## Supplementary Figure 2. Dual-immunohistochemistry image analysis for the expression of PD-L1 on tumor cells and immune cells using HALO v2.1.1637.10 software.

(A) Images from dual-immunohistochemistry stained slides were used to train HALO tissue classification module to recognize tumor cells (red) versus non-tumor cell component of the tissue (green) as shown in (B). (C) HALO Multiplex-IHC v1.2 algorithm was used to identify the PD-L1 (+) cells in the tumor cell compartment. Inset shows an area where all tumor cells are PD-L1(+) and are highlighted with a brown membrane markup. (D) HALO Multiplex-IHC v1.2 algorithm was also used to identify the PD-L1(+) cells in the CD45/CD163 immune cell compartment. Inset shows PD-L1(+) immune cells highlighted in dark red markup (white arrow) and PD-L1(-) immune cells highlighted in light red markup (black arrow). (E,F) Results of the image analysis were validated through visual inspection of the color deconvoluted images to confirm the PD-L1 positivity in both cell compartments. Scale Bar: 100 μm.

