

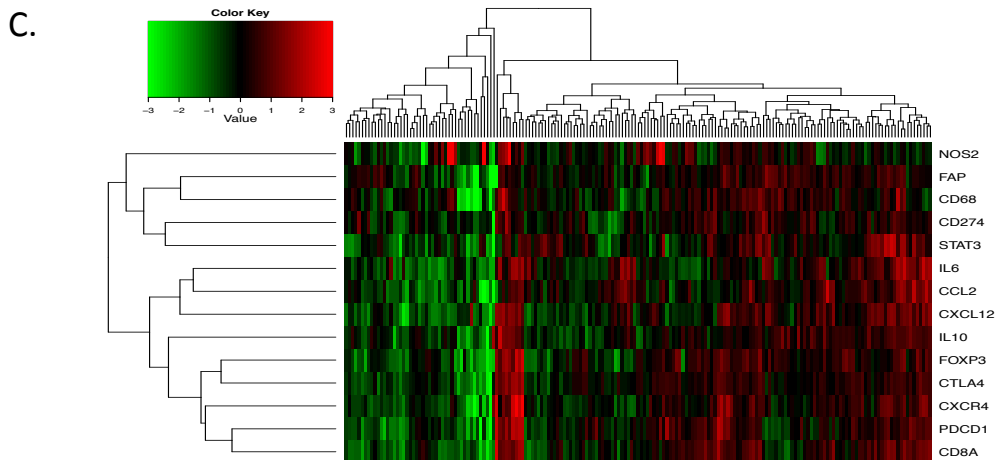
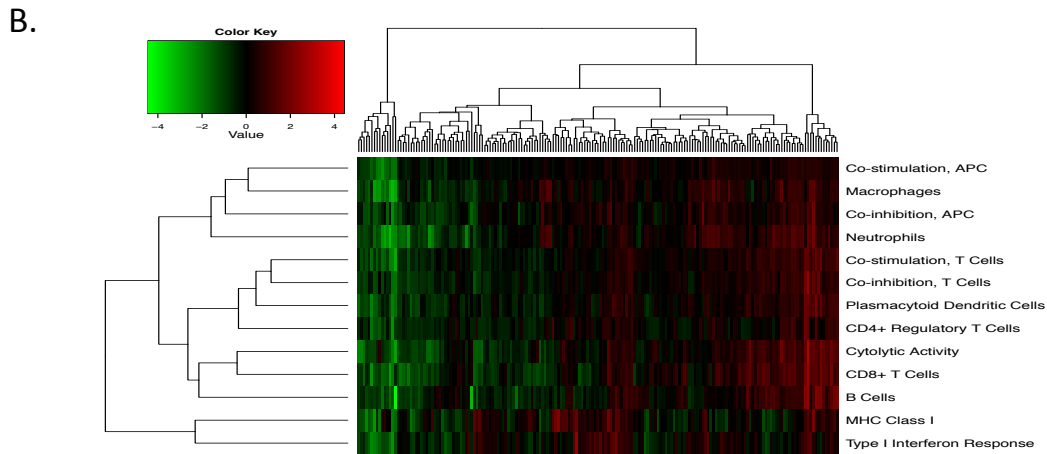
## Supplemental Figure 1

Characteristics	No of patients 109 (%)
Age	
Median (range)	67 years (29-86)
Gender	
Male	55 (50.5)
Female	54 (49.5)
Grade	
1	5 (4.6)
2	77 (70.6)
3	27 (24.8)
Follow-up	
Median (range)	560 days (80-3421)
Vital Status	
Alive	17 (15.6)
Dead	90 (82.6)
Unknown	2 (1.8)
TNM Stage	
I	7 (6.4)
II	93 (85.3)
III	6 (5.5)
IV	3 (2.8)

# Supplemental Figure 2

A.

B cells	BTLA	CD79A									
CD4+ Regulatory T cells	FOXP3	IL5	CTLA4	IL32	IL4						
CD8+ T cells	CD8A										
Macrophages	MMP9	CLEC5A	CD68	CYBB							
Neutrophils	MNDA										
pDCs	CLEC4C	IL3RA	IRF8	IRF7	GZMB	CXCR3					
MHC Class I	HLA-A	TAP1									
Co-stimulation, APC	ICOSLG	CD70	TNFSF14	CD40	TNFSF9	TNFSF4	TNFSF15	TNFSF18	TNFSF8	SLAMF1	
Co-stimulation, T cell	ICOS	CD28	CD27	TNFSF14	CD40LG	TNFRSF9	TNFRSF4	TNFRSF18	TNFRSF8	SLAMF1	CD2
Co-inhibition, APC	PDCD1LG2	CD274	LGALS9								
Co-inhibition, T cell	LAG3	CTLA4	CD274	CD160	BTLA	HAVCR2	CD244				
Type I IFN Reponse	MX1	TNFSF10	IFIT2	IRF7							
Cytolytic Activity	GZMA	PRF1									



# Supplemental Figure 3

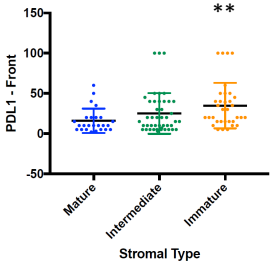
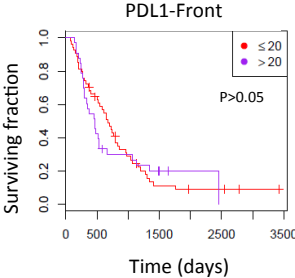
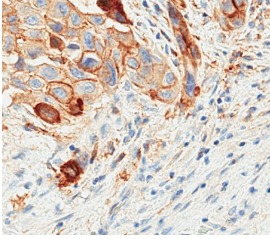
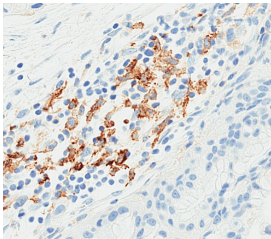
A.

BIOMARKER	MEDIAN SURVIVAL		
	Immature	Intermediate	Mature
Stromal Type	281	656	1033

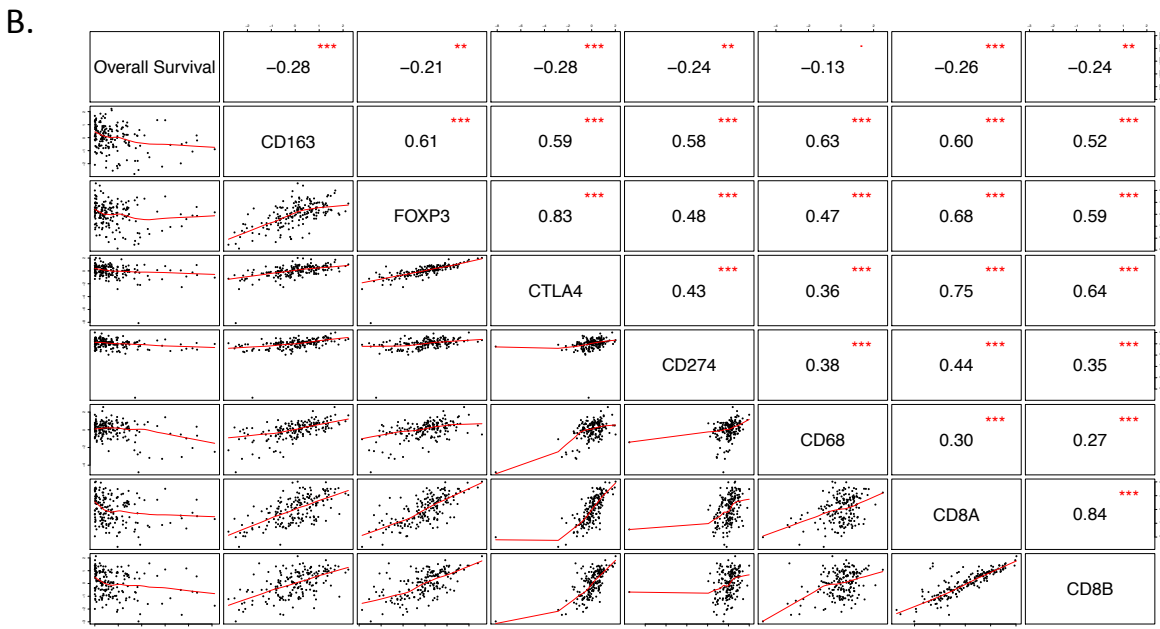
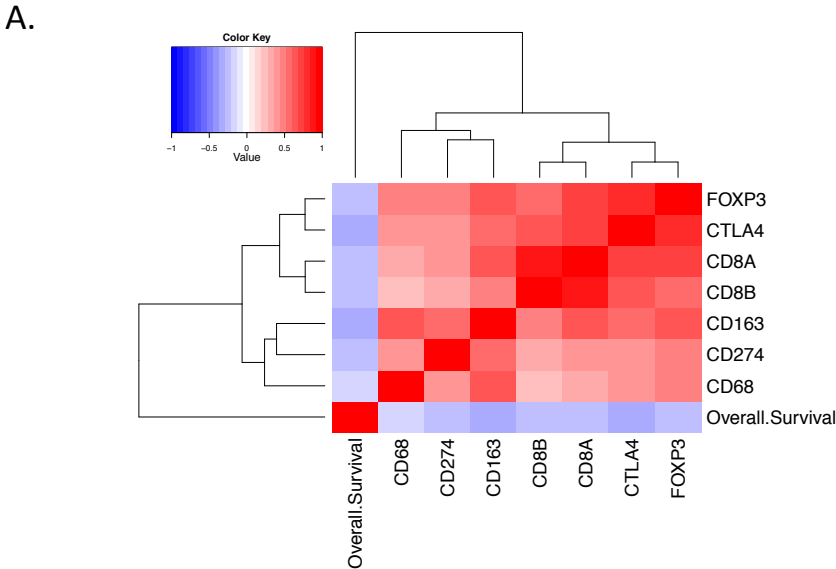
BIOMARKER	MEDIAN SURVIVAL		
	Low	High	p-value (t-test)
Stromal Volume	456	798	0.001474099
Stromal MCT4	1047	519	0.010447748
Stromal CA9	677	308	0.000378199
Peri-T Lymphocytes	790	471	0.084930213
Tumor Infiltrating Lymphocytes	671	463	0.261042864
CD8+ Cells	560	657	0.572872502
CD68+ Cells	765	377	0.004253504
CD163+ Cells	799	356	0.000274149
CTLA4+ Cells	677	446	0.102871863
FOXP3+ Cells	705	476	0.176613338
PDL1 - T	656	431	0.303216601
PDL1 - TME	765	421	0.048030923
PDL1 - Front	705	463	0.221670219

B.

PDL1-Front



# Supplemental Figure 4



# Supplemental Figure 5

A.

Legend for RF Heatmap			
	<span style="color: blue;">■</span>	<span style="color: orange;">■</span>	<span style="color: red;">■</span>
Stromal Volume	≤55		>55
Stroma Type	<i>mature</i>	<i>intermediate</i>	<i>immature</i>
MCT4 stroma	0		1 or 2
CA9 stroma	0		1 or 2
PDL1 T	0 or 1		2
PDL1 TME	<i>absent</i>		<i>present</i>
CTLA4 Lymph	≤1		>1
PeriT Lymph	<i>none, sparse, mild</i>		<i>moderate, intense</i>
Stromal TIL	≤15		>15
PDL1 front	≤20		>20
CD163	≤30		>30
CD8	≤15		>15
FoxP3	≤14		>14
CD68	≤40		>40
NACnt	≤24		>24
MissenseCnt	≤47		>47
TotalMutCnt	≤54		>54

B.

BIOMARKER	MEDIAN SURVIVAL (DAYS)			
	Cluster 1	Cluster 2	Cluster 3	Cluster 4
RFClusters	300	405	600.5	1068.5
	Clusters 1, 2, 3			Cluster 4
RFClusters	463			1068.5

C.

