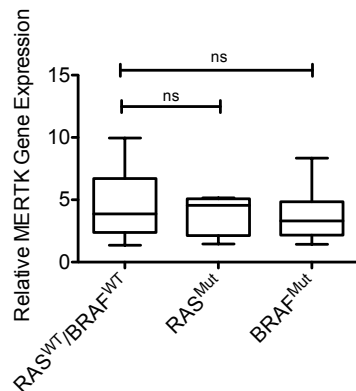
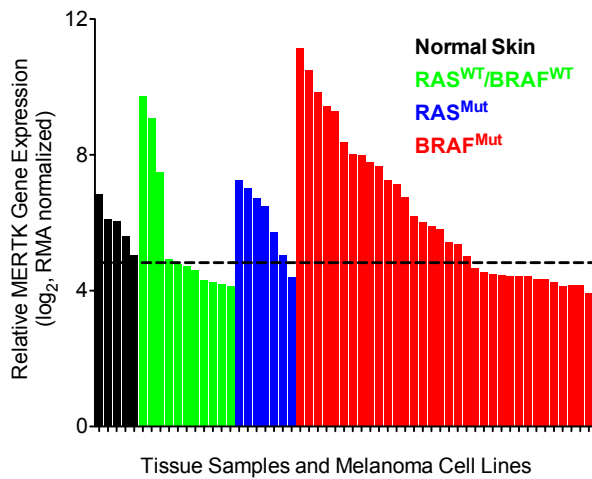


Supplemental Figure 1. MERTK gene expression in melanoma cell line panel from Cancer Cell Line Encyclopedia. A. Microarray analysis of melanoma cell lines from UNC collection grouped by oncogenic mutation. (ns=not significant) B. Microarray analysis of normal human skin and melanoma cell lines from CCLC collection for MERTK transcript levels. Melanoma cell lines were grouped by oncogenic mutation status. Dotted line represents average MERTK expression in normal skin. C. CCLC collection was analyzed for MERTK expression with respect to oncogenic mutations in RAS and BRAF.

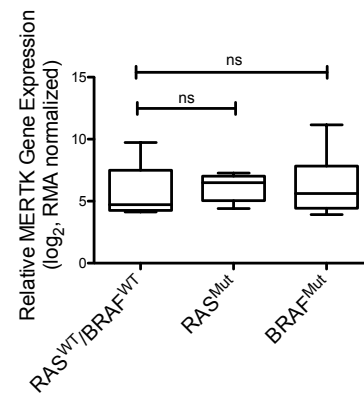
A



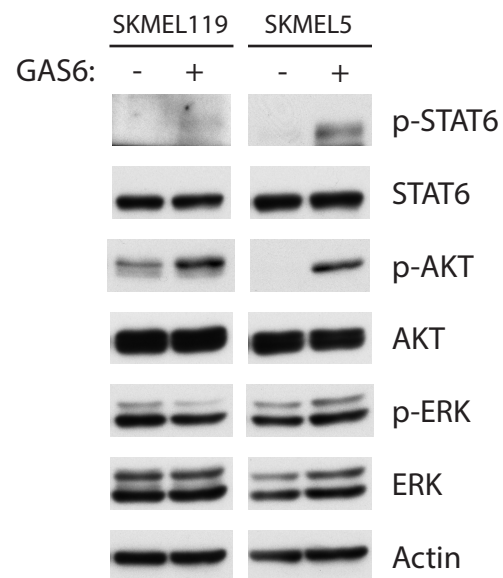
B



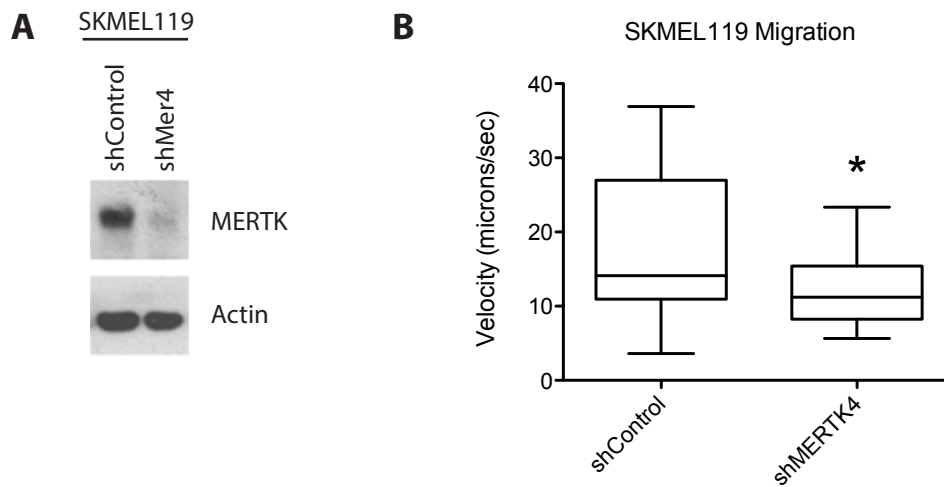
C



Supplemental Figure 3. GAS6 activation of SKMEL119 and SKMEL5. Western blot of phospho- and total STAT6, AKT and ERK. Cell cultures were stimulated with GAS6 and whole cell lysates were evaluated by western blot analysis. Actin was probed as a loading control.



Supplemental Figure 4. SKMEL119 MERTK knockdown cell lines and migration. A. MERTK protein expression in SKMEL119 cell lines stably expressing shRNA against MERTK. Whole cell lysates from indicated cell lines were analyzed via western blot for MERTK protein expression. Actin was detected as a loading control. **B.** Migration of SKMEL119. Live-cell imaging of shControl and shMERTK4 cells plated on a fibronectin surface was performed for 16 hours and migration distance per unit time was determined. Mean values and standard errors were determined for 22 cells (* $p < 0.05$, Student's two-tailed t-test).



Supplementary Information

Supplemental Table 1. MERTK mRNA expression in patient tissues.

Tissue Category	Sample Description	Relative Expression Normalized)	MERTK (log₂,	Gene RMA
Normal Skin	GSM183299	7.81031		
Normal Skin	GSM183301	7.32349		
Normal Skin	GSM183302	7.30608		
Normal Skin	GSM183234	6.47147		
Normal Skin	GSM183300	6.10653		
Primary Melanoma	GSM183235	8.89009		
Primary Melanoma	GSM183258	8.5472		
Primary Melanoma	GSM183225	7.89253		
Primary Melanoma	GSM183262	7.89024		
Primary Melanoma	GSM183261	7.86807		
Primary Melanoma	GSM183259	7.79514		
Primary Melanoma	GSM183263	7.36155		
Primary Melanoma	GSM183266	7.31556		
Primary Melanoma	GSM183260	7.2708		
Primary Melanoma	GSM183304	7.16972		
Primary Melanoma	GSM183264	7.13941		
Primary Melanoma	GSM183303	6.87686		
Primary Melanoma	GSM183224	6.48551		
Primary Melanoma	GSM183265	6.39586		
Metastatic Melanoma	GSM183281	10.5761		
Metastatic Melanoma	GSM183255	10.1251		
Metastatic Melanoma	GSM183276	9.71227		
Metastatic Melanoma	GSM183292	9.70506		
Metastatic Melanoma	GSM183282	9.41463		
Metastatic Melanoma	GSM183274	9.07661		
Metastatic Melanoma	GSM183295	9.06875		
Metastatic Melanoma	GSM183297	8.87435		
Metastatic Melanoma	GSM183285	8.77834		
Metastatic Melanoma	GSM183290	8.5476		
Metastatic Melanoma	GSM183275	8.53924		
Metastatic Melanoma	GSM183291	8.52461		
Metastatic Melanoma	GSM183230	8.45611		
Metastatic Melanoma	GSM183229	8.24115		
Metastatic Melanoma	GSM183233	8.23224		
Metastatic Melanoma	GSM183253	8.2213		
Metastatic Melanoma	GSM183254	8.1909		
Metastatic Melanoma	GSM183289	8.16429		
Metastatic Melanoma	GSM183284	8.16311		
Metastatic Melanoma	GSM183232	7.95741		
Metastatic Melanoma	GSM183296	7.94438		
Metastatic Melanoma	GSM183231	7.94274		

Metastatic Melanoma	GSM183257	7.90872
Metastatic Melanoma	GSM183278	7.90606
Metastatic Melanoma	GSM183252	7.88016
Metastatic Melanoma	GSM183256	7.79471
Metastatic Melanoma	GSM183277	7.76584
Metastatic Melanoma	GSM183294	7.75989
Metastatic Melanoma	GSM183298	7.55289
Metastatic Melanoma	GSM183286	7.53542
Metastatic Melanoma	GSM183228	7.51317
Metastatic Melanoma	GSM183273	7.47497
Metastatic Melanoma	GSM183293	7.4459
Metastatic Melanoma	GSM183287	7.43995
Metastatic Melanoma	GSM183283	7.26889
Metastatic Melanoma	GSM183279	7.24974
Metastatic Melanoma	GSM183227	7.15013
Metastatic Melanoma	GSM183280	6.72243
Metastatic Melanoma	GSM183288	6.71319
Metastatic Melanoma	GSM183226	6.47676

Supplemental Table 2. MERTK mRNA expression in melanoma cell lines from the UNC collection.

Mutation Status	Sample Description	Relative MERTK Gene Expression
NHM	NHM 13 PMA	3.6417
NHM	NHM 17 PMA	3.5485
NHM	NHM 11 PMA	3.0749
WT	HMCB	9.9604
WT	WM 1232	7.5040
WT	MALME-3	7.0586
WT	SKMEL 88/ SKMEL 78	5.6401
WT	SKMEL 23	5.6018
WT	PMWK	4.1281
WT	MEL 505	3.6209
WT	MEL 537	3.6013
WT	SKMEL 187	2.4419
WT	WM 1361a	2.3584
WT	SBC 12	2.0572
RAS	SKMEL 173	5.1501
RAS	VMM 39	5.0795
RAS	SKMEL 119	4.8010
RAS	SKMEL 103	4.5510
RAS	SKMEL 147	2.5529
RAS	SKMEL 224	2.1275
RAS	SKMEL 186	1.4513
BRAF	SKMEL 27	8.3464
BRAF	UACC 257	6.6061
BRAF	SKMEL 239	5.3333
BRAF	SKMEL 28	5.0734
BRAF	A2058	4.7617
BRAF	SKMEL 181	4.4504
BRAF	SKMEL 100	4.4352
BRAF	WM 2664	3.4700
BRAF	SKMEL 190	3.3711
BRAF	SKMEL 15	3.2296
BRAF	WM 1158	2.5297
BRAF	SKMEL 235	2.3964
BRAF	WM 35	2.3310
BRAF	A375	2.1714
BRAF	RPMI 7951	2.1681
BRAF	SKMEL 153	1.8880
BRAF	SKMEL 24	1.7421
BRAF	SKMEL 130/ SKMEL 178	1.3981

Supplemental Table 3. MERTK gene expression in normal skin and melanoma cell lines from CCLE database.

Tissue Category/ Mutation Status	Sample Description	Relative Expression Normalized)	MERTK (log₂,	Gene RMA
Normal Skin	GSM183299	6.8627		
Normal Skin	GSM183302	6.1183		
Normal Skin	GSM183301	6.0522		
Normal Skin	GSM183234	5.6033		
Normal Skin	GSM183300	5.0473		
WT	HMCB/CHL1	9.7346		
WT	COLO792	9.0746		
WT	MEWO	7.4973		
WT	HS895T	4.9343		
WT	HS839T	4.8006		
WT	HS600T	4.7164		
WT	HS940T	4.6128		
WT	HS834T	4.3250		
WT	HS688AT	4.2566		
WT	IPC298	4.1898		
WT	HS934T	4.1301		
RAS	SKMEL30	7.2719		
RAS	HS944T	7.0218		
RAS	HS936T	6.7228		
RAS	CJM	6.4951		
RAS	SKMEL2	5.7292		
RAS	MELJUSO	5.0421		
RAS	HS852T	4.4099		
BRAF	SKMEL5	11.1598		
BRAF	G361	10.4933		
BRAF	K029AX	9.8488		
BRAF	MALME3M	9.4500		
BRAF	SKMEL3	9.2917		
BRAF	UACC257	8.3709		
BRAF	SH4	8.0392		
BRAF	COLO829/ COLO849	7.9954		
BRAF	SKMEL28	7.7812		
BRAF	IGR37	7.6579		
BRAF	WM88	7.2727		
BRAF	SKMEL1	7.1471		
BRAF	COLO679	6.7632		
BRAF	COLO741	6.1969		
BRAF	A101D	6.0241		
BRAF	UACC62	5.8960		
BRAF	MELHO	5.8174		
BRAF	COLO818/ COLO818/	5.4273		

	COLO800	
BRAF	HT144	5.3742
BRAF	C32	5.0307
BRAF	A2058	4.6711
BRAF	RPMI7951	4.5466
BRAF	LOXIMVI	4.4915
BRAF	WM793	4.4556
BRAF	MDAMB435S	4.4318
BRAF	WM2664	4.4376
BRAF	WM115	4.4256
BRAF	WM1799	4.3444
BRAF	WM983B	4.3398
BRAF	COLO783	4.2661
BRAF	A375	4.1476
BRAF	SKMEL24	4.1531
BRAF	HS695T	4.1825
BRAF	IGR39	3.9197

Supplemental Table 4. Antibodies utilized for western blot.

Antibody	Company	Product Number
MERTK	Epitomics/UNC	1633-1 / N14
Actin	Santa Cruz	SC-1616
TYRO3	Cell Signaling	5585
AXL	R&D Systems	AF154
GAPDH	Cell Signaling	2118
p-STAT6	Cell Signaling	9364
STAT6	Cell Signaling	9362
p-AKT	Cell Signaling	9271
AKT	Cell Signaling	9272
p-ERK	Cell Signaling	9106
ERK	Cell Signaling	9102
PARP	Cell Signaling	9542
