.76	Trend
Number of Freckles	MMP9_279	1 = none	198 (41%)	283 (59%)				61 (13%)	420 (87%)		
	MMP9_279	2	114 (48%)	126 (53%)				26 (11%)	214 (89%)		
	MMP9_279	3	70 (41%)	102 (59%)				25 (15%)	147 (86%)		
	MMP9_279	4	23 (35%)	42 (65%)				13 (20%)	52 (80%)		
	MMP9_279	5	6 (35%)	11 (65%)				1 (6%)	16 (94%)		
	MMP9_279	6 = many	3 (50%)	3 (50%)	0.64	Trend		0 (0%)	6 (100%)	0.56	Trend
Phenotypic Index	MMP9_279	1 = low risk	8 (21%)	30 (79%)				7 (18%)	31 (82%)		
	MMP9_279	2	99 (47%)	111 (53%)				27 (13%)	183 (87%)		
	MMP9_279	3	129 (41%)	187 (59%)				44 (14%)	272 (86%)		
	MMP9_279	4	145 (44%)	183 (56%)				34 (10%)	294 (90%)		
	MMP9_279	5 = high risk	39 (37%)	66 (63%)	0.92	Trend		17 (16%)	88 (84%)	0.6	Trend
Sex	MMP9_279	F	185 (43%)	244 (57%)				52 (12%)	377 (88%)		
	MMP9_279	M	235 (41%)	337 (59%)	0.52	Fisher		78 (14%)	494 (86%)	0.52	Fisher
Family History	MMP9_279	N	352 (43%)	473 (57%)				105 (13%)	720 (87%)		
	MMP9_279	Y	65 (39%)	102 (61%)	0.4	Fisher		24 (14%)	143 (86%)	0.6	Fisher
Multiple Primary	MMP9_279	N	361 (43%)	488 (58%)				109 (13%)	740 (87%)		
	MMP9_279	Y	59 (39%)	92 (61%)	0.48	Fisher		21 (14%)	130 (86%)	0.68	Fisher
Dysplastic Nevus	MMP9_279	N	239 (44%)	304 (56%)				69 (13%)	474 (87%)		
	MMP9_279	Y	80 (37%)	138 (63%)	0.08	Fisher		35 (16%)	183 (84%)	0.24	Fisher
Ulceration	MMP9_279	absent	213 (40%)	324 (60%)				70 (13%)	467 (87%)		
	MMP9_279	present	77 (41%)	113 (60%)	0.88	Fisher		24 (13%)	166 (87%)	1	Fisher
Regression	MMP9_279	absent	165 (44%)	212 (56%)				38 (10%)	339 (90%)		
	MMP9_279	present	100 (38%)	162 (62%)	0.16	Fisher		32 (12%)	230 (88%)	0.44	Fisher
Lymphovascular Invasion	MMP9_279	absent	230 (40%)	339 (60%)				68 (12%)	501 (88%)		
	MMP9_279	present	28 (41%)	40 (59%)	0.88	Fisher		7 (10%)	61 (90%)	0.84	Fisher
Perineural Invasion	MMP9_279	absent	174 (41%)	254 (59%)				52 (12%)	376 (88%)		
	MMP9_279	present	25 (40%)	37 (60%)	1	Fisher		5 (8%)	57 (92%)	0.52	Fisher
Mitotic Index	MMP9_279	absent	42 (41%)	61 (59%)				13 (13%)	90 (87%)		
	MMP9_279	present	188 (41%)	273 (59%)	1	Fisher		53 (12%)	408 (89%)	0.72	Fisher
Satellites	MMP9_279	absent	110 (43%)	144 (57%)				18 (7%)	236 (93%)		

	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
Solar Elastosis	MMP9_279	present	13 (43%)	17 (57%)	1	Fisher		4 (13%)	26 (87%)	0.28	Fisher
	MMP9_279	absent	15 (68%)	7 (32%)				0 (0%)	22 (100%)		
Distant Metastasis	MMP9_279	present	15 (38%)	25 (63%)	0.04	Fisher		4 (10%)	36 (90%)	0.28	Fisher
	MMP9_279	N	360 (41%)	509 (59%)				112 (13%)	757 (87%)		
Intransit Metastasis	MMP9_279	Y	60 (46%)	70 (54%)	0.36	Fisher		18 (14%)	112 (86%)	0.76	Fisher
	MMP9_279	N	384 (41%)	557 (59%)				122 (13%)	819 (87%)		
Tan/Burn Index	MMP9_279	Y	17 (63%)	10 (37%)	0.04	Fisher		3 (11%)	24 (89%)	1	Fisher
	MMP9_279	tend to tan	26 (29%)	65 (71%)				17 (19%)	74 (81%)		
Race	MMP9_279	tend to sunburn	394 (43%)	516 (57%)	<0.01	Fisher		113 (12%)	797 (88%)	0.12	Fisher
	MMP9_279	White non-Hispanic	401 (42%)	559 (58%)				127 (13%)	833 (87%)		
Site	MMP9_279	Hispanic	6 (55%)	5 (46%)				0 (0%)	11 (100%)		
	MMP9_279	Black non-Hispanic	5 (46%)	6 (55%)				1 (9%)	10 (91%)		
	MMP9_279	Asian/Indian	1 (33%)	2 (67%)	0.84	Chi-Square		0 (0%)	3 (100%)	0.52	Chi-Square
	MMP9_279	extremities	212 (40%)	323 (60%)				75 (14%)	460 (86%)		
	MMP9_279	head & neck	25 (35%)	46 (65%)				16 (23%)	55 (78%)		
Histology	MMP9_279	non-cutaneous	6 (50%)	6 (50%)				2 (17%)	10 (83%)		
	MMP9_279	trunk	152 (45%)	189 (55%)	0.32	Chi-Square		34 (10%)	307 (90%)	0.04	Chi-Square
	MMP9_279	desmoplastic	7 (30%)	16 (70%)				4 (17%)	19 (83%)		
	MMP9_279	other	91 (37%)	153 (63%)				31 (13%)	213 (87%)		
	MMP9_279	spitzoid	3 (30%)	7 (70%)				1 (10%)	9 (90%)		
Stage at Diagnosis	MMP9_279	unknown	319 (44%)	405 (56%)	0.16	Chi-Square		94 (13%)	630 (87%)	0.92	Chi-Square
	MMP9_574	0	28 (90%)	3 (10%)				1 (3%)	30 (97%)		
	MMP9_574	I	257 (92%)	21 (8%)				0 (0%)	278 (100%)		
	MMP9_574	II	100 (89%)	13 (12%)				0 (0%)	113 (100%)		
	MMP9_574	III	84 (89%)	10 (11%)				0 (0%)	94 (100%)		
Current Stage	MMP9_574	IV	3 (75%)	1 (25%)	0.24	Trend		0 (0%)	4 (100%)	0.08	Trend
	MMP9_574	0	27 (90%)	3 (10%)				1 (3%)	29 (97%)		
	MMP9_574	I	221 (92%)	19 (8%)				0 (0%)	240 (100%)		
	MMP9_574	II	68 (88%)	9 (12%)				0 (0%)	77 (100%)		
	MMP9_574	III	87 (90%)	10 (10%)				0 (0%)	97 (100%)		
Thickness	MMP9_574	IV	79 (92%)	7 (8%)	0.84	Trend		0 (0%)	86 (100%)	0.12	Trend
	MMP9_574	in situ	28 (90%)	3 (10%)				1 (3%)	30 (97%)		
	MMP9_574	<1.01	172 (93%)	14 (8%)				0 (0%)	186 (100%)		
	MMP9_574	1.01 - 2.00	126 (93%)	10 (7%)				0 (0%)	136 (100%)		
	MMP9_574	2.01 - 4.00	68 (85%)	12 (15%)				0 (0%)	80 (100%)		
Clark Level	MMP9_574	>4.00	59 (92%)	5 (8%)	0.44	Trend		0 (0%)	64 (100%)	0.08	Trend
	MMP9_574	I = in situ	28 (90%)	3 (10%)				1 (3%)	30 (97%)		
	MMP9_574	II	62 (93%)	5 (8%)				0 (0%)	67 (100%)		
	MMP9_574	III	79 (93%)	6 (7%)				0 (0%)	85 (100%)		
	MMP9_574	IV	217 (90%)	24 (10%)				0 (0%)	241 (100%)		
Tumor Infiltrating Lymphocytes	MMP9_574	V	34 (87%)	5 (13%)	0.4	Trend		0 (0%)	39 (100%)	0.04	Trend
	MMP9_574	absent	106 (89%)	13 (11%)				0 (0%)	119 (100%)		
	MMP9_574	non-brisk	162 (90%)	18 (10%)				0 (0%)	180 (100%)		
Number of Moles	MMP9_574	brisk	15 (94%)	1 (6%)	0.6	Trend		0 (0%)	16 (100%)	0.6	Trend
	MMP9_574	none	153 (92%)	14 (8%)				1 (1%)	166 (99%)		
	MMP9_574	few	211 (91%)	22 (9%)				0 (0%)	233 (100%)		

	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
	MMP9_574	moderate	72 (95%)	4 (5%)				0 (0%)	76 (100%)		
Number of Freckles	MMP9_574	many	24 (86%)	4 (14%)	0.84	Trend		0 (0%)	28 (100%)	0.28	Trend
	MMP9_574	1 = none	227 (90%)	25 (10%)				1 (0%)	251 (100%)		
	MMP9_574	2	124 (89%)	15 (11%)				0 (0%)	139 (100%)		
	MMP9_574	3	81 (93%)	6 (7%)				0 (0%)	87 (100%)		
	MMP9_574	4	32 (100%)	0 (0%)				0 (0%)	32 (100%)		
	MMP9_574	5	6 (100%)	0 (0%)				0 (0%)	6 (100%)		
Phenotypic Index	MMP9_574	6 = many	1 (50%)	1 (50%)	0.24	Trend		0 (0%)	2 (100%)	0.4	Trend
	MMP9_574	1 = low risk	15 (75%)	5 (25%)				1 (5%)	19 (95%)		
	MMP9_574	2	87 (88%)	12 (12%)				0 (0%)	99 (100%)		
	MMP9_574	3	165 (95%)	8 (5%)				0 (0%)	173 (100%)		
	MMP9_574	4	161 (90%)	17 (10%)				0 (0%)	178 (100%)		
	MMP9_574	5 = high risk	56 (90%)	6 (10%)	0.24	Trend		0 (0%)	62 (100%)	0.04	Trend
Sex	MMP9_574	F	220 (91%)	22 (9%)				1 (0%)	241 (100%)		
	MMP9_574	M	265 (91%)	26 (9%)	1	Fisher		0 (0%)	291 (100%)	0.44	Fisher
Family History	MMP9_574	N	395 (90%)	45 (10%)				0 (0%)	440 (100%)		
	MMP9_574	Y	88 (97%)	3 (3%)	0.04	Fisher		1 (1%)	90 (99%)	0.16	Fisher
Multiple Primary	MMP9_574	N	410 (90%)	45 (10%)				1 (0%)	454 (100%)		
	MMP9_574	Y	75 (96%)	3 (4%)	0.08	Fisher		0 (0%)	78 (100%)	1	Fisher
Dysplastic Nevus	MMP9_574	N	307 (90%)	33 (10%)				1 (0%)	339 (100%)		
	MMP9_574	Y	117 (93%)	9 (7%)	0.48	Fisher		0 (0%)	126 (100%)	1	Fisher
Ulceration	MMP9_574	absent	254 (91%)	25 (9%)				0 (0%)	279 (100%)		
	MMP9_574	present	85 (89%)	11 (12%)	0.56	Fisher		0 (0%)	96 (100%)	0.56	Fisher
Regression	MMP9_574	absent	181 (90%)	20 (10%)				0 (0%)	201 (100%)		
	MMP9_574	present	104 (90%)	12 (10%)	1	Fisher		0 (0%)	116 (100%)	1	Fisher
Lymphovascular Invasion	MMP9_574	absent	267 (90%)	30 (10%)				0 (0%)	297 (100%)		
	MMP9_574	present	26 (93%)	2 (7%)	1	Fisher		0 (0%)	28 (100%)	1	Fisher
Perineural Invasion	MMP9_574	absent	176 (90%)	20 (10%)				0 (0%)	196 (100%)		
	MMP9_574	present	26 (90%)	3 (10%)	1	Fisher		0 (0%)	29 (100%)	1	Fisher
Mitotic Index	MMP9_574	absent	58 (92%)	5 (8%)				0 (0%)	63 (100%)		
	MMP9_574	present	184 (89%)	23 (11%)	0.64	Fisher		0 (0%)	207 (100%)	0.64	Fisher
Satellites	MMP9_574	absent	116 (89%)	14 (11%)				0 (0%)	130 (100%)		
	MMP9_574	present	14 (93%)	1 (7%)	1	Fisher		0 (0%)	15 (100%)	1	Fisher
Solar Elastosis	MMP9_574	absent	11 (92%)	1 (8%)				0 (0%)	12 (100%)		
	MMP9_574	present	22 (85%)	4 (15%)	1	Fisher		0 (0%)	26 (100%)	1	Fisher
Distant Metastasis	MMP9_574	N	405 (91%)	41 (9%)				1 (0%)	445 (100%)		
	MMP9_574	Y	79 (92%)	7 (8%)	1	Fisher		0 (0%)	86 (100%)	1	Fisher
Intransit Metastasis	MMP9_574	N	449 (92%)	40 (8%)				1 (0%)	488 (100%)		
	MMP9_574	Y	19 (91%)	2 (10%)	0.68	Fisher		0 (0%)	21 (100%)	1	Fisher
Tan/Burn Index	MMP9_574	tend to tan	45 (90%)	5 (10%)				1 (2%)	49 (98%)		
	MMP9_574	tend to sunburn	440 (91%)	43 (9%)	0.8	Fisher		0 (0%)	483 (100%)	0.08	Fisher
Race	MMP9_574	White non-Hispanic	465 (92%)	43 (9%)				1 (0%)	507 (100%)		
	MMP9_574	Hispanic	5 (63%)	3 (38%)				0 (0%)	8 (100%)		
	MMP9_574	Black non-Hispanic	4 (67%)	2 (33%)				0 (0%)	6 (100%)		
	MMP9_574	Asian/Indian	2 (100%)	0 (0%)	<0.01	Chi-Square		0 (0%)	2 (100%)	1	Chi-Square
Site	MMP9_574	extremities	263 (88%)	36 (12%)				0 (0%)	299 (100%)		

	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
	MMP9_574	head & neck	36 (97%)	1 (3%)				0 (0%)	37 (100%)		
	MMP9_574	non-cutaneous	6 (100%)	0 (0%)				0 (0%)	6 (100%)		
Histology	MMP9_574	trunk	164 (96%)	7 (4%)	<0.01	Chi-Square		1 (1%)	170 (99%)	0.56	Chi-Square
	MMP9_574	desmoplastic	7 (88%)	1 (13%)				0 (0%)	8 (100%)		
	MMP9_574	other	117 (91%)	12 (9%)				0 (0%)	129 (100%)		
	MMP9_574	spitzoid	2 (50%)	2 (50%)				0 (0%)	4 (100%)		
	MMP9_574	unknown	359 (92%)	33 (8%)	0.04	Chi-Square		1 (0%)	391 (100%)	0.96	Chi-Square
Stage at Diagnosis	MMP9_668	0	38 (66%)	20 (35%)				2 (3%)	56 (97%)		
	MMP9_668	I	355 (71%)	147 (29%)				12 (2%)	490 (98%)		
	MMP9_668	II	164 (70%)	69 (30%)				1 (0%)	232 (100%)		
	MMP9_668	III	130 (77%)	38 (23%)				3 (2%)	165 (98%)		
	MMP9_668	IV	8 (89%)	1 (11%)	0.04	Trend		0 (0%)	9 (100%)	0.16	Trend
Current Stage	MMP9_668	0	36 (64%)	20 (36%)				2 (4%)	54 (96%)		
	MMP9_668	I	302 (70%)	131 (30%)				11 (3%)	422 (98%)		
	MMP9_668	II	114 (72%)	44 (28%)				0 (0%)	158 (100%)		
	MMP9_668	III	163 (76%)	53 (25%)				4 (2%)	212 (98%)		
	MMP9_668	IV	98 (77%)	30 (23%)	0.04	Trend		2 (2%)	126 (98%)	0.28	Trend
Thickness	MMP9_668	in situ	38 (66%)	20 (35%)				2 (3%)	56 (97%)		
	MMP9_668	<1.01	219 (69%)	100 (31%)				9 (3%)	310 (97%)		
	MMP9_668	1.01 - 2.00	205 (75%)	67 (25%)				3 (1%)	269 (99%)		
	MMP9_668	2.01 - 4.00	115 (72%)	44 (28%)				3 (2%)	156 (98%)		
	MMP9_668	>4.00	84 (70%)	36 (30%)	0.4	Trend		1 (1%)	119 (99%)	0.12	Trend
Clark Level	MMP9_668	I = in situ	38 (66%)	20 (35%)				2 (3%)	56 (97%)		
	MMP9_668	II	73 (68%)	34 (32%)				2 (2%)	105 (98%)		
	MMP9_668	III	101 (67%)	49 (33%)				7 (5%)	143 (95%)		
	MMP9_668	IV	355 (73%)	130 (27%)				5 (1%)	480 (99%)		
	MMP9_668	V	45 (65%)	24 (35%)	0.32	Trend		1 (1%)	68 (99%)	0.12	Trend
Tumor Infiltrating Lymphocytes	MMP9_668	absent	146 (71%)	59 (29%)				4 (2%)	201 (98%)		
	MMP9_668	non-brisk	279 (71%)	114 (29%)				5 (1%)	388 (99%)		
	MMP9_668	brisk	24 (77%)	7 (23%)	0.72	Trend		0 (0%)	31 (100%)	0.36	Trend
Number of Moles	MMP9_668	none	183 (71%)	76 (29%)				8 (3%)	251 (97%)		
	MMP9_668	few	359 (72%)	137 (28%)				9 (2%)	487 (98%)		
	MMP9_668	moderate	119 (71%)	48 (29%)				1 (1%)	166 (99%)		
	MMP9_668	many	30 (75%)	10 (25%)	0.68	Trend		1 (3%)	39 (98%)	0.16	Trend
Number of Freckles	MMP9_668	1 = none	338 (71%)	140 (29%)				6 (1%)	472 (99%)		
	MMP9_668	2	183 (76%)	57 (24%)				3 (1%)	237 (99%)		
	MMP9_668	3	122 (71%)	49 (29%)				5 (3%)	166 (97%)		
	MMP9_668	4	44 (68%)	21 (32%)				4 (6%)	61 (94%)		
	MMP9_668	5	12 (71%)	5 (29%)				0 (0%)	17 (100%)		
	MMP9_668	6 = many	4 (67%)	2 (33%)	0.88	Trend		0 (0%)	6 (100%)	0.04	Trend
Phenotypic Index	MMP9_668	1 = low risk	20 (53%)	18 (47%)				0 (0%)	38 (100%)		
	MMP9_668	2	160 (77%)	48 (23%)				2 (1%)	206 (99%)		
	MMP9_668	3	222 (71%)	93 (30%)				10 (3%)	305 (97%)		
	MMP9_668	4	240 (73%)	87 (27%)				5 (2%)	322 (99%)		
	MMP9_668	5 = high risk	73 (70%)	32 (31%)	0.8	Trend		2 (2%)	103 (98%)	0.64	Trend
Sex	MMP9_668	F	311 (73%)	116 (27%)				7 (2%)	420 (98%)		

	Polymorphism	variable	Homozygote Reference	Any Variant	p-value	Test		Homozygote Variant	Any Reference	p-value	Test
Family History	MMP9_668	M	405 (71%)	165 (29%)	0.56	Fisher		12 (2%)	558 (98%)	0.64	Fisher
	MMP9_668	N	598 (73%)	225 (27%)				14 (2%)	809 (98%)		
Multiple Primary	MMP9_668	Y	113 (69%)	52 (32%)	0.28	Fisher		5 (3%)	160 (97%)	0.36	Fisher
	MMP9_668	N	612 (72%)	235 (28%)				17 (2%)	830 (98%)		
Dysplastic Nevus	MMP9_668	Y	104 (70%)	45 (30%)	0.56	Fisher		2 (1%)	147 (99%)	0.76	Fisher
	MMP9_668	N	395 (73%)	148 (27%)				11 (2%)	532 (98%)		
Ulceration	MMP9_668	Y	145 (67%)	72 (33%)	0.12	Fisher		4 (2%)	213 (98%)	1	Fisher
	MMP9_668	absent	379 (71%)	156 (29%)				12 (2%)	523 (98%)		
Regression	MMP9_668	present	135 (72%)	53 (28%)	0.84	Fisher		2 (1%)	186 (99%)	0.52	Fisher
	MMP9_668	absent	271 (72%)	105 (28%)				4 (1%)	372 (99%)		
Lymphovascular Invasion	MMP9_668	present	180 (70%)	79 (31%)	0.52	Fisher		5 (2%)	254 (98%)	0.48	Fisher
	MMP9_668	absent	400 (71%)	165 (29%)				9 (2%)	556 (98%)		
Perineural Invasion	MMP9_668	present	50 (74%)	18 (27%)	0.68	Fisher		2 (3%)	66 (97%)	0.32	Fisher
	MMP9_668	absent	303 (72%)	121 (29%)				7 (2%)	417 (98%)		
Mitotic Index	MMP9_668	present	42 (68%)	20 (32%)	0.56	Fisher		0 (0%)	62 (100%)	0.6	Fisher
	MMP9_668	absent	73 (72%)	29 (28%)				2 (2%)	100 (98%)		
Satellites	MMP9_668	present	324 (71%)	134 (29%)	0.92	Fisher		6 (1%)	452 (99%)	0.64	Fisher
	MMP9_668	absent	189 (75%)	63 (25%)				1 (0%)	251 (100%)		
Solar Elastosis	MMP9_668	present	25 (83%)	5 (17%)	0.36	Fisher		0 (0%)	30 (100%)	1	Fisher
	MMP9_668	absent	18 (82%)	4 (18%)				0 (0%)	22 (100%)		
Distant Metastasis	MMP9_668	present	30 (75%)	10 (25%)	0.76	Fisher		0 (0%)	40 (100%)	0.76	Fisher
	MMP9_668	N	617 (71%)	249 (29%)				17 (2%)	849 (98%)		
Intransit Metastasis	MMP9_668	Y	99 (77%)	30 (23%)	0.2	Fisher		2 (2%)	127 (98%)	1	Fisher
	MMP9_668	N	667 (71%)	270 (29%)				18 (2%)	919 (98%)		
Tan/Burn Index	MMP9_668	Y	22 (82%)	5 (19%)	0.28	Fisher		1 (4%)	26 (96%)	0.44	Fisher
	MMP9_668	tend to tan	55 (60%)	36 (40%)				2 (2%)	89 (98%)		
Race	MMP9_668	tend to sunburn	661 (73%)	245 (27%)	<0.01	Fisher		17 (2%)	889 (98%)	0.68	Fisher
	MMP9_668	White non-Hispanic	687 (72%)	269 (28%)				18 (2%)	938 (98%)		
	MMP9_668	Hispanic	7 (64%)	4 (36%)				0 (0%)	11 (100%)		
	MMP9_668	Black non-Hispanic	7 (64%)	4 (36%)				1 (9%)	10 (91%)		
Site	MMP9_668	Asian/Indian	2 (67%)	1 (33%)	0.88	Chi-Square		0 (0%)	3 (100%)	0.36	Chi-Square
	MMP9_668	extremities	375 (70%)	158 (30%)				12 (2%)	521 (98%)		
	MMP9_668	head & neck	49 (69%)	22 (31%)				1 (1%)	70 (99%)		
	MMP9_668	non-cutaneous	6 (55%)	5 (46%)				2 (18%)	9 (82%)		
Histology	MMP9_668	trunk	252 (74%)	88 (26%)	0.36	Chi-Square		4 (1%)	336 (99%)	<0.01	Chi-Square
	MMP9_668	desmoplastic	16 (70%)	7 (30%)				0 (0%)	23 (100%)		
	MMP9_668	other	170 (70%)	72 (30%)				4 (2%)	238 (98%)		
	MMP9_668	spitzoid	8 (80%)	2 (20%)				0 (0%)	10 (100%)		
	MMP9_668	unknown	522 (72%)	200 (28%)	0.84	Chi-Square		15 (2%)	707 (98%)	0.84	Chi-Square