Supplementary Materials: The Role of PTEN Loss in Immune Escape, Melanoma Prognosis and Therapy Response

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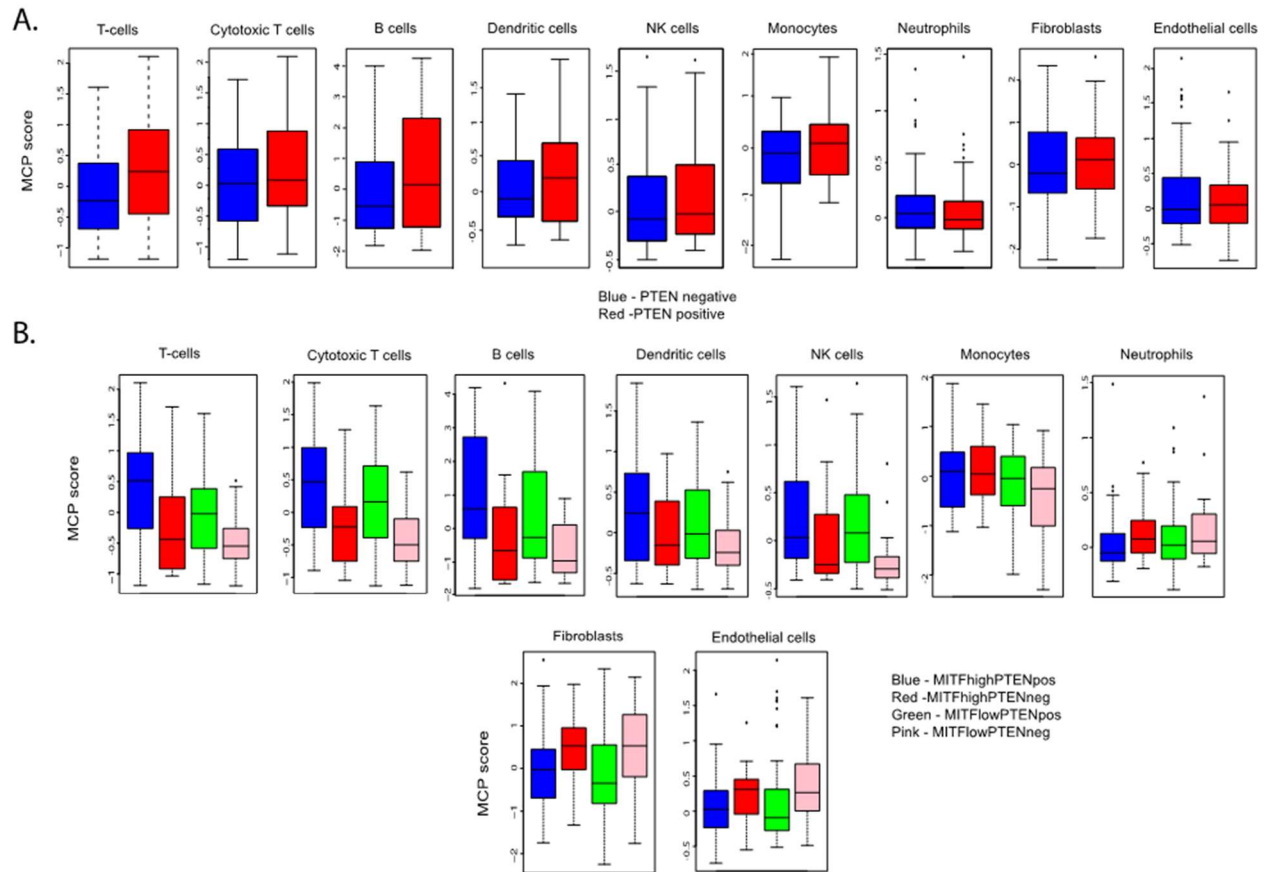
Figure S1. MCP immune scores in melanoma tumors. (**A**) MCP scores in PTEN negative (blue) and PTEN positive (red) tumors. (**B**) MCP scores in groups based on PTEN and MITF protein.
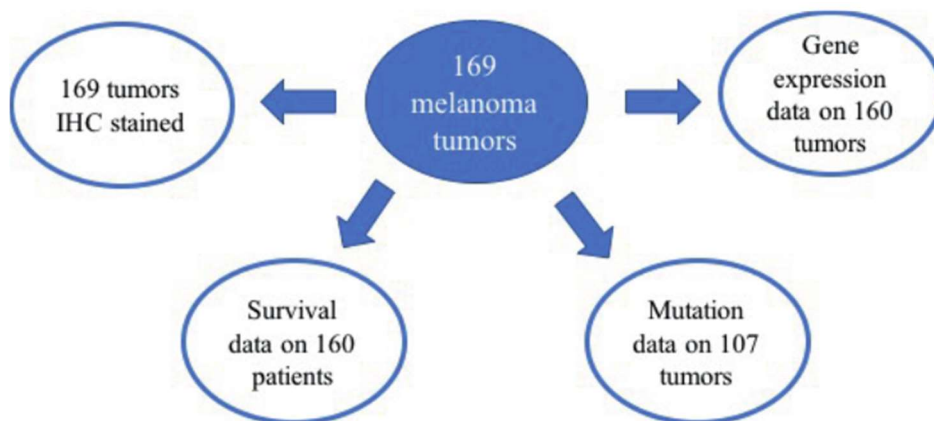

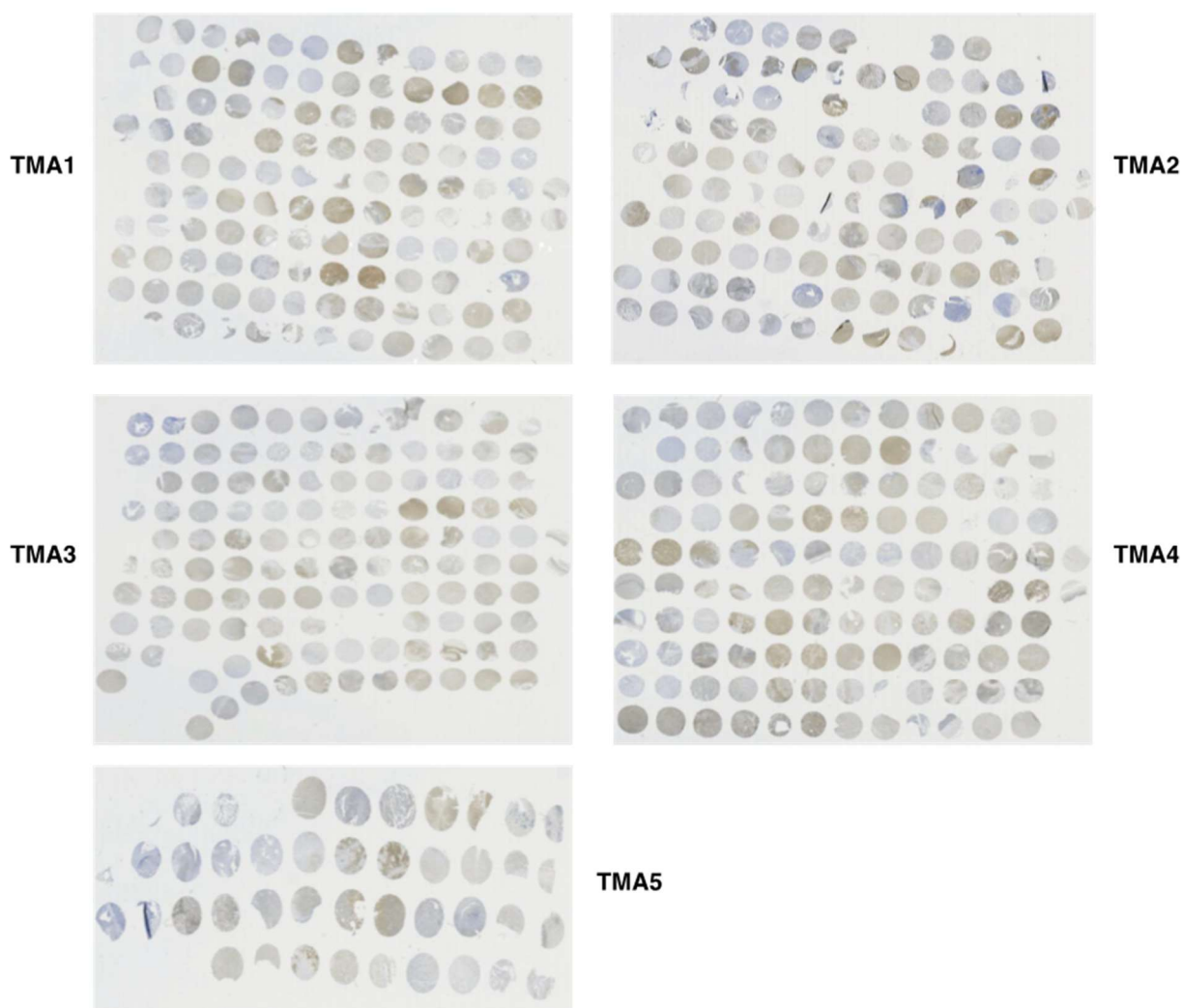**Figure S2.** Flowchart of different data levels included in the study.

Figure S3. PTEN staining in the five tissue microarray (TMA) blocks.

Table S1. Multivariate cox regression model analysis of MITF/PTEN groupings adjusted for stage of disease, with hazard ratios and confidence intervals.

Group	HR (CI)	*p*-Value
MITF/PTEN		
MITF^{high}PTEN^{pos}	1	-
MITF^{high}PTEN^{neg}	0.96 (0.56, 1.66)	0.89
MITF^{low}PTEN^{pos}	0.90 (0.34, 2.41)	0.84
MITF^{low}PTEN^{neg}	1.76 (0.89, 3.51)	0.11
Stage		
II	1	-
III	1.89 (0.26, 13.95)	0.53
IV	7.29 (0.99, 53.73)	0.05

Table S2. Genes and log2 expression value included in the centroid.

Genes down in MITF^low/PTEN^neg	Value (log2 Expression)	Genes up in MITF^low/PTEN^neg	Value (log2 Expression)
ITGB7	−0.6637874	CADM1	1.646150435
CD79A	−1.1278003	DACT3	1.284409212
TRIB1	−0.627541	SLIT2	1.069307448
CXCL10	−0.9425556	PCDH18	1.272287668
HLA-C	−0.6630066	DIAPH3	1.049453117
PLEK	−0.8497991	C5orf13	1.463647947
SDCBP	−0.6168393	EFNB2	1.037998007
VNN2	−0.7245285	LOC730994	0.816222521
CSTB	−0.6004923	HOXB5	0.890360545
CD8A	−0.9936763	MOXD1	1.464179261
ANKRD22	−0.6451211	PCDH17	0.945373709
CD52	−1.1162775	PHLDB2	0.937604318
NCF1	−0.6778936	CDH2	1.690163862
BHLHB3	−0.748998	DDAH1	0.904631728
HSD17B14	−0.6270172	POSTN	1.497294478
PARP10	−0.590338	ID3	1.086589022
BACE2	−0.7382248	FAM46A	0.87567871
IRF8	−0.9998088	SBK1	1.009141014
GMPR	−0.7436598	UBE2E3	0.702786405
UPP1	−0.6648916	ERRFI1	1.163913307
BIRC3	−0.9908605	NTM	1.054703811
PTPLA	−0.7938529	PMEPA1	1.072653617
SOX13	−0.5899106	ANGPT1	1.237634849
ROPN1B	−0.8454191	PCOLCE	1.201493612
TBC1D7	−0.7636963	FZD1	0.747943092
CCL5	−0.9803421	PFTK1	0.727311372
SNCA	−0.8087163	SPRY2	0.991593274
BCL2A1	−0.6826054	CDK6	0.99478154
SLC11A2	−0.6300387	VCAN	1.210859619
NAPSB	−1.0304074	DPYSL3	0.992375697
MAZ	−0.5829541	H19	1.385217542
ISG20	−1.0010139	TUSC3	1.081069528
FBXW5	−0.6088084	EDNRA	0.748145714
TAPBP	−0.6346449	FZD2	0.640606599
RAB32	−0.6490322	LMNB2	0.699635474
INPP4B	−0.723364	FLJ21986	0.98835468
SWAP70	−0.6226537	ANTXR1	0.773896172
MICAL1	−0.6903372	LOC100132901	0.628405303
PHF15	−0.6475682	PXDN	1.09475001
BIRC7	−0.9480172	MLLT11	1.107994167
UBE2L6	−0.6231672	S1PR3	0.701131508
RARRES3	−0.9509742	ATP2B1	0.690079064
LYN	−0.7620077	CLIP3	0.842692443
HCG4	−0.7113144	RBBP4	0.641617936
GSDMD	−0.6139003	SPON1	1.228882684
RAC2	−0.9906747	CBX2	0.809775067
SLC9A3R1	−0.6598906	HOXA5	0.87906882
RUNX3	−0.9927214	LPHN2	0.959883606
FAM69A	−0.6461069	DKK3	0.96728898
FCRLA	−1.2602482	LOC100134134	1.132476535
ST3GAL6	−0.726269	IGFBP2	1.175978716
IRF1	−0.855961	LOX	0.884465254

ECHDC3	−0.6181085	FOXC1	0.816302065
CD38	−0.7704543	PAM	0.799031548
SIGIRR	−0.5547153	LIMCH1	1.012433761
ROPN1	−0.9194562	CPXM1	0.789543917
FYB	−0.9039163	ZNF286C	0.591466564
SNX10	−0.6588212	LOC730525	0.964789048
HCST	−0.9173861	LAMB1	0.836327667
HERC5	−0.8169465	KLF12	0.635473272
OAS2	−0.9269088	LOC730101	0.552153478
MCOLN2	−0.7311837	BCAT1	0.86543584
APOE	−0.8097618	UBA52	0.71648786
IFIH1	−0.6855511	ZNF84	0.57808192
SAT1	−0.5598643	LOC100131139	0.746655149
RAB38	−1.0610584	TSPAN5	0.759215173
CD79B	−1.0782803	TMTC4	0.660299277
SOD2	−0.7568718	TCF12	0.670699942
GNPTAB	−0.5581993	AUTS2	0.785922266
PSMB9	−0.7884907	ID1	0.782572387
TMEM140	−0.7171343	TRIL	1.002751536
GZMB	−1.1113204	KDM5B	0.592819139
HPS1	−0.5510096	OLFML2A	0.657865462
RPS6KA5	−0.5670544	LOC653344	0.557543286
MFSD6	−0.654256	LRP5	0.677173513
PRKCB1	−1.0735466	EFEMP2	0.795275881
QPCT	−1.3166014	ZNF512	0.539659589
IFI27	−1.2217255	EXTL2	0.626539861
RGS10	−0.7862767	KDELC1	0.58089505
GSTO1	−0.6408478	GPC6	0.539021279
CXCL9	−1.2573445	TRO	0.739533058
NKG7	−1.0087833	TMEM47	0.877205827
PLXNC1	−0.7586767	LOC100133760	0.610353211
RAB27A	−0.7035185	RBP1	0.904180363
KAT2B	−0.7054284	RCAN2	0.815825294
SLC45A2	−1.3923654	ZNF395	0.466799304
ADAMDEC1	−1.2114369	COL8A1	1.104412183
HIGD1A	−0.5175034	LOC645166	0.708179748
IL18BP	−0.9325305	TLE4	0.855509022
GPNMB	−0.8294207	RGS4	0.808223983
PHACTR1	−0.89301	ENC1	0.70166635
CD3D	−1.3203313	SOX4	0.746289566
FAM65B	−0.9658844	PEG10	0.912269898
GBP5	−0.977453	LAMC1	0.640956415
PARP9	−0.6920852	PKIA	0.800216308
HLA-B	−1.035889	CNPY4	0.526343004
LOC390557	−0.711938	CENPV	0.637370896
CD48	−1.3089793	LOC728732	0.588492945
HCP5	−1.1201781	SSFA2	0.591275715
HLA-F	−0.9897719	FSCN1	0.845168008
TRIM63	−1.0193057	MEIS2	0.698440229
PLA1A	−1.3654242	TCF3	0.511660304
TYSND1	−0.5696128	SOCS2	0.711013533
CXCL13	−1.3775115	ZNF532	0.661004424
MGC13057	−0.8628089	NR4A2	0.792124417
CABLES1	−0.9646213	SKP2	0.550286352
MCOLN3	−1.1803748	STK32B	0.771656854
HRK	−0.9979237	COL16A1	0.57506291

OSTM1	−0.7563323	TMSB15A	0.974167792
ASB9	−0.7821446	SALL2	0.523090784
FAIM3	−1.2771405	SYT11	0.685722901
VAT1	−0.8184453	SMA4	0.490970275
ARL6IP5	−0.5472999	COL5A1	0.915868645
S100A1	−1.2352086	ITGB5	0.759491207
GYG2	−1.1467153	ESM1	0.802307819
LY96	−0.8734827	ENAH	0.536317296
CD44	−0.8390348	COL12A1	0.736125394
HLA-E	−0.8544589	LOC645385	0.519091808
FBXO6	−0.7278542	PRDM8	0.58278025
HLA-G	−0.9261851	EMILIN1	0.681825454
MITF	−1.0316963	PRICKLE1	0.673123973
RTP4	−0.7450338	COL5A2	0.880003949
SERPINB1	−0.765538	CPE	0.766764884
CBR3	−0.7069554	SDC2	0.812521025
ST6GALNAC2	−1.0839479	HNRPA1L−2	0.564260655
MYO5A	−0.8894011	PRICKLE2	0.62877922
PSMB8	−0.8434825	SPRY1	0.757695396
PRKCD	−0.7213112		
CEACAM1	−1.3066298		
IRF4	−1.0175048		
IFI35	−0.8226885		
STX7	−0.7898291		
TRPV2	−0.9233402		
CHCHD6	−1.3239017		
CASP1	−1.1742113		
STAT1	−1.0606008		
P2RX7	−0.9106965		
LYST	−1.1111641		
CAPN3	−1.5022855		
MBP	−1.1579674		
PIR	−1.1636714		
TAP1	−1.0964007		
LGALS3	−1.1585214		
TNFRSF14	−1.0275618		
WARS	−1.182983		
GPR56	−1.3043394		
UBD	−1.6572527		
RENBP	−1.1237332		
D4S234E	−2.0144985		
TYR	−2.3769119		
SILV	−2.8824723		
MLANA	−2.3966163		