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CD8 T-Cell Infiltration into Renal Tumors Requires a Stem-Like Cell & an Antigen Presenting Niche

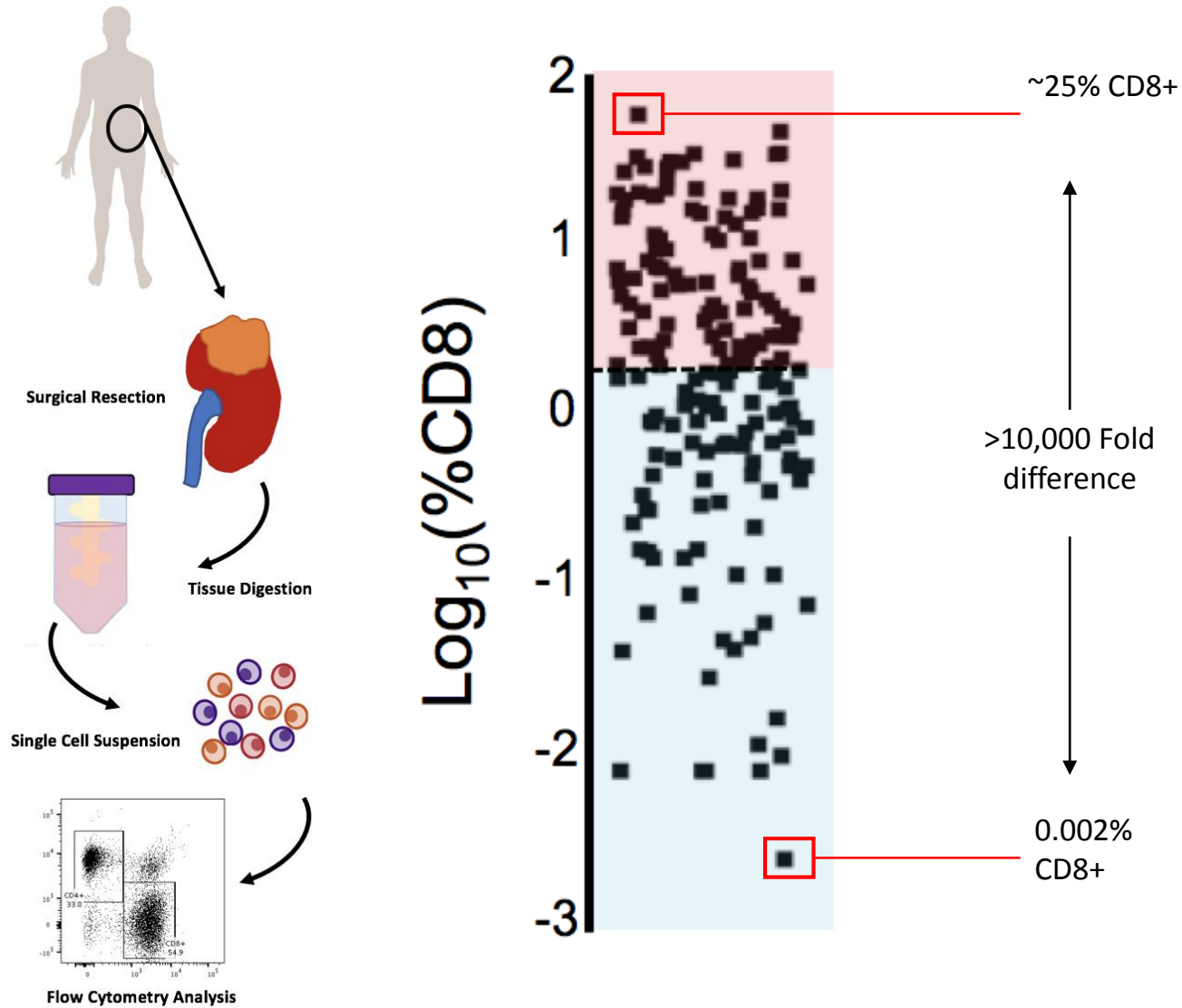
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MD/PhD Student, Kissick Lab

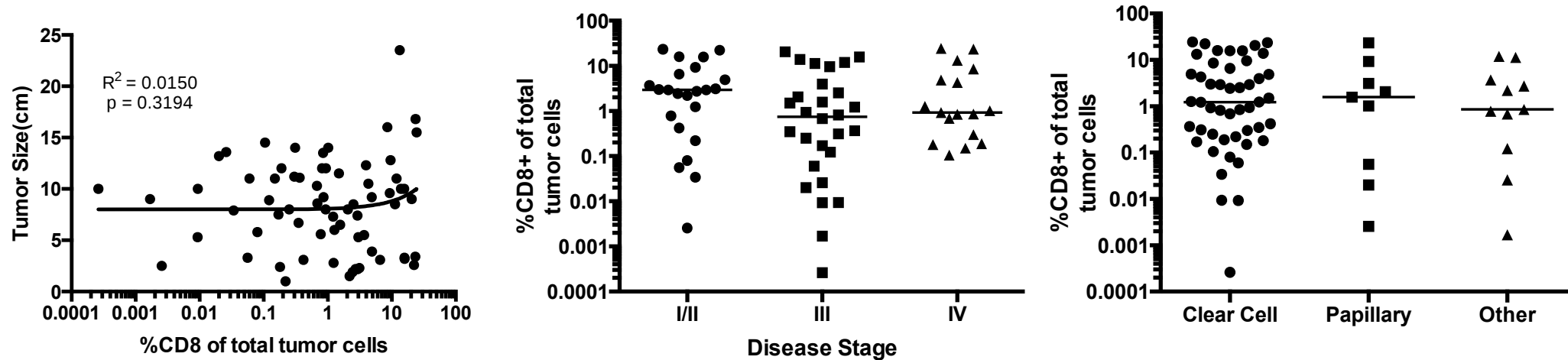
Cancer Biology Program | Laney Graduate School

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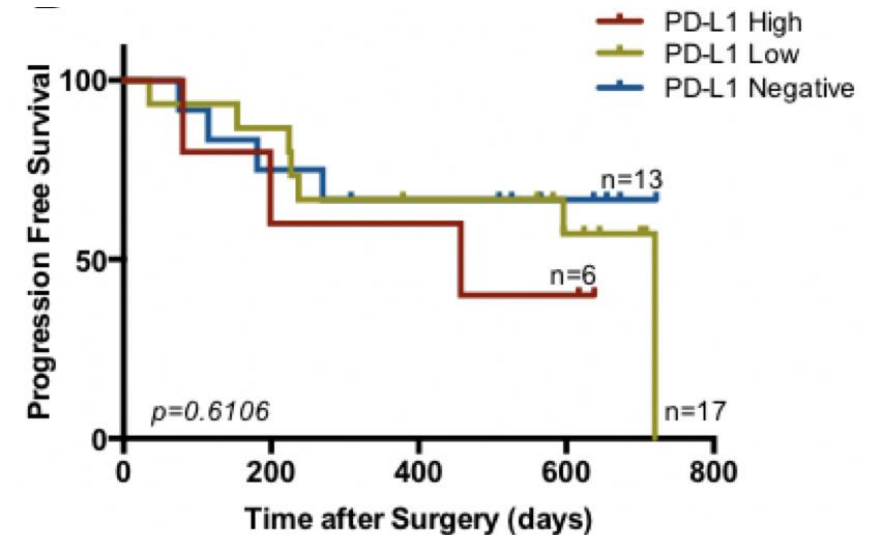
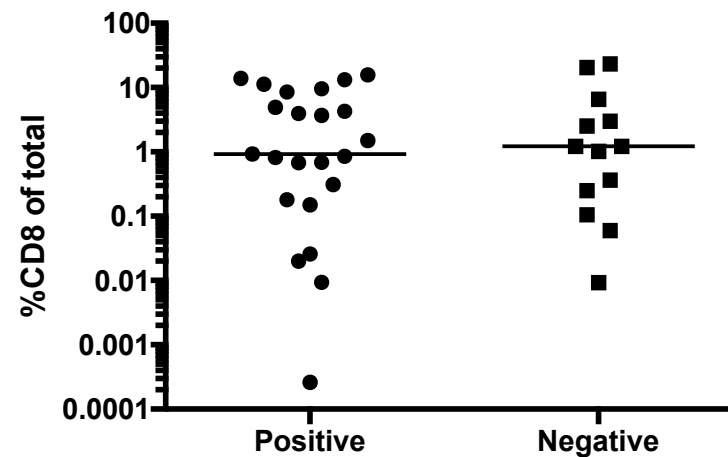
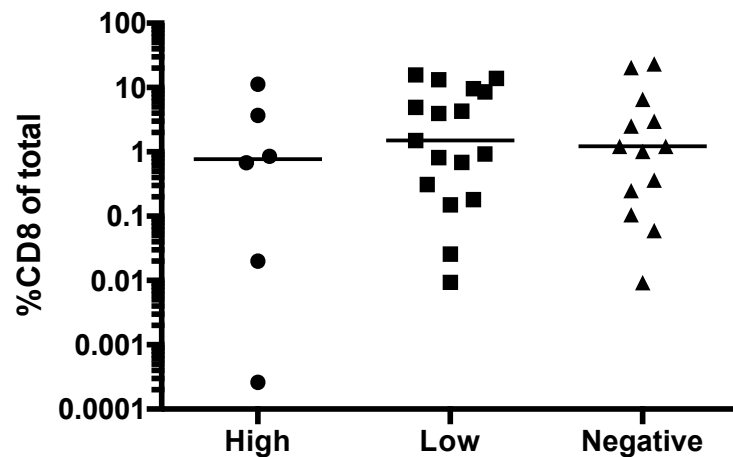
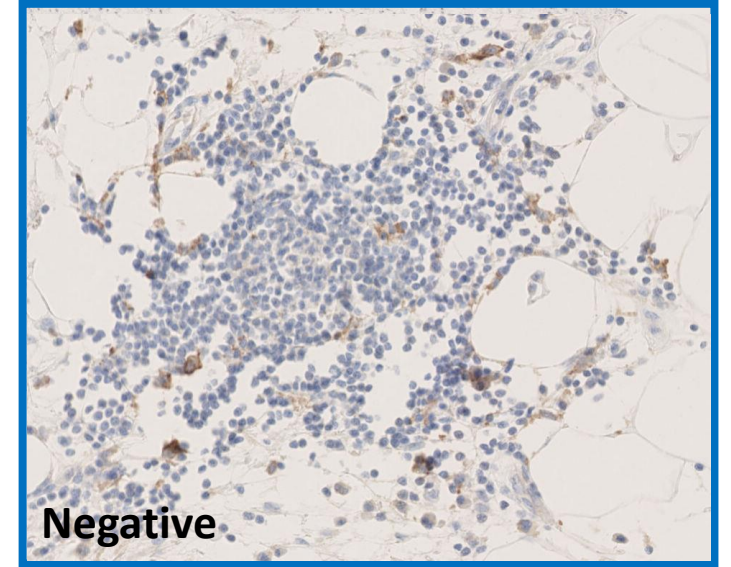
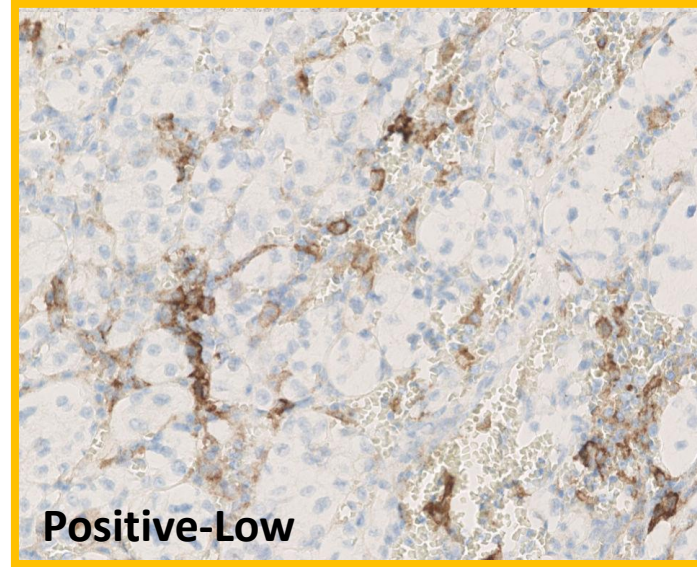
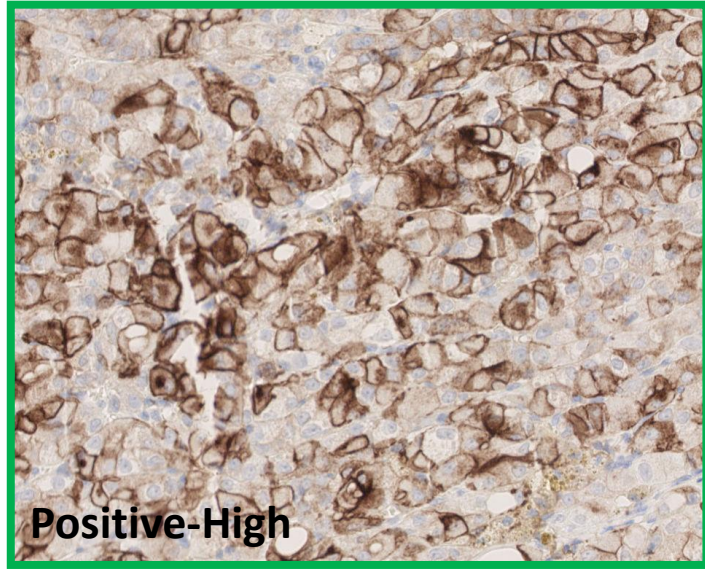
CD8 T-cell Infiltration Predicts Progression in RCC



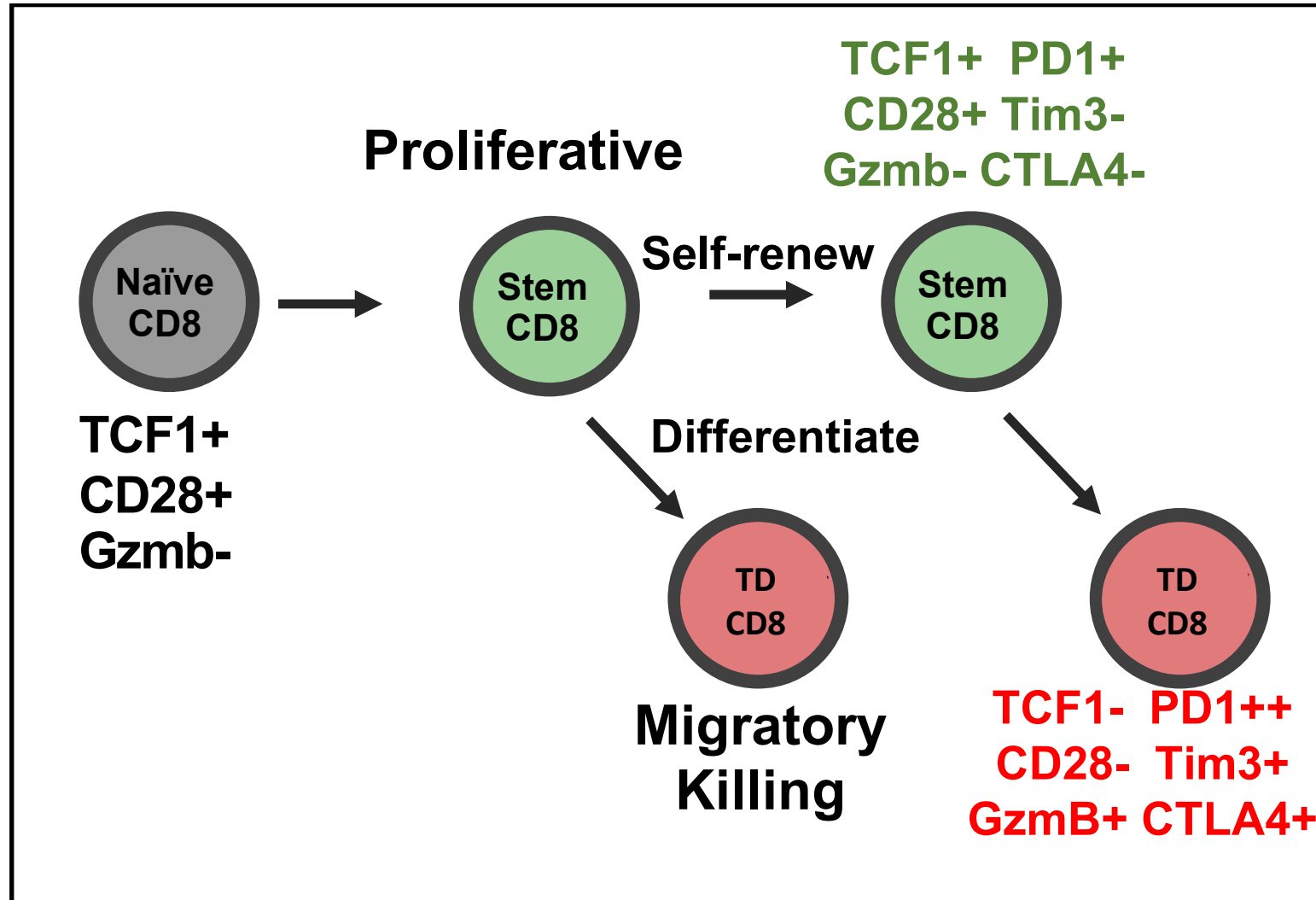
CD8 T-cell Response is Independent of Tumor Size, Stage, Subtype and Demographic Factors



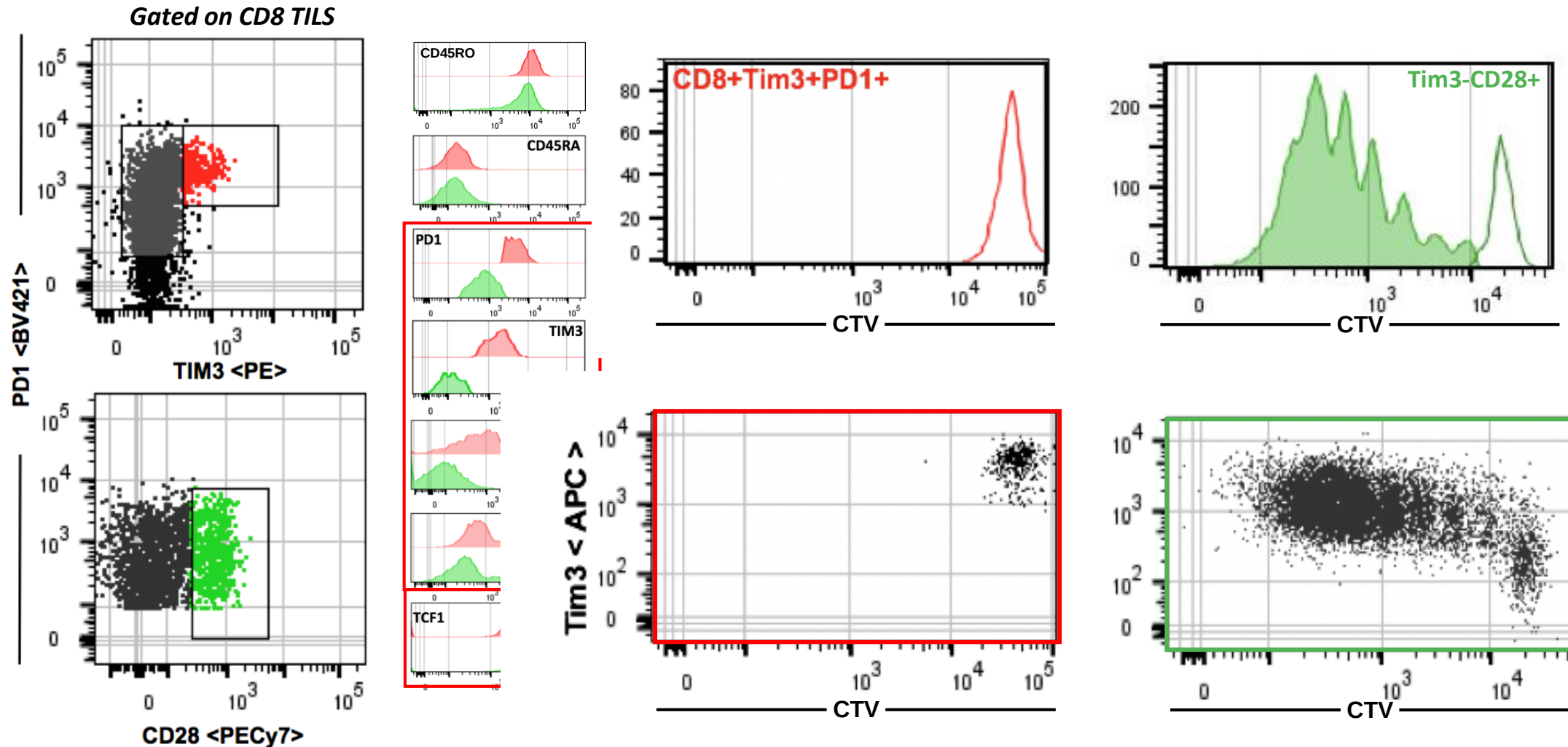
CD8 T-cell Response Does Not Correlate with PD-L1 Scoring



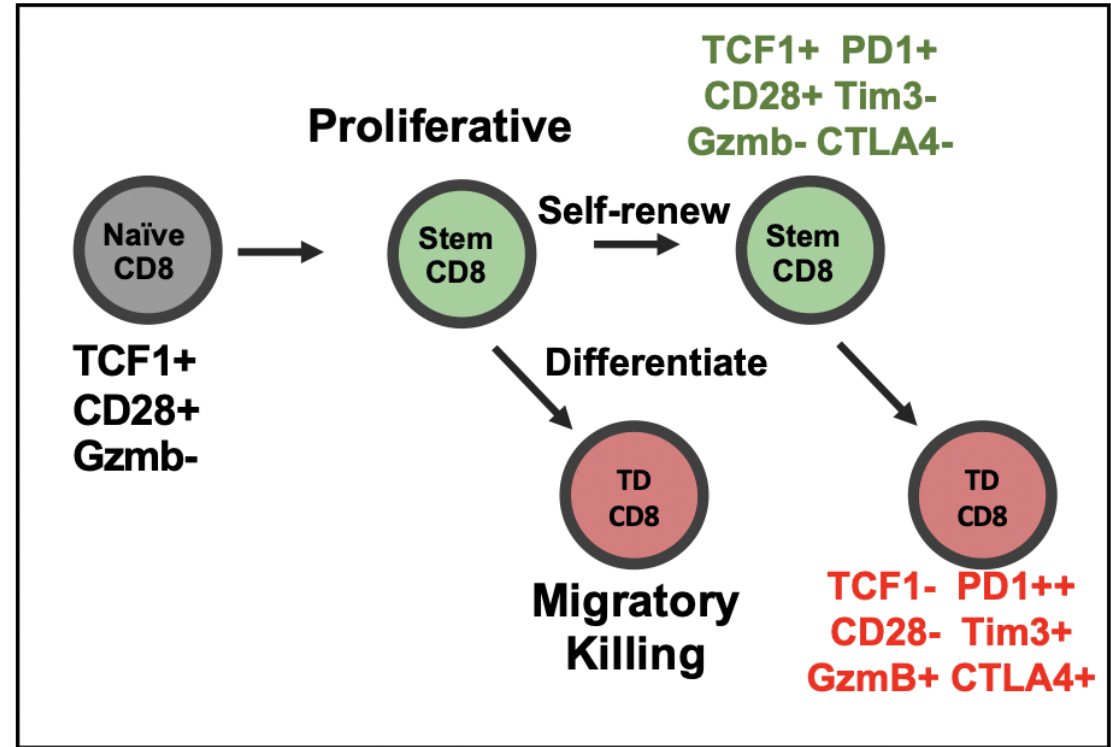
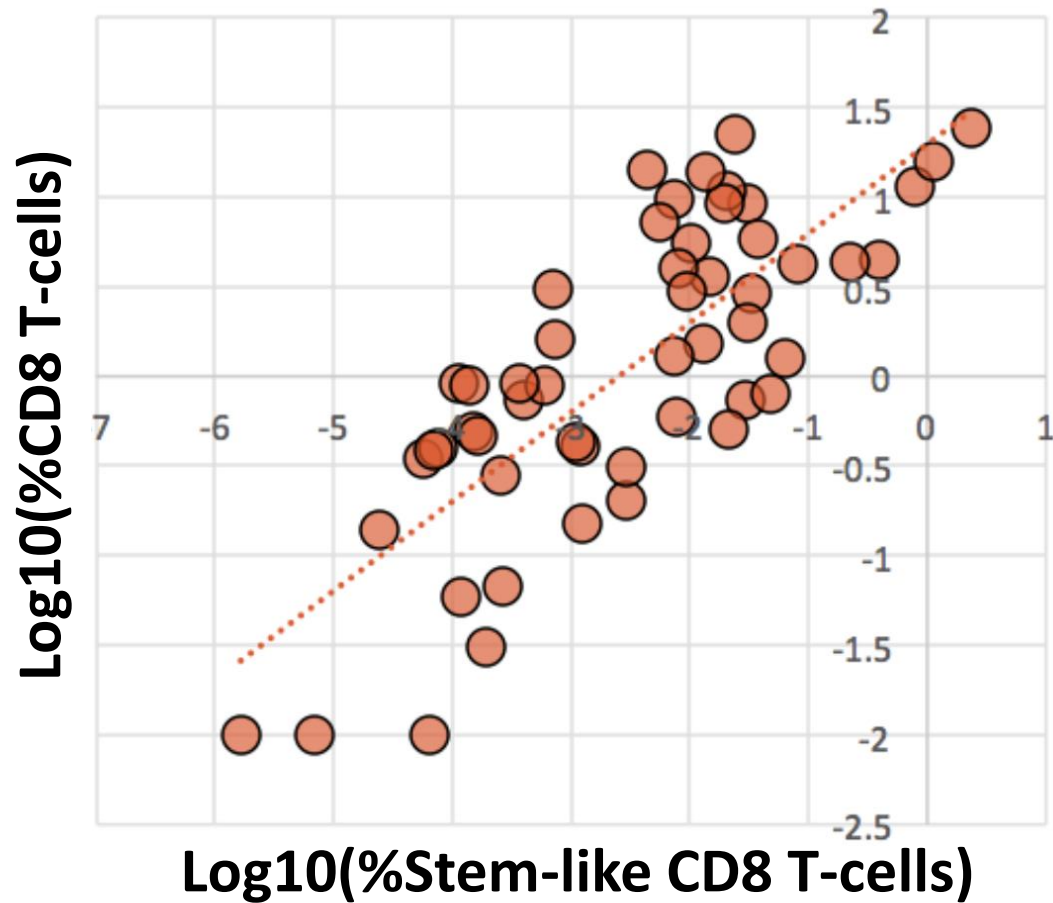
The Stem-Like Model of the Anti-Tumor CD8 T-Cell Response



Tumor infiltrating CD8 T cells are composed of stem-like and terminally differentiated populations

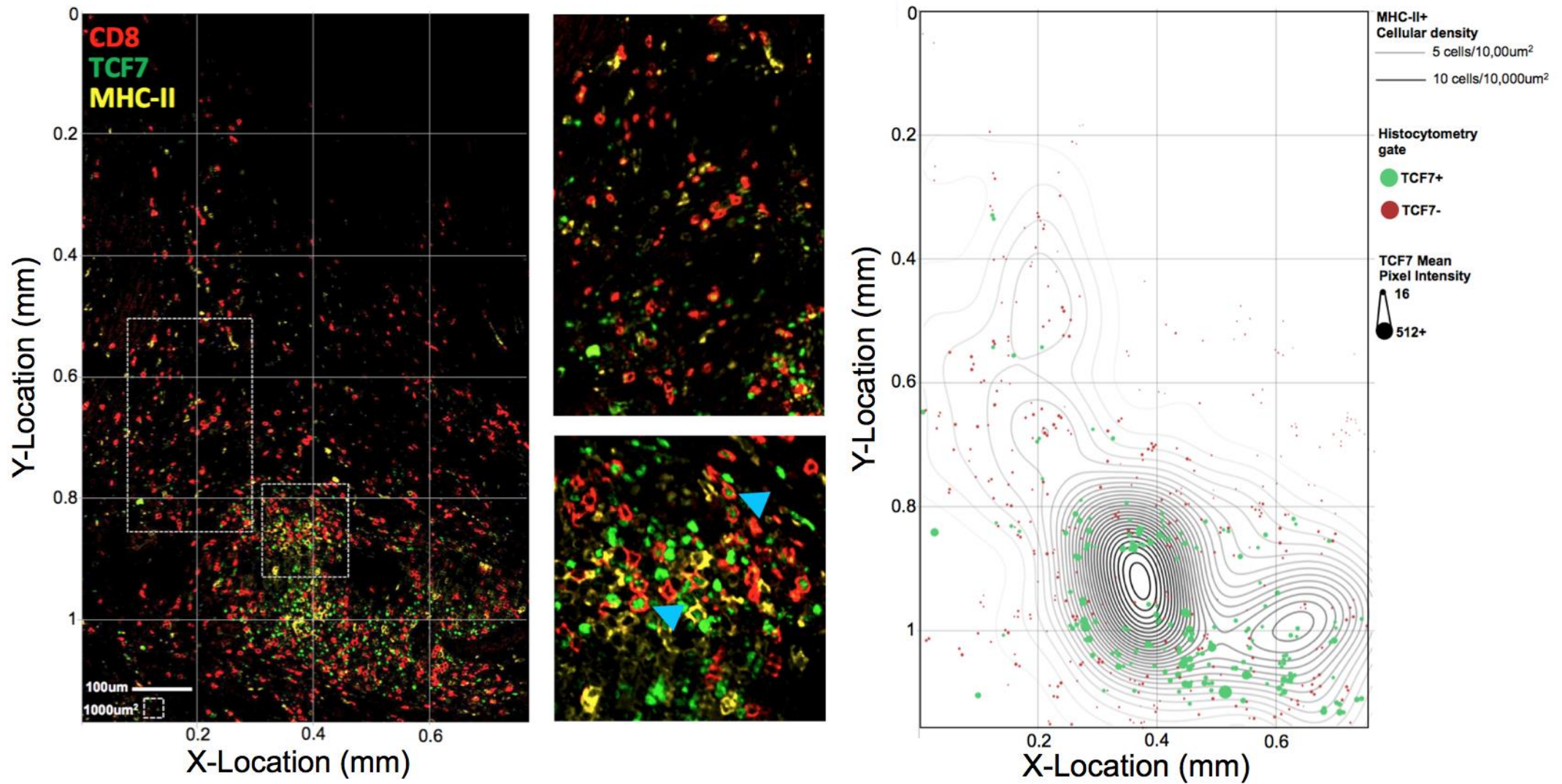


Loss of Stem-Like CD8 T-Cells Correlates with Loss of CD8 T-cell Response

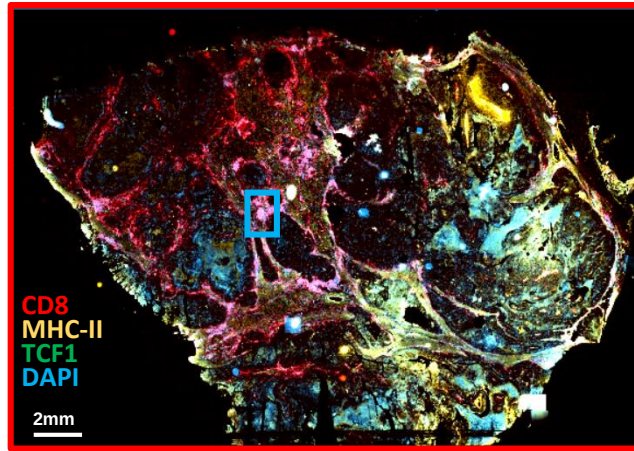


What maintains the stem-like CD8 T-cell population?

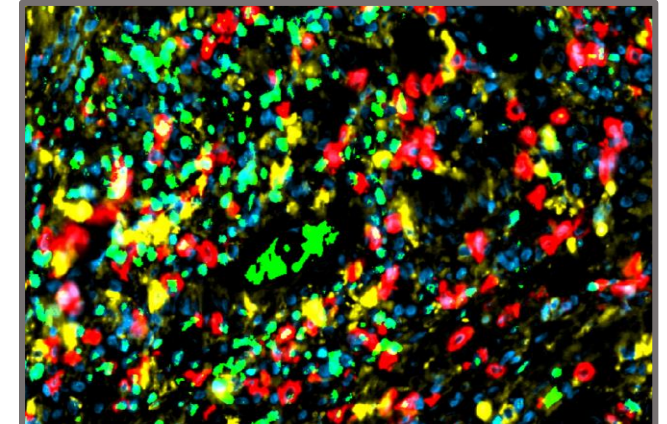
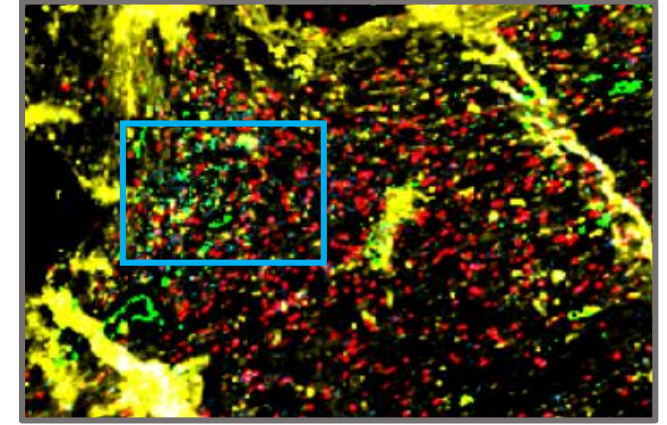
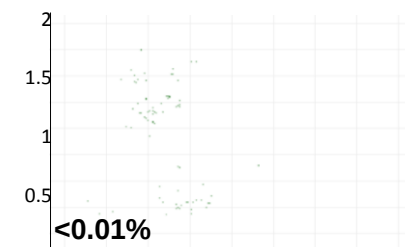
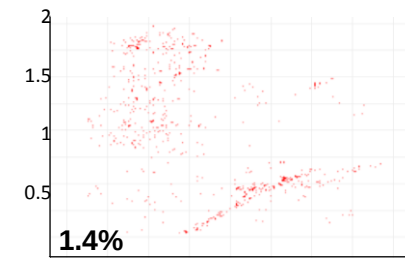
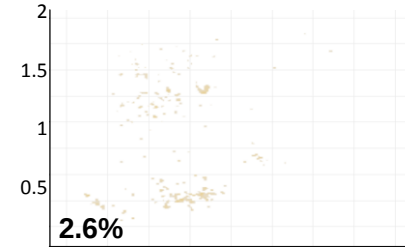
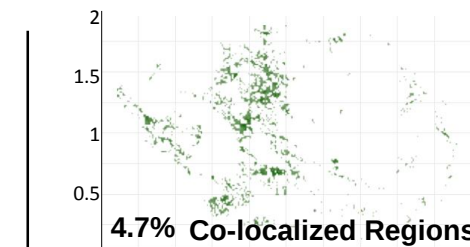
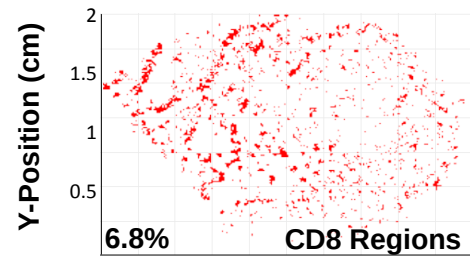
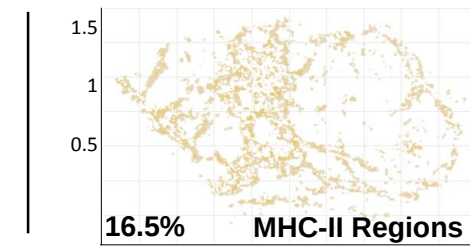
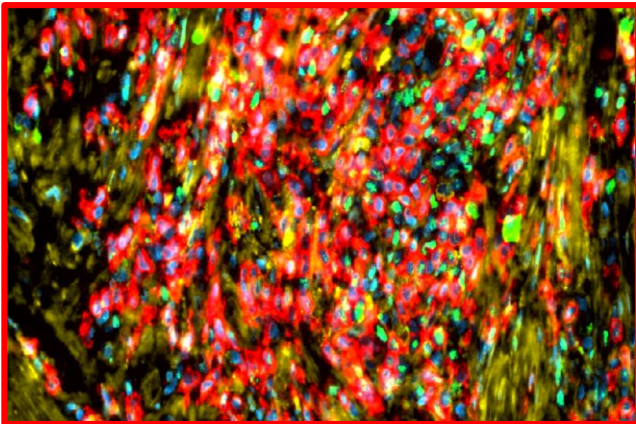
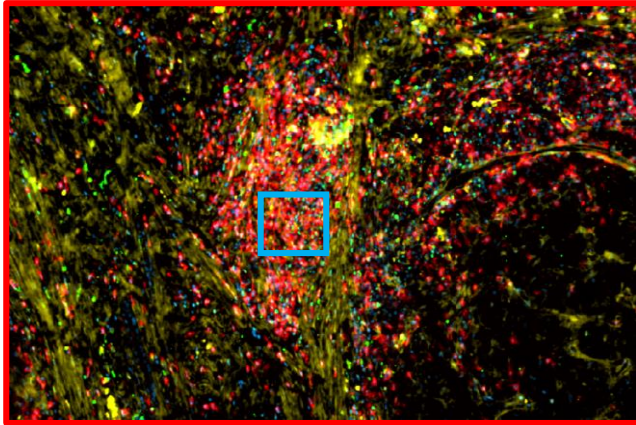
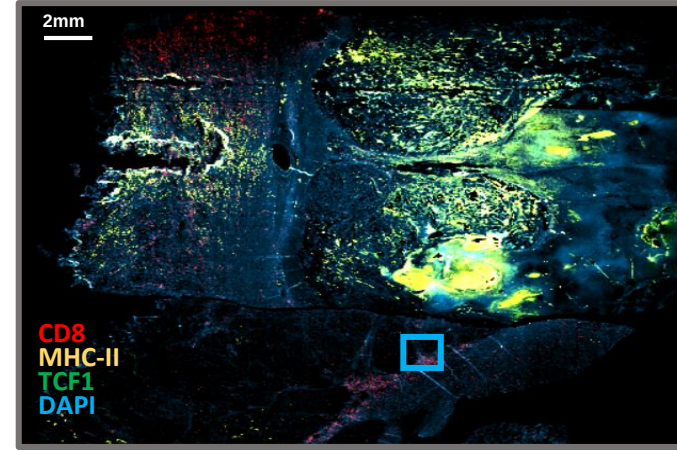
TCF1+ stem-like CD8 T-cells reside in an antigen presenting niche within the tumor



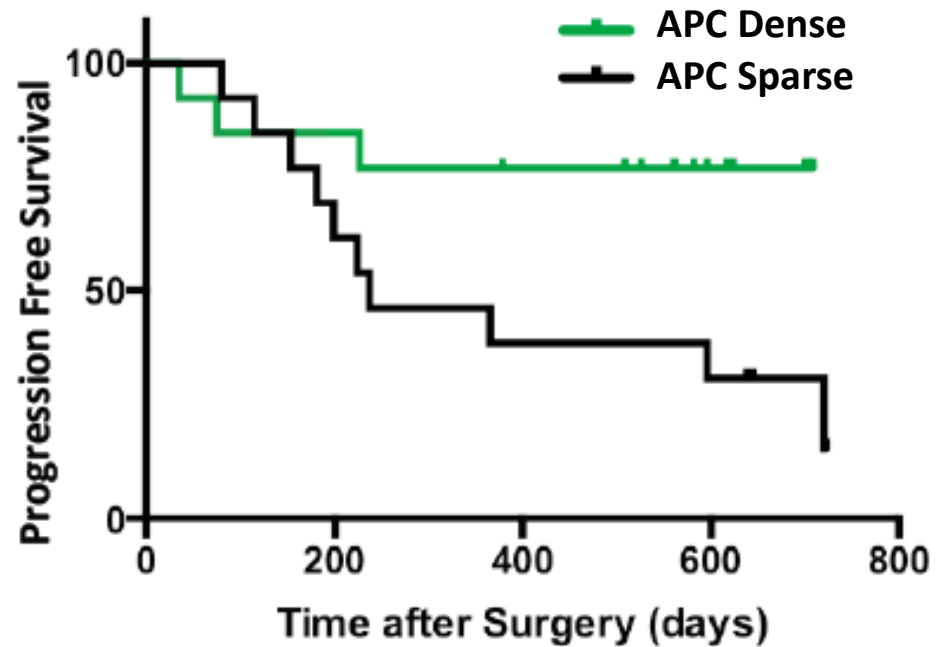
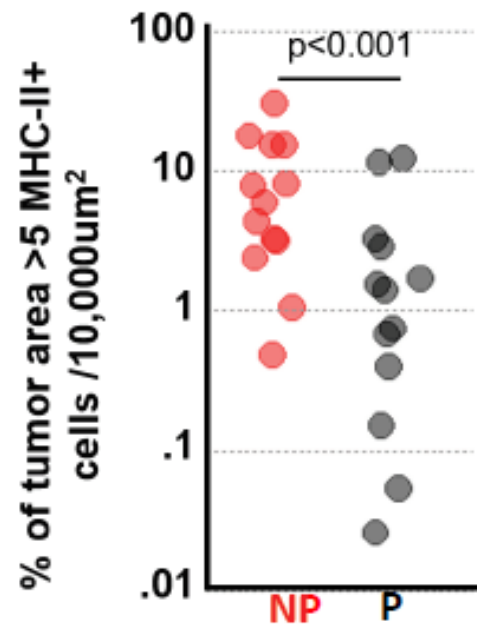
Stable Disease >2yr

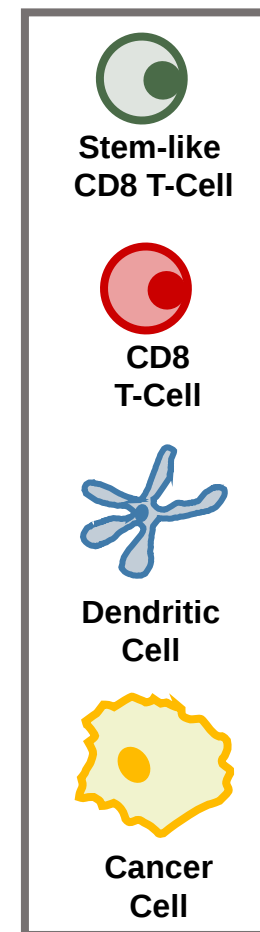
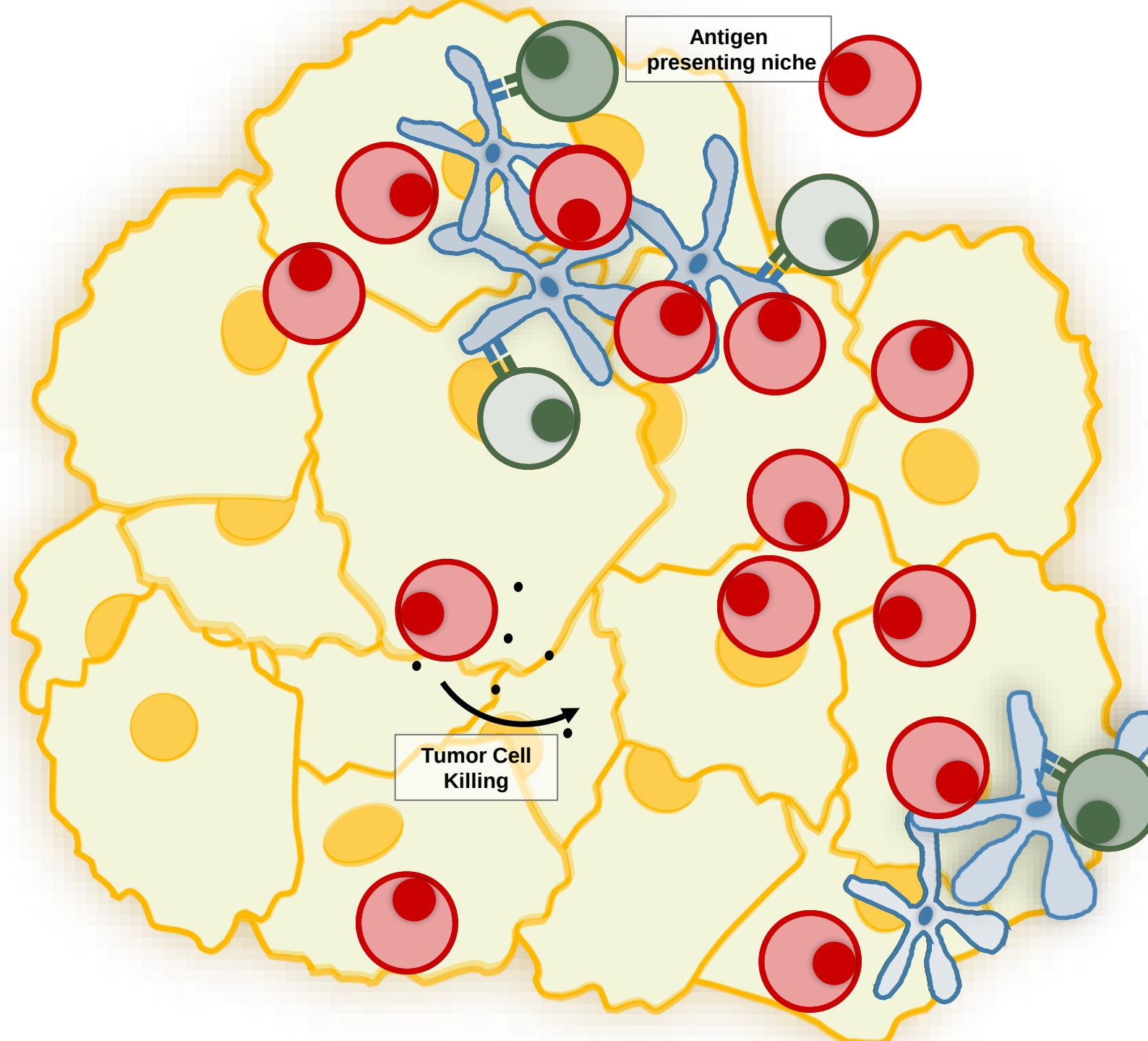


Rapid Progression



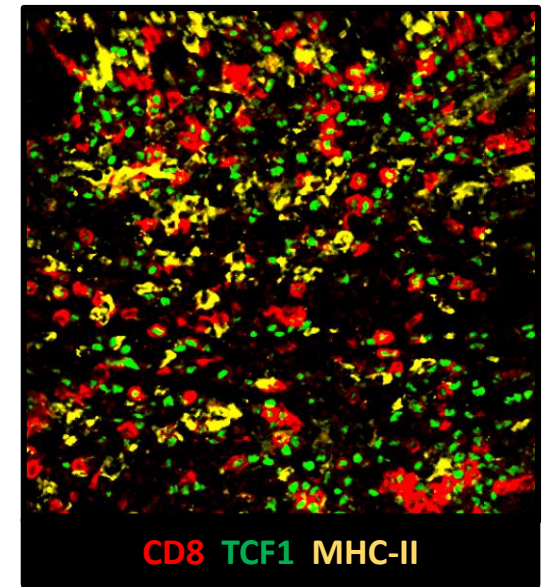
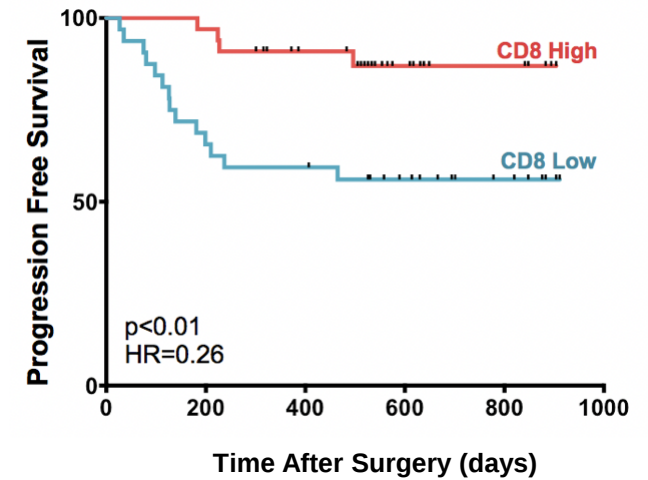
Loss of antigen presenting zones in the tumor occurs during tumor escape





Key Findings

- CD8 T-cell Infiltration predicts progression in human renal tumors
- The CD8 T-cell response is maintained by a stem-like CD8 T-cell population that resides in antigen presenting niches in the tumor
- Breakdown of APC/Stem-Cell niche is associated with a declining CD8 T-cell response



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