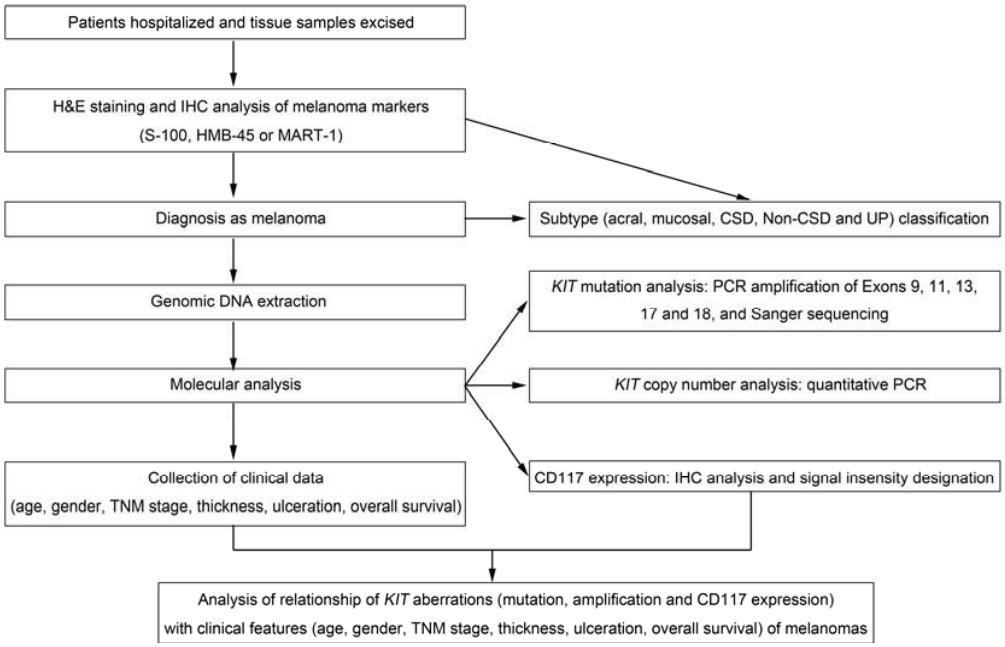
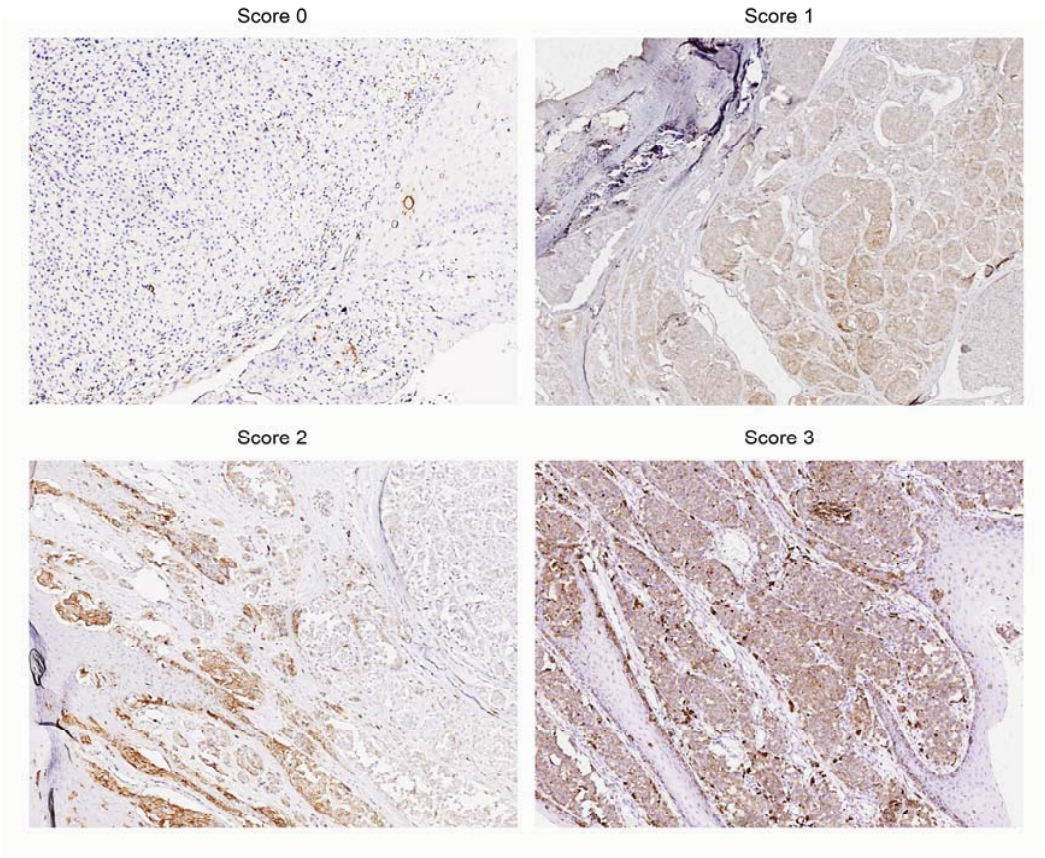
Kong Y. et al. Supplementary Fig S1



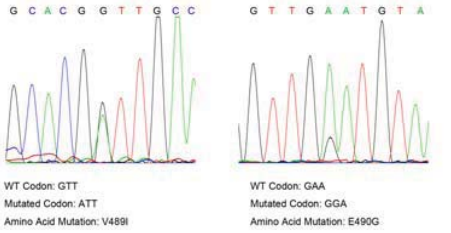
Supplementary Fig S1. Schematic Diagram of the experimental processes in this study. H&E, hematoxylin and eosin; TNM, tumor-nodes-metastases; IHC, immunohistochemistry.

Kong Y. et al. Supplementary Fig S2



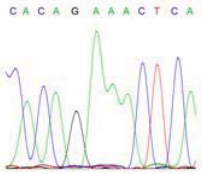
Supplementary Fig S2. Representative examples of the scores designated to the results of immunohistochemistry analysis of CD117 expression in melanoma samples.

Kong Y. et al. Supplementary Fig S3

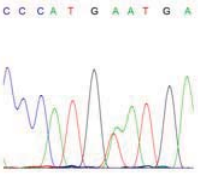


Supplementary Fig. S3. Examples of the genetic mutations in exon 9 of *KIT* gene. WT, wild type.

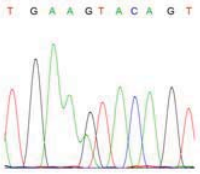
Kong Y. et al. Supplementary Fig S4



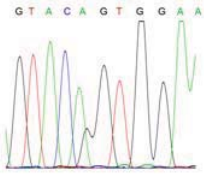
WT Codon: CCC
Mutated Codon: CTC
Amino Acid Mutation: P551L



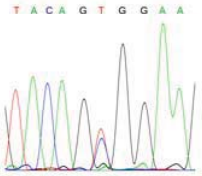
WT Codon: TAT
Mutated Codon: AAT
Amino Acid Mutation: Y553N



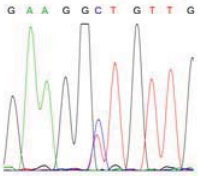
WT Codon: GTA
Mutated Codon: ATA
Amino Acid Mutation: V555I



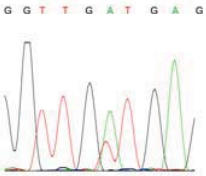
WT Codon: CAG
Mutated Codon: CGG
Amino Acid Mutation: Q556R



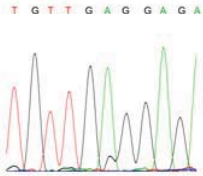
WT Codon: TGG
Mutated Codon: CGG
Amino Acid Mutation: W557R



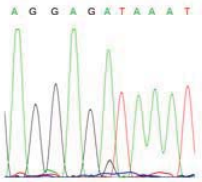
WT Codon: GTT
Mutated Codon: GCT
Amino Acid Mutation: V559A



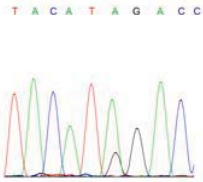
WT Codon: GTT
Mutated Codon: GAT
Amino Acid Mutation: V560D



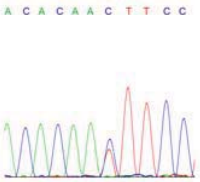
WT Codon: GAG
Mutated Codon: GGG
Amino Acid Mutation: E561G



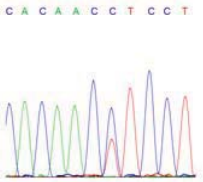
WT Codon: ATA
Mutated Codon: GTA
Amino Acid Mutation: I563V



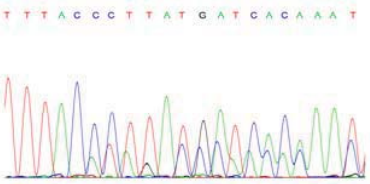
WT Codon: ATA
Mutated Codon: ATG
Amino Acid Mutation: I571M



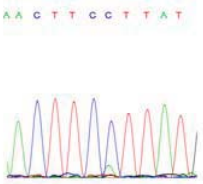
WT Codon: CTT
Mutated Codon: TTT
Amino Acid Mutation: L576F



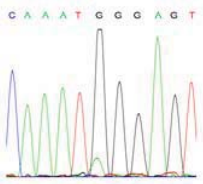
WT Codon: CTT
Mutated Codon: CCT
Amino Acid Mutation: L576P



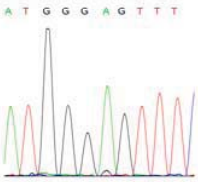
WT Codon: TAC (Codon 570)——CCT (Codon 577)
Mutated Codon: Deletion of Codon 571-576
Amino Acid Mutation: I571-L576 Deletion



WT Codon: CCT
Mutated Codon: CAT
Amino Acid Mutation: P577H



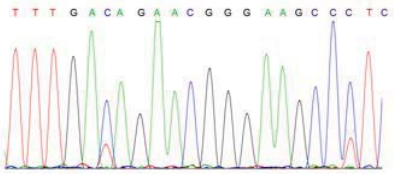
WT Codon: TGG
Mutated Codon: TAG
Amino Acid Mutation: W582Stop



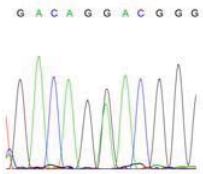
WT Codon: GAG
Mutated Codon: GGG
Amino Acid Mutation: E583G

Supplementary Fig. S4. Examples of the genetic mutations in exon 11 of *KIT* gene. WT, wild type.

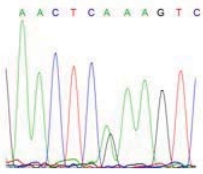
Kong Y. et al. Supplementary Fig S5



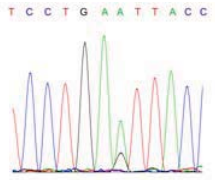
WT Codon: ACA (Codon 632) and CTC (Codon 637)
Mutated Codon: ATA (Codon 632) and TTC (Codon 637)
Amino Acid Mutation: T632I and L637F



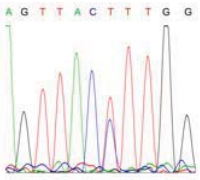
WT Codon: GAA
Mutated Codon: GGA
Amino Acid Mutation: E633G



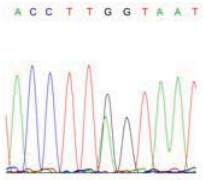
WT Codon: AAA
Mutated Codon: GAA
Amino Acid Mutation: K642E



WT Codon: AGT
Mutated Codon: AAT
Amino Acid Mutation: S645N



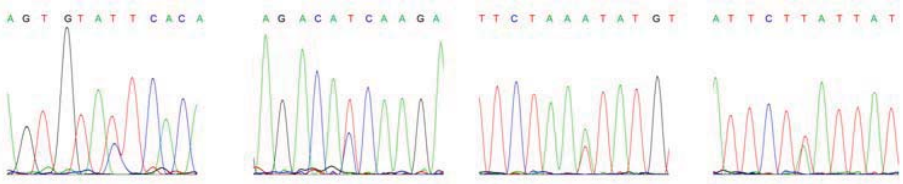
WT Codon: CTT
Mutated Codon: TTT
Amino Acid Mutation: L647F



WT Codon: GGT
Mutated Codon: AGT
Amino Acid Mutation: G648S*

Supplementary Fig. S5. Examples of the genetic mutations in exon 13 of *KIT* gene. The same-sense mutation L637L (*) were not shown. WT, wild type.

Kong Y. et al. Supplementary Fig S6

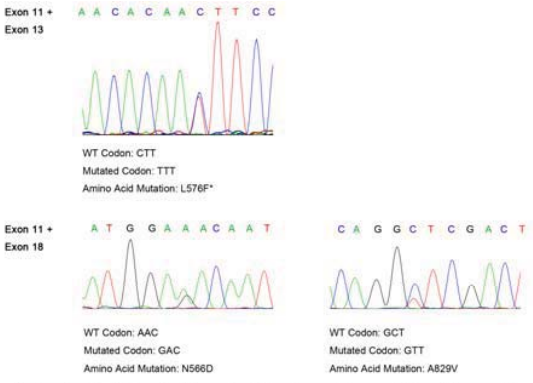


Supplementary Fig. S6. Examples of the genetic mutations in exon 17 of *KIT* gene. WT, wild type.

Kong Y. et al. Supplementary Fig S7

Supplementary Fig. S7. Examples of the genetic mutations in exon 18 of *KIT* gene. The same-sense mutation L865L (*) was not shown. WT, wild type.

Kong Y. et al. Supplementary Fig S8



Supplementary Fig. S8. Examples of the genetic mutations in two separate exons of *KIT* gene. The same-sense mutation A631A (*) was not shown. WT, wild type.

Kong Y. et al. Supplementary Table S1

Supplementary Table S1. Patient characteristics and genetic mutations in Chinese melanoma subtypes

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	*KIT* Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
1	UP	36	Male	III	wt	Yes	2	NA	NA	42	Yes
2	UP	22	Female	IIIc	wt	Yes	1	NA	NA	12	Yes
3	Mucosal	61	Female	IIc	W557R	No	1	5.5	Yes	23	No
4	Acral	61	Male	NA	wt	No	0	NA	NA	114	No
5	Acral	52	Male	IIIc	wt	No	0	3	No	20	Yes
6	Acral	39	Female	IV	wt	No	1	6	No	20	Yes
7	Mucosal	62	Male	IIb	wt	No	0	3	Yes	45	No
8	Acral	71	Male	IIc	wt	No	1	4.5	Yes	23	No
9	Mucosal	65	Male	NA	wt	Yes	0	NA	NA	101	No
10	Mucosal	33	Female	IIb	wt	No	0	3	Yes	87	No
11	Mucosal	43	Female	IIb	wt	No	0	3	Yes	49	Yes
12	Mucosal	69	Female	IIb	wt	No	1	4.5	No	25	No
13	Mucosal	50	Male	IIIc	V559A	No	2	5	No	20	Yes
14	CSD	34	Female	IIIc	wt	No	0	7	Yes	3	Yes
15	Acral	58	Male	IIIa	wt	No	0	NA	NA	32	No
16	Mucosal	59	Female	IIa	V560D	No	1	1.5	Yes	33	Yes
17	Mucosal	61	Male	IIc	wt	No	3	4.5	Yes	81	Yes
18	UP	53	Female	IIIa	wt	Yes	0	NA	NA	33	Yes
19	Mucosal	37	Male	IIIa	wt	No	2	10	Yes	31	No
20	Mucosal	63	Female	NA	wt	No	3	1	No	23	Yes
21	Acral	63	Male	NA	wt	No	0	2.5	Yes	13	Yes
22	Acral	71	Male	IV	wt	No	1	5	Yes	14	Yes
23	Mucosal	64	Male	NA	wt	No	0	5	Yes	27	No
24	Mucosal	50	Male	IV	wt	No	3	5	Yes	6	Yes
25	Mucosal	56	Female	IIc	I789T	No	1	5	Yes	77	Yes
26	Mucosal	69	Female	IV	I571-L576del	No	2	6	No	9	Yes
27	Mucosal	28	Female	IIc	wt	No	0	6	Yes	56	Yes
28	Mucosal	72	Female	IV	wt	No	0	2	Yes	10	Yes
29	UP	42	Female	IIIc	wt	No	1	NA	NA	22	No
30	Mucosal	34	Male	IIIa	wt	No	2	1	No	27	Yes
31	Acral	78	Female	IIIa	E490G	No	0	4	Yes	21	Yes
32	Mucosal	46	Female	IIb	wt	No	1	4	Yes	26	Yes
33	Mucosal	58	Male	IIc	wt	No	0	5	Yes	17	Yes
34	Mucosal	65	Female	IV	wt	Yes	0	4.5	Yes	12	Yes
35	Non-CSD	36	Male	IV	wt	No	0	10	Yes	18	Yes
36	Mucosal	45	Male	IIc	wt	No	1	5	Yes	229	No
37	Mucosal	64	Male	NA	wt	No	0	6	Yes	25	No
38	Acral	62	Male	IIIa	wt	No	0	3	Yes	12	Yes
39	Acral	50	Male	IV	wt	No	0	5	Yes	20	No
40	Mucosal	46	Male	IIIb	wt	No	1	3	Yes	30	No
41	Acral	27	Male	IIIb	K642E	No	0	3	No	32	Yes
42	CSD	58	Female	IIIb	K642E	Yes	3	10	Yes	31	No
43	Mucosal	39	Female	NA	wt	No	0	3	No	23	No
44	Mucosal	23	Female	NA	wt	No	0	6	No	22	No
45	Mucosal	56	Female	NA	wt	No	2	4	No	46	No
46	Acral	63	Female	IIIa	wt	Yes	1	5	No	14	No
47	UP	63	Female	IIIc	wt	No	0	NA	NA	48	No
48	Mucosal	82	Male	IV	wt	Yes	0	NA	Yes	21	No
49	UP	42	Male	IV	wt	No	0	NA	NA	10	Yes
50	Acral	74	Female	IIIa	wt	Yes	2	5	Yes	50	Yes
51	Acral	49	Male	IIIa	wt	No	0	7	Yes	38	No
52	Acral	40	Male	IIIc	wt	No	1	6	Yes	103	No
53	UP	32	Female	IIIc	wt	No	0	NA	NA	24	No
54	Acral	42	Male	Ib	L576P	Yes	0	1.5	No	22	No
55	Acral	75	Male	IIb	wt	No	0	5	No	29	No
56	Mucosal	40	Female	IIa	wt	No	1	3	No	49	Yes
57	Acral	69	Male	IIIa	wt	No	0	3	Yes	27	Yes
58	Acral	29	Male	IIc	wt	No	1	6	Yes	27	No
59	Acral	51	Female	IV	wt	No	0	7.5	Yes	6	Yes
60	Mucosal	44	Male	IV	wt	No	3	8	Yes	25	Yes

Supplementary Table S1. Continued (1)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	KIT Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
61	Mucosal	50	Female	IIc	wt	No	0	10	Yes	43	Yes
62	Mucosal	69	Female	IIc	wt	No	1	8	Yes	43	No
63	Acral	24	Female	IV	wt	No	0	1.5	No	20	No
64	Acral	52	Male	IIc	wt	Yes	0	4.5	Yes	23	No
65	Mucosal	61	Male	IIIb	wt	No	0	6	No	32	No
66	Acral	63	Male	IIIc	wt	No	1	6	Yes	26	No
67	Mucosal	34	Male	IIIb	wt	No	0	1	No	11	Yes
68	Acral	51	Female	IIIb	wt	No	1	6	Yes	23	No
69	Acral	71	Male	IIc	wt	No	0	8	Yes	20	No
70	Acral	53	Female	IIIc	wt	No	1	8	Yes	21	No
71	Acral	53	Female	IV	wt	No	0	3.5	No	12	Yes
72	Acral	42	Female	IIc	wt	No	1	5	Yes	28	No
73	Mucosal	51	Female	IIc	wt	No	0	8	Yes	42	No
74	Acral	59	Female	IV	wt	Yes	1	6	Yes	9	Yes
75	Mucosal	49	Female	IIIa	wt	No	0	5	Yes	54	No
76	CSD	56	Male	NA	wt	No	0	8	No	31	No
77	Acral	79	Female	NA	wt	No	0	NA	NA	57	No
78	Mucosal	62	Female	IV	wt	No	0	6	No	8	Yes
79	Mucosal	51	Female	NA	wt	No	0	10	Yes	33	No
80	CSD	36	Male	IIb	wt	No	0	9	No	18	No
81	Acral	69	Female	IIc	wt	No	1	10	Yes	42	Yes
82	Mucosal	45	Male	IIb	wt	No	0	5	No	79	Yes
83	Acral	46	Female	IIIa	wt	No	0	3.5	Yes	30	No
84	Mucosal	49	Male	IIb	wt	No	0	8	No	56	No
85	Non-CSD	49	Female	IIIc	wt	No	1	7	No	108	Yes
86	Mucosal	57	Male	IIIa	wt	No	0	8	No	24	Yes
87	UP	71	Male	IV	wt	No	0	NA	NA	12	Yes
88	Acral	28	Female	Ia	wt	No	0	0.8	No	18	No
89	CSD	34	Female	IV	wt	No	1	5	Yes	14	Yes
90	Non-CSD	67	Female	IV	wt	No	0	1	No	18	Yes
91	Acral	57	Male	IIc	wt	No	0	4.5	Yes	18	No
92	Non-CSD	47	Female	IIIc	wt	No	1	5	Yes	18	No
93	Acral	35	Female	IV	wt	No	0	5	Yes	18	No
94	Non-CSD	49	Female	IIIb	wt	No	1	5	No	12	Yes
95	Mucosal	55	Male	IV	wt	No	1	5	Yes	24	Yes
96	Acral	32	Female	NA	wt	No	0	0.5	No	19	Yes
97	Non-CSD	43	Female	NA	wt	No	0	4.5	Yes	56	No
98	Acral	68	Male	Ib	wt	No	0	1.5	No	114	No
99	Mucosal	70	Female	NA	wt	No	0	5	No	24	No
100	Acral	64	Female	IV	wt	No	1	5	Yes	14	No
101	CSD	58	Female	IIIa	wt	No	0	6	No	12	No
102	Acral	54	Female	IIa	wt	Yes	0	3	No	15	No
103	Mucosal	50	Male	IIIb	wt	Yes	0	4	No	12	No
104	Mucosal	58	Female	IV	wt	No	0	7	No	19	Yes
105	Mucosal	54	Male	IIc	wt	No	1	4.5	Yes	18	No
106	Acral	45	Male	IV	wt	No	0	6	No	9	Yes
107	Non-CSD	46	Male	IV	wt	No	0	7	Yes	27	No
108	Mucosal	41	Female	IV	wt	No	1	5	Yes	9	Yes
109	Acral	76	Female	IIIc	wt	No	0	3.5	No	29	No
110	Mucosal	70	Female	IIa	wt	No	0	3	No	23	No
111	Mucosal	53	Male	IIc	wt	No	1	4.5	Yes	31	No
112	Mucosal	55	Female	IIIc	wt	No	0	4.5	No	23	Yes
113	Acral	65	Female	IIc	wt	No	0	6	Yes	19	No
114	Non-CSD	44	Male	IIIb	wt	No	1	5	No	29	No
115	Acral	82	Male	IIc	wt	No	0	9	Yes	73	No
116	Mucosal	41	Male	IIc	wt	No	0	5	Yes	23	No
117	Non-CSD	72	Male	IIIc	wt	No	2	5	Yes	18	Yes
118	Acral	52	Female	Ia	wt	No	1	1	No	17	No
119	CSD	63	Male	IIIc	wt	No	0	10	Yes	49	No
120	Acral	72	Female	IIc	wt	No	0	6	Yes	18	No

Supplementary Table S1. Continued (2)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	KIT Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
121	Acral	52	Male	IV	wt	No	0	2	No	18	No
122	Mucosal	44	Male	IV	wt	No	1	3.5	Yes	13	No
123	Mucosal	62	Female	IIb	wt	No	1	4.5	No	77	Yes
124	Mucosal	38	Female	IV	N822K	No	0	5	Yes	17	No
125	Acral	60	Male	NA	wt	No	0	8	No	16	No
126	UP	54	Male	IIIc	wt	No	0	NA	NA	16	No
127	Acral	71	Male	IIIb	wt	No	0	3	Yes	37	No
128	UP	68	Female	IV	wt	No	0	NA	NA	6	Yes
129	Acral	69	Male	NA	wt	No	0	4	No	33	No
130	Mucosal	50	Female	IV	wt	No	0	4	No	25	Yes
131	Mucosal	42	Female	IV	wt	No	0	5	Yes	10	Yes
132	Mucosal	69	Female	NA	wt	No	0	6	Yes	47	No
133	Acral	60	Female	IIa	wt	No	0	1.5	Yes	16	No
134	Acral	57	Male	IV	wt	No	0	4	No	10	Yes
135	UP	62	Female	IV	wt	No	0	NA	NA	29	No
136	Acral	57	Female	IIb	wt	No	0	4	Yes	41	Yes
137	Acral	63	Male	IIIc	wt	No	0	5	No	62	No
138	Mucosal	33	Male	IV	wt	No	3	4.5	Yes	25	Yes
139	UP	54	Female	IIIc	wt	No	0	NA	NA	29	Yes
140	Non-CSD	57	Female	IIIa	K642E	No	0	6	Yes	18	Yes
141	Non-CSD	82	Male	IIIc	wt	No	0	NA	NA	29	Yes
142	Acral	57	Female	IV	F848L	No	0	4	No	20	Yes
143	Acral	49	Male	IIa	wt	No	1	3	No	31	No
144	Acral	47	Female	IIIc	wt	No	0	NA	NA	17	No
145	Acral	49	Male	IIa	wt	No	1	3.5	No	31	No
146	Acral	45	Female	IIIa	N566D;A829V	No	0	4	No	10	Yes
147	CSD	52	Female	IIIa	wt	No	0	3	Yes	18	Yes
148	CSD	52	Female	IIIa	wt	No	1	1.5	Yes	27	Yes
149	Acral	81	Male	IIc	wt	No	0	9	Yes	73	No
150	UP	44	Female	IIIb	wt	No	2	NA	NA	24	No
151	Acral	38	Female	IV	L637L;G648S	No	0	3	No	13	Yes
152	Acral	70	Male	IIIc	wt	No	0	5	Yes	29	No
153	Acral	55	Female	IV	wt	No	1	3	Yes	27	Yes
154	Acral	32	Male	NA	wt	No	1	8	No	59	No
155	Mucosal	79	Female	IIa	wt	No	0	2	Yes	16	No
156	CSD	70	Female	IV	wt	No	0	9	No	21	No
157	Acral	50	Male	IIc	wt	No	0	10	Yes	30	No
158	Acral	71	Female	NA	wt	Yes	1	5	Yes	8	Yes
159	Acral	74	Female	IIIc	wt	No	0	4	Yes	17	No
160	Acral	64	Female	IIc	wt	No	0	7	Yes	16	No
161	Mucosal	41	Male	IV	wt	No	1	7	Yes	15	No
162	Acral	63	Female	IIIc	wt	No	1	1	No	150	Yes
163	Mucosal	38	Male	IIb	wt	No	2	7	No	43	No
164	Acral	66	Male	IIc	wt	No	0	8	Yes	16	No
165	CSD	74	Male	IIb	wt	No	0	5	No	53	Yes
166	Mucosal	28	Male	IIb	wt	No	1	6	No	89	No
167	Acral	62	Male	IIIa	wt	No	0	4.5	No	43	No
168	Acral	51	Female	IIc	wt	No	1	5	Yes	124	Yes
169	Mucosal	54	Male	NA	wt	No	0	5	No	32	No
170	Acral	47	Male	IV	wt	No	1	2	No	28	No
171	Mucosal	52	Female	NA	wt	No	1	2	Yes	21	No
172	Acral	36	Male	NA	wt	Yes	1	1	No	15	Yes
173	Acral	54	Male	IIIb	wt	No	1	10	Yes	108	Yes
174	UP	41	Female	IIIa	wt	No	0	NA	NA	24	No
175	Non-CSD	27	Male	IIIc	wt	Yes	0	6	Yes	62	Yes
176	UP	31	Female	IV	wt	No	0	NA	NA	13	No
177	Non-CSD	23	Female	IV	L831P	No	1	3	No	15	No
178	Mucosal	44	Female	NA	wt	No	0	3.5	Yes	21	No
179	Mucosal	58	Female	IV	wt	No	0	5	No	10	Yes
180	Mucosal	48	Female	IIc	wt	No	0	5	Yes	15	No

Supplementary Table S1. Continued (3)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	KIT Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
181	Acral	76	Male	IIc	I817T	No	0	5	Yes	57	No
182	Mucosal	65	Male	Iia	wt	No	1	2	Yes	41	No
183	Mucosal	48	Female	IIb	wt	No	0	3.5	Yes	33	No
184	Acral	27	Male	IIc	wt	No	0	4.5	Yes	34	No
185	Mucosal	52	Female	NA	wt	No	3	1.5	No	33	No
186	Mucosal	50	Male	III	wt	No	0	NA	NA	22	Yes
187	Mucosal	54	Female	IIIb	wt	No	1	10	Yes	50	No
188	UP	68	Female	IIIc	wt	No	1	NA	NA	132	No
189	Non-CSD	57	Female	IV	wt	No	0	1	No	9	Yes
190	Mucosal	37	Male	IIIc	wt	No	1	8	Yes	36	No
191	Mucosal	61	Male	NA	wt	No	0	10	Yes	30	No
192	Acral	70	Male	IIb	wt	No	1	3	Yes	15	No
193	Mucosal	35	Male	IV	wt	No	0	5	No	10	Yes
194	Acral	70	Male	IIc	wt	No	0	6	Yes	43	No
195	Acral	43	Female	IIc	wt	No	0	6	Yes	15	No
196	UP	49	Male	III	wt	No	1	NA	NA	55	No
197	Mucosal	38	Male	IV	wt	No	1	10	Yes	20	No
198	Acral	55	Male	IIb	Y553N	No	1	2.5	Yes	15	No
199	Non-CSD	34	Male	IV	wt	No	0	7	No	15	No
200	UP	44	Male	IV	wt	No	0	NA	NA	14	Yes
201	Acral	48	Female	NA	wt	No	0	3	Yes	29	No
202	Mucosal	43	Female	NA	wt	No	1	8	Yes	33	No
203	CSD	58	Female	IV	V555I	No	0	10	Yes	18	Yes
204	Mucosal	41	Male	IIIa	wt	No	0	5	No	36	Yes
205	Acral	59	Male	IIc	wt	No	0	6	Yes	44	No
206	Acral	71	Male	IIc	wt	No	1	6	Yes	14	No
207	Acral	30	Male	IIc	wt	No	0	8	Yes	15	No
208	Non-CSD	75	Female	IV	wt	No	1	4	Yes	24	Yes
209	UP	63	Female	IV	wt	No	0	NA	NA	15	No
210	Mucosal	60	Male	NA	wt	No	0	4	Yes	42	No
211	Mucosal	55	Female	Ib	wt	No	0	1	Yes	20	No
212	Mucosal	77	Male	IIb	wt	No	2	5	No	33	No
213	UP	59	Female	IIIa	wt	No	0	NA	NA	14	No
214	Mucosal	66	Male	IIc	wt	No	0	7	Yes	16	No
215	Acral	77	Male	IIIa	wt	No	1	10	Yes	38	No
216	Acral	74	Male	IV	wt	No	0	3	Yes	11	Yes
217	Acral	63	Female	NA	E633G	No	0	7	Yes	16	No
218	Mucosal	59	Male	IIb	Q556R	No	0	2.5	Yes	14	No
219	Non-CSD	58	Female	IIIc	wt	No	0	4	Yes	22	No
220	Acral	33	Male	IIc	wt	No	1	10	Yes	24	No
221	UP	53	Male	IV	wt	No	1	NA	NA	14	No
222	Non-CSD	58	Female	NA	wt	No	0	10	Yes	18	No
223	Non-CSD	79	Male	IV	wt	No	0	4	No	14	No
224	Acral	55	Male	Ia	wt	No	0	0.5	No	56	No
225	Acral	60	Male	IIIb	wt	No	0	5	No	21	No
226	Acral	46	Male	IIb	wt	No	1	3	Yes	20	No
227	UP	58	Female	NA	wt	No	2	NA	NA	27	No
228	Acral	34	Female	Ib	wt	No	2	2	No	24	No
229	Mucosal	78	Male	NA	wt	No	0	2	No	21	No
230	Mucosal	34	Male	NA	wt	No	0	8	No	20	No
231	Acral	50	Female	IIIc	wt	No	0	10	Yes	16	No
232	Non-CSD	57	Female	IV	wt	No	0	8	Yes	13	No
233	Non-CSD	57	Female	IIIc	wt	No	0	8	No	19	No
234	Acral	57	Male	NA	wt	No	0	5	No	36	No
235	CSD	54	Female	IIc	wt	No	1	6	Yes	51	Yes
236	Mucosal	24	Female	IV	wt	No	0	4	Yes	12	Yes
237	Non-CSD	47	Female	IV	wt	No	1	4	No	15	Yes
238	Acral	47	Female	IV	wt	No	3	3	No	13	No
239	Acral	47	Female	IV	wt	No	1	2	No	13	No
240	Acral	54	Male	IIc	wt	No	0	5	Yes	20	No

Supplementary Table S1. Continued (4)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	*KIT* Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
241	Acral	72	Female	NA	wt	No	0	0.5	No	16	No
242	Mucosal	69	Female	IIc	wt	No	0	5.5	Yes	16	No
243	Acral	64	Female	NA	wt	No	1	2	No	15	No
244	Acral	70	Female	NA	wt	No	1	1	Yes	15	No
245	Mucosal	45	Female	NA	W853stop	No	3	4	No	13	No
246	Acral	41	Male	IIIc	wt	No	0	1	No	34	No
247	CSD	55	Male	NA	wt	No	1	10	Yes	23	No
248	CSD	81	Male	IIc	wt	No	1	9	Yes	33	No
249	Acral	44	Male	IIa	L859P;L865L	No	2	4	No	32	Yes
250	Mucosal	34	Male	NA	wt	No	0	4	Yes	25	No
251	Non-CSD	50	Male	IV	wt	No	1	6	Yes	14	No
252	Acral	37	Male	IIIc	wt	No	1	5	No	15	No
253	Mucosal	61	Male	IV	wt	No	0	4	Yes	18	No
254	Mucosal	39	Female	NA	wt	Yes	1	7	No	15	No
255	CSD	34	Male	IIb	wt	No	0	3	Yes	13	Yes
256	Mucosal	35	Female	IIc	L647F	No	1	8	Yes	15	No
257	Mucosal	39	Female	IIIb	wt	No	0	4	Yes	16	No
258	Non-CSD	37	Female	IV	wt	No	0	2	No	15	No
259	Mucosal	62	Female	IIIa	wt	No	1	5	Yes	13	No
260	UP	83	Female	NA	wt	No	0	NA	NA	27	No
261	Acral	73	Female	IIIc	wt	No	0	2.5	Yes	14	No
262	Acral	43	Female	IIc	wt	No	0	5	Yes	13	No
263	Acral	72	Female	IIa	W582stop	No	1	1.5	Yes	33	Yes
264	CSD	76	Male	IIc	wt	No	0	4.5	Yes	43	No
265	Non-CSD	32	Female	IV	wt	No	0	4	Yes	13	No
266	UP	61	Male	IV	wt	No	0	NA	NA	6	Yes
267	Acral	63	Female	IIc	wt	No	0	6	Yes	52	Yes
268	CSD	57	Female	Ia	wt	No	0	0.5	No	16	No
269	Acral	30	Male	IIb	wt	No	0	5	No	12	No
270	Acral	58	Male	IV	wt	No	1	1	No	13	No
271	CSD	63	Male	IIIc	I571M	No	0	4	No	25	No
272	Mucosal	77	Female	NA	wt	No	0	1.5	No	12	No
273	Acral	64	Male	IV	K642E	No	0	4	No	12	No
274	UP	75	Male	IV	wt	No	0	NA	NA	4	Yes
275	CSD	56	Male	IV	Y846H	No	0	10	Yes	25	Yes
276	Acral	72	Male	IIIa	wt	No	0	8	Yes	22	Yes
277	Acral	40	Female	IIIa	wt	No	0	3	No	29	No
278	UP	68	Female	IV	wt	No	1	NA	NA	12	No
279	Mucosal	42	Male	IIa	wt	No	0	3	No	13	No
280	Acral	50	Female	IIc	wt	No	0	10	Yes	14	No
281	Non-CSD	54	Female	IIIa	wt	No	0	10	Yes	16	No
282	Non-CSD	42	Female	IIIc	wt	No	1	4	No	12	No
283	Acral	62	Female	IIIa	wt	No	1	1.5	Yes	19	No
284	Non-CSD	39	Female	IV	wt	No	0	6	Yes	10	Yes
285	Mucosal	41	Female	NA	wt	No	0	5	No	NA	NA
286	Acral	35	Male	IIc	wt	No	0	6	Yes	12	No
287	Mucosal	59	Female	NA	wt	Yes	0	5.5	No	10	No
288	Mucosal	74	Female	NA	wt	No	0	3	No	NA	NA
289	Acral	41	Male	IIIb	wt	No	0	5	Yes	27	No
290	CSD	44	Female	IIc	wt	No	0	7	Yes	12	No
291	Mucosal	62	Female	IIIa	wt	No	0	1	No	13	Yes
292	CSD	37	Male	IIIc	wt	No	1	3	Yes	12	No
293	Acral	27	Female	IIa	wt	No	1	2	Yes	12	No
294	UP	63	Female	IV	wt	No	1	NA	NA	NA	NA
295	Acral	42	Female	IV	wt	No	0	7	Yes	18	No
296	Acral	33	Male	IIIc	wt	No	0	6	Yes	45	No
297	Mucosal	54	Male	IIIc	wt	No	1	9	Yes	19	No
298	Acral	69	Female	III	wt	No	0	6	Yes	NA	NA
299	Non-CSD	57	Male	IIb	P551L	No	1	4.5	No	98	Yes
300	Non-CSD	48	Male	IIIc	wt	No	1	1.5	Yes	13	No

Supplementary Table S1. Continued (5)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	*KIT* Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
301	Non-CSD	33	Male	IIIa	wt	No	0	10	Yes	13	No
302	Mucosal	44	Male	IIb	wt	No	1	2.5	Yes	NA	NA
303	UP	79	Male	IIIa	wt	No	0	NA	NA	15	No
304	Non-CSD	39	Female	IV	wt	No	0	6	No	NA	NA
305	Acral	71	Female	IIa	wt	No	0	3.5	No	30	Yes
306	Non-CSD	45	Male	IV	wt	No	0	3	Yes	NA	NA
307	UP	78	Male	IV	S645N	No	0	NA	NA	22	Yes
308	Acral	66	Female	IV	wt	No	0	6	No	23	Yes
309	Acral	54	Male	IIIb	wt	No	0	7	Yes	13	No
310	Acral	82	Female	IIc	wt	No	0	5	Yes	12	No
311	Acral	62	Male	IV	wt	No	0	1	No	16	No
312	Acral	51	Female	IIc	I563V	No	1	6	Yes	53	Yes
313	Mucosal	59	Male	IIIa	wt	No	1	6	Yes	10	No
314	Non-CSD	58	Female	IV	T632I;L637F	No	0	10	Yes	17	No
315	Acral	53	Female	IV	wt	No	0	6	Yes	NA	NA
316	Non-CSD	75	Male	IV	wt	No	0	6	No	NA	NA
317	Mucosal	35	Male	IV	wt	No	0	3	No	12	No
318	Non-CSD	77	Female	IIIc	wt	Yes	0	6	No	23	No
319	UP	53	Male	IV	wt	No	0	NA	NA	19	Yes
320	Acral	55	Male	IV	wt	No	3	5	No	12	Yes
321	Mucosal	61	Female	IIa	wt	Yes	0	1.5	Yes	11	No
322	Mucosal	62	Male	IIa	wt	No	0	3	No	55	No
323	Mucosal	70	Female	IV	wt	No	0	7	Yes	NA	NA
324	Acral	56	Male	IV	N822K	No	0	3	No	10	Yes
325	Mucosal	63	Female	IV	N822Y	No	0	7.5	Yes	17	Yes
326	UP	82	Female	III	wt	No	0	NA	NA	26	No
327	Mucosal	42	Female	IV	wt	No	0	4	Yes	20	Yes
328	Mucosal	56	Female	Ia	wt	Yes	1	1	No	119	No
329	Mucosal	49	Male	IV	wt	No	0	4	Yes	NA	NA
330	Mucosal	57	Male	NA	E561G	No	1	9	Yes	21	No
331	Acral	46	Male	IIa	wt	No	0	4	No	NA	NA
332	Non-CSD	20	Male	IV	wt	No	1	10	Yes	9	Yes
333	UP	56	Male	IIIa	wt	No	0	NA	NA	13	No
334	Acral	71	Male	IIc	L576F;A636A	No	0	10	Yes	16	No
335	Acral	54	Male	IIa	L576P	Yes	1	3	No	17	No
336	CSD	32	Male	IIIc	L656R	No	0	7	No	10	No
337	Mucosal	82	Male	IIc	wt	No	0	5	Yes	98	No
338	Acral	55	Male	IIc	W853stop	No	0	4.5	Yes	12	No
339	Non-CSD	66	Male	IV	wt	No	1	1	No	14	Yes
340	Mucosal	57	Female	IV	wt	No	1	10	No	11	Yes
341	Mucosal	68	Male	Ia	wt	No	1	1	No	10	No
342	UP	69	Female	IV	wt	No	1	NA	NA	12	Yes
343	Mucosal	44	Female	IV	wt	No	0	1	No	15	Yes
344	Mucosal	30	Female	IV	wt	No	0	2	No	10	No
345	UP	48	Male	II	wt	No	0	NA	NA	42	No
346	Acral	60	Male	IV	wt	No	0	3	Yes	23	No
347	Mucosal	31	Male	IIa	wt	No	1	3	No	50	Yes
348	Non-CSD	46	Female	IIIc	wt	No	2	4.5	Yes	10	No
349	Non-CSD	76	Female	IV	wt	No	0	0.5	No	10	No
350	UP	37	Female	IV	wt	No	1	NA	NA	10	Yes
351	Mucosal	55	Female	IIa	wt	No	0	3.5	No	NA	NA
352	Mucosal	32	Female	IIb	wt	No	1	5	No	51	No
353	Acral	43	Female	IIc	wt	No	0	5	Yes	69	Yes
354	Acral	43	Male	IIb	wt	No	0	2.5	Yes	NA	NA
355	Acral	46	Male	IV	wt	No	0	5	Yes	10	No
356	Mucosal	29	Female	Ia	wt	No	0	1	No	48	Yes
357	Mucosal	28	Male	IIa	E583G	No	2	3.5	No	22	No
358	UP	67	Male	IV	wt	No	0	NA	NA	NA	NA
359	Acral	42	Female	IIIb	C844Y	No	0	5	No	30	Yes
360	Acral	61	Male	IV	wt	No	0	1	No	11	No

Supplementary Table S1. Continued (6)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	*KIT* Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
361	Acral	59	Male	IV	L576P	Yes	2	4.5	No	13	No
362	UP	48	Male	IV	L576P	No	3	NA	NA	NA	NA
363	Mucosal	69	Female	IV	wt	No	1	10	Yes	19	No
364	Mucosal	38	Male	IIa	wt	No	0	3	No	13	No
365	Acral	62	Male	IV	wt	No	1	10	Yes	13	No
366	Acral	61	Male	IV	wt	No	2	5	Yes	NA	NA
367	Acral	59	Male	IIIa	wt	No	0	5	No	33	No
368	Acral	55	Male	IV	wt	No	0	5	Yes	24	No
369	UP	54	Male	IV	L576F	No	0	NA	NA	7	Yes
370	Non-CSD	54	Female	IIIc	wt	No	2	7	Yes	8	No
371	Acral	58	Male	IIc	wt	Yes	0	6.5	Yes	8	No
372	Acral	52	Female	IV	wt	No	3	5	Yes	NA	NA
373	Mucosal	55	Male	IIb	K642E	No	1	3	Yes	NA	NA
374	Mucosal	60	Female	IIb	wt	No	1	5	No	9	No
375	Non-CSD	47	Male	IIIc	wt	No	3	5	Yes	11	No
376	Non-CSD	56	Female	IV	wt	No	0	10	Yes	10	No
377	Acral	37	Male	IIIb	wt	No	3	5	Yes	11	No
378	Acral	59	Female	IIc	wt	No	2	4.5	Yes	9	No
379	Non-CSD	52	Male	IV	wt	No	1	4	Yes	20	Yes
380	Acral	70	Male	IIIc	wt	No	0	5	Yes	23	No
381	Non-CSD	49	Female	IV	wt	No	2	10	Yes	12	No
382	Mucosal	41	Male	IV	wt	No	0	6	Yes	11	No
383	Mucosal	60	Male	IIb	wt	No	0	4	Yes	11	No
384	Acral	36	Female	IV	wt	No	1	3	Yes	8	No
385	Acral	54	Male	IIIc	L576P	No	0	9	No	65	No
386	UP	34	Male	IV	wt	No	3	NA	NA	10	Yes
387	Mucosal	67	Male	IV	wt	No	0	3	No	10	No
388	Acral	22	Female	IIIc	wt	No	0	6	No	35	No
389	Mucosal	39	Female	IV	wt	Yes	1	10	Yes	11	Yes
390	Mucosal	49	Female	IV	L576P	Yes	0	2	No	21	Yes
391	Non-CSD	60	Female	IV	wt	No	0	10	Yes	NA	NA
392	Mucosal	57	Female	IIc	wt	No	3	10	Yes	95	No
393	CSD	54	Female	IIa	wt	No	1	2	Yes	44	No
394	Mucosal	77	Female	IIIb	wt	No	3	5	No	33	No
395	Mucosal	73	Female	IIc	wt	No	1	7	Yes	9	No
396	Acral	56	Female	Ib	wt	No	1	1.5	No	34	No
397	Mucosal	56	Female	IV	wt	No	2	4.5	Yes	12	No
398	Acral	63	Male	IV	wt	Yes	3	3.5	No	9	No
399	Acral	87	Female	IIIc	wt	No	0	7	No	13	No
400	Acral	43	Female	IIc	wt	Yes	1	7.5	Yes	NA	NA
401	Acral	84	Female	IV	wt	No	0	2.5	Yes	18	No
402	Mucosal	55	Female	IIc	wt	Yes	2	5	Yes	7	No
403	Mucosal	81	Female	IIb	wt	No	0	4	Yes	NA	NA
404	Acral	70	Male	IV	wt	No	0	5	Yes	15	Yes
405	CSD	45	Female	IIIc	wt	No	0	7	Yes	29	No
406	Non-CSD	25	Male	IV	wt	No	2	4	No	NA	NA
407	Non-CSD	56	Female	IIIc	wt	No	0	0.5	No	28	No
408	Mucosal	33	Female	IIb	wt	No	0	3	Yes	62	No
409	Mucosal	36	Female	IIIc	wt	Yes	3	5	Yes	13	No
410	Mucosal	41	Female	IV	wt	No	0	10	Yes	NA	NA
411	Mucosal	71	Female	IIb	wt	No	1	2.5	Yes	8	No
412	Mucosal	70	Female	IV	wt	Yes	0	10	Yes	7	No
413	Acral	63	Female	NA	wt	No	0	3	No	24	Yes
414	Mucosal	66	Female	IIb	wt	No	0	7	No	7	No
415	Acral	50	Male	III	wt	No	1	NA	NA	NA	NA
416	Non-CSD	56	Female	IV	wt	No	1	1.5	Yes	18	No
417	Mucosal	37	Male	IV	wt	Yes	3	5	No	14	No
418	Non-CSD	45	Male	IIIb	wt	No	0	4	Yes	NA	NA
419	Acral	71	Female	IIIc	wt	No	1	5	Yes	12	No
420	UP	59	Male	IV	wt	No	0	NA	NA	9	Yes

Supplementary Table S1. Continued (7)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	*KIT* Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
421	Mucosal	41	Female	IV	D816N	No	1	3	Yes	12	Yes
422	Acral	70	Male	IIc	wt	No	0	5	Yes	7	No
423	UP	58	Male	IV	wt	No	0	NA	NA	5	Yes
424	Mucosal	74	Male	IIa	wt	No	0	3	No	8	No
425	Acral	44	Female	IIc	wt	No	0	4.5	Yes	7	No
426	Acral	40	Female	IIb	wt	No	1	5	No	45	Yes
427	Mucosal	80	Male	Ib	wt	No	1	1.5	No	7	No
428	Non-CSD	61	Female	IV	wt	No	0	2	No	13	No
429	Acral	72	Female	IIb	wt	No	0	4.5	No	7	No
430	Acral	71	Male	IIIb	wt	No	0	7	Yes	34	Yes
431	CSD	47	Female	IIc	wt	No	1	4.5	Yes	NA	NA
432	Acral	39	Female	IIc	wt	No	1	8	Yes	7	No
433	Acral	66	Male	IIa	wt	No	0	3	No	8	No
434	Non-CSD	48	Male	IV	wt	No	0	8	Yes	19	No
435	Acral	53	Male	IIIc	wt	Yes	1	7	Yes	29	No
436	Mucosal	38	Female	IV	wt	No	1	5	Yes	9	No
437	Acral	68	Male	IIc	L576P	No	1	9	Yes	7	No
438	Non-CSD	40	Female	IV	wt	No	0	5	Yes	9	No
439	Acral	71	Male	IIc	wt	No	0	10	Yes	7	No
440	Acral	40	Male	IIIc	wt	No	1	10	Yes	7	No
441	Acral	59	Female	IIa	wt	No	1	3	No	7	No
442	Mucosal	41	Female	IV	wt	No	2	6	Yes	16	No
443	Acral	43	Female	IV	wt	No	1	1.5	No	13	No
444	UP	70	Male	IV	wt	No	1	NA	NA	22	No
445	Acral	44	Female	IIc	wt	No	0	5	Yes	26	No
446	UP	78	Female	IV	wt	No	0	NA	NA	NA	NA
447	CSD	65	Male	IIc	E849stop	No	0	5	Yes	24	No
448	UP	59	Female	IV	P577H	No	0	NA	NA	8	No
449	Mucosal	77	Female	IIb	wt	No	1	2.5	Yes	6	No
450	Mucosal	47	Male	IIa	wt	No	1	3	No	8	No
451	UP	64	Male	IV	wt	No	1	NA	NA	7	No
452	Mucosal	29	Female	IIc	wt	No	0	6	Yes	25	No
453	Acral	36	Male	IV	wt	No	0	2	Yes	7	No
454	Acral	50	Male	IIIc	wt	No	3	1.5	Yes	27	No
455	CSD	78	Male	IIIb	wt	No	0	10	No	7	No
456	Mucosal	36	Female	IV	wt	No	0	5	No	19	No
457	Acral	50	Male	IIc	wt	No	0	8	Yes	6	No
458	Acral	68	Male	NA	wt	No	0	3	No	55	Yes
459	Non-CSD	55	Female	IV	wt	No	0	4	Yes	17	No
460	UP	52	Male	IV	wt	No	0	NA	NA	6	No
461	UP	76	Male	II	wt	No	2	NA	NA	64	No
462	Acral	25	Male	IV	wt	No	0	10	Yes	13	No
463	Acral	57	Female	IV	wt	No	0	3	No	12	No
464	Acral	41	Female	IIIc	wt	No	0	4	No	5	No
465	Mucosal	74	Female	IV	wt	No	1	10	Yes	11	No
466	Mucosal	69	Female	IIIa	wt	No	1	1	No	37	No
467	Acral	87	Female	IIc	wt	No	0	5	Yes	6	No
468	Acral	39	Female	IIIc	wt	No	3	2	No	6	No
469	Acral	30	Female	III	wt	No	0	NA	NA	10	No
470	Mucosal	53	Female	IIIc	wt	No	0	2	No	12	No
471	Acral	83	Male	IIc	wt	No	1	6	Yes	26	No
472	Mucosal	69	Female	IV	L576P	No	0	NA	NA	6	Yes
473	Non-CSD	46	Female	IV	wt	No	2	5	Yes	7	No
474	Non-CSD	75	Female	IIIc	wt	No	1	2	No	7	No
475	Non-CSD	70	Male	IV	wt	No	2	7	Yes	8	No
476	Acral	59	Female	IV	wt	No	0	1.5	No	9	No
477	Mucosal	50	Female	IV	wt	No	0	NA	NA	25	No
478	Acral	51	Female	IIc	wt	No	3	7	Yes	32	No
479	UP	38	Male	IIIc	wt	No	0	NA	NA	22	No
480	Non-CSD	69	Female	IIIc	wt	No	0	2	No	8	No

Supplementary Table S1. Continued (8)

Code[a]	Subtype	Age	Sex	TNM Stage	*KIT* Mutation	*KIT* Amplification[b]	CD117 (IHC Scores)[c]	Thickness (mm)	Ulceration	Overall Survival (month)	Death
481	Non-CSD	28	Female	IV	wt	No	0	3	No	13	No
482	Mucosal	26	Female	IIc	wt	Yes	2	5.5	Yes	29	No
483	Non-CSD	39	Female	IV	wt	No	3	5	Yes	8	No
484	Acral	58	Male	IIc	wt	No	1	6	Yes	18	No
485	CSD	74	Female	IIc	wt	No	0	5	Yes	4	No
486	Mucosal	70	Female	IV	wt	No	0	3	No	8	No
487	UP	36	Male	IV	wt	No	0	NA	NA	10	Yes
488	Mucosal	57	Female	IIc	wt	No	0	7	Yes	12	No
489	Mucosal	38	Female	IV	wt	Yes	1	1.5	No	17	Yes
490	Mucosal	62	Male	IV	wt	No	0	NA	NA	26	Yes
491	UP	38	Female	NA	wt	No	0	NA	NA	NA	NA
492	Mucosal	40	Male	IIIa	wt	No	0	2	No	8	Yes
493	Non-CSD	61	Male	IV	wt	No	1	5	Yes	6	Yes
494	Acral	58	Male	IIIa	L576P	No	1	7	Yes	22	Yes
495	Acral	70	Male	IIc	V489I	No	0	10	Yes	6	Yes
496	Mucosal	64	Male	IV	wt	Yes	1	10	No	24	Yes
497	Mucosal	64	Male	IIa	wt	No	0	3	No	49	Yes
498	Mucosal	30	Male	Ib	wt	No	1	2	No	24	No
499	UP	64	Female	IIIa	wt	No	0	NA	NA	24	No
500	Acral	72	Female	NA	wt	No	3	1.5	No	22	No
501	Non-CSD	52	Male	Ib	I571-L576del	No	1	2	No	45	No
502	Acral	54	Female	IIb	wt	No	1	4.5	No	43	No

Abbreviations: TNM, tumor-node-metastases; IHC, immunohistochemistry; UP, unknown primary; CSD, melanomas on skin with chronic sun-induced damage; Non-CSD, melanomas on skin without chronic sun-induced damage; wt, wild type; NA, not available; del, deletion.

[a] Code No. was designated by the order of samples obtained after exlusion of cases unqualified for genomic DNA analysis.

[b] The threshold for *KIT* gene copy number increase was 3.40 copies of *KIT* relative to RNase P.

[c] The signal intensity of immunohistochemistry results were determined by three individual pathologists and scored as 0, 1, 2 and 3 with score "0" as negative and score "3" as the strongest.

Kong Y. et al. Supplementary Table S2

Supplementary Table S2. Primers Used in This Study for Analysis of KIT Genetic Aberrations*†

Exon	Primer Set 1	Primer Set 2
9	F:5'-AACTCAGTGTTGGTGGGGGT-3'	F: 5'-AAAGTATGCCACATCCCAAG-3'
	R:5'-TTGTTCTAATTCTGTTTGGGTG-3'	R: 5'-ACAGAGCCTAAACATCCCCT-3'
11	F: 5'-TATTGTGATGATTCTGACCTAC-3'	F: 5'-GTGCTCTAATGACTGAGACAAT-3'
	R: 5'-TTTTCCTACGATGTTCTCTATG-3'	R: 5'-GGAACAAAACAAAGGAAGC-3'
13	F: 5'-TTTCGGGAAGGTTGTTGAGG-3'	F: 5'-ACTGTCGCTGTAAAGATGCTCA-3'
	R: 5'-ATAACTAGGGTATGTCCTGGGC-3'	R: 5'-ACAACAGTCTGGGTAAAAAAAT-3'
17	F: 5'-TACTTTTGATTTTTATTTTTGG-3'	F: 5'-AGTTAGTTTTCACTCTTTACAA-3'
	R: 5'-ACCTACATTTGTTACACTTGAG-3'	R: 5'-TAAAATGTGTGATATCCCTAGA-3'
18	F: 5'-ATGTATTTCAGAGGTGATTGGG-3'	F: 5'-TTCAGCAACAGCAGCATCTATA-3'
	R: 5'-GTGTTCAGGGCTGAGCATCC-3'	R: 5'-GCAGGACACCAATGAAACTT-3'

Abbreviations: F, forward primer; R, reverse primer.

* Nested PCR was used for the examination of genetic mutations in *KIT* gene.

† For each sample, ΔC_t for KIT versus RNase P was calculated as $\Delta C_t = C_t$ (KIT) – C_t (RNase P). The ΔC_t value for each experimental test sample was calibrated to a reference pool of genomic DNA prepared from five samples of formalin-fixed, paraffin-embedded benign nevi tissue, using the formula $\Delta\Delta C_t = \Delta C_t$ (test sample) - ΔC_t (reference pool). Relative DNA copy number was calculated using the formula $2^{-\Delta\Delta Ct}$. Relative copy numbers were converted to absolute copy numbers by assigning a value of 2 (diploid) to the reference pool and multiplying the relative copy number of test samples by a factor of 2. The *KIT* copy number was determined by comparison to five individual formalin-fixed, paraffin-embedded benign nevi samples. The means and SDs of the five samples, based on triplicate measurements, were 1.39 ± 0.45 *KIT* copies relative to RNase P. The threshold for increased *KIT* copy number was set relative to these normal samples using the 95% confidence level according to Chebychev' s inequality, with the formula: mean ± (4.47 X SD). The threshold was 3.40 copies of KIT relative to RNase P.

Kong Y. et al. Supplementary Table S3

Supplementary Table S3. Correlation of *KIT* aberrations to clinical features of melanoma

KIT alteration	Age (year)[b]	Female (%)[c]	Clinical Stage[d]				Thickness (mm)[e]	Ulceration (%)[f]
			I	II	III	IV		
KIT Mutation								
Mutation	54.65 ± 12.58	25 (46.3)	2 (3.9)	19 (37.3)	11 (21.6)	19 (37.3)	5.24 ± 2.63	55.1
WT	54.02 ± 14.60	237 (52.9)	13 (3.3)	126 (31.6)	118 (29.6)	142 (35.6)	4.91 ± 2.54	59.7
P Value	0.72	0.45	0.88	0.51	0.31	0.94	0.46	0.65
KIT Gene Copy Number								
Increased	52.57 ± 14.59	22 (59.5)	2 (6.3)	8 (25.0)	11 (34.4)	11 (34.4)	5.08 ± 2.60	51.5
Normal	54.21 ± 14.38	240 (51.6)	13 (3.1)	137 (32.8)	118 (28.2)	150 (35.9)	4.94 ± 2.54	59.9
P Value	0.51	0.47	0.67	0.48	0.61	0.98	0.84	0.47
Genetic KIT Aberration[a]								
Aberrated	53.88 ± 13.69	45 (52.3)	3 (3.8)	26 (33.3)	21 (26.9)	28 (35.9)	5.24 ± 2.55	52.3
Non Aberration	54.13 ± 14.54	217 (52.2)	12 (3.2)	119 (32.0)	108 (29.0)	133 (35.8)	4.89 ± 2.54	52.2
P Value	0.15	0.92	0.95	0.93	0.82	0.92	0.89	0.92
CD117 Overexpression								
Positive	52.31 ± 13.58	107 (53.8)	8 (4.4)	63 (34.4)	51 (27.9)	61 (33.3)	4.92 ± 2.61	53.8
Negative	55.25 ± 14.80	155 (51.2)	7 (2.6)	82 (30.7)	78 (29.2)	100 (37.4)	4.97 ± 2.50	51.2
P Value	0.14	0.65	0.47	0.48	0.85	0.44	0.75	0.65

Abbreviations: WT, wild type.

[a] Genetic aberration includes *KIT* mutation and increased gene copy number.

[b] Significance evaluated by unpaired t tests.

[c] Significance evaluated by Chi-square tests.

[d] The stages were designated according to the stumor-node-metastasis (TNM) criteria. Significance was evaluated by Chi-square tests.

[e] Significance evaluated by Chi-square tests.

[f] Significance evaluated by unpaired t tests.