Supplementary Figure S1

S1A
Lymphocyte score vs PD-L1
(R=0.423; p=1.02e-15)

p=3.5e-12
p=6.3e-07
p=2.9e-07
p=2.1e-04
p=9.9e-08
p=1.8e-05
p=1.6e-07
p=9.9e-13

S1B
p=0.078 (anova)

2log of PD-L1
metastases (280)
p=6.07e-03 (anova)
primaries (255)
p=0.0016

(all primaries and metastases)

S1C
R Distribution

0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
1.0

1 (0.0%)
4 (0.0%) (IFNγ)
134 (0.7%) (IPOL)
324 (1.6%)
328 (1.6%)
428 (2.1%)
434 (2.2%)
443 (2.4%)
725 (3.6%)
119 (0.6%)
3 (0.0%)

S1D

2log of IFNγ
2log of CD274
R=0.739
p=8.72e-46

S1E

2log of HIF-1α
2log of CD274
R=0.308
p=1.02e-09

S1F

2log of HIF-1α
2log of BNIP3L
R=0.377
p=1.99e-14

2log of HIF-1α
2log of PDK1
R=0.416
p=3.67e-17
Supplemental Figure S3

**S3A**

| Correlation | Gene Set Expression | R     | p-value     |
|-------------|---------------------|-------|-------------|
| Melanoma cells (2019 cells) | JAK_STAT_Signaling_Pathway (KEGG) | 0.169 | 2.47e-14 |
|             | HEK_5_signaling_pathway (KEGG) | 0.119 | 7.79e-08 |
| Tumor 119 (205 cells) | JAK_STAT_Signaling_Pathway (KEGG) | 0.537 | 1.03e-20 |
|             | HEK_5_signaling_pathway (KEGG) | 0.271 | 8.85e-06 |
| Macrophage (150 cells) | JAK_STAT_Signaling_Pathway (KEGG) | 0.122 | 0.012 |
|             | HEK_5_signaling_pathway (KEGG) | 0.031 | 0.521 |

**S3B**

Scatter plot showing the correlation between log of PD-L1 and log of STAT3.

- **R** = 0.336
- **p** = 2.36e-11