Unique 3D Organoids Autologous TIL Coculture Platform Enables High Throughput Immune-Oncology Drug Response Studies

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Champions Oncology

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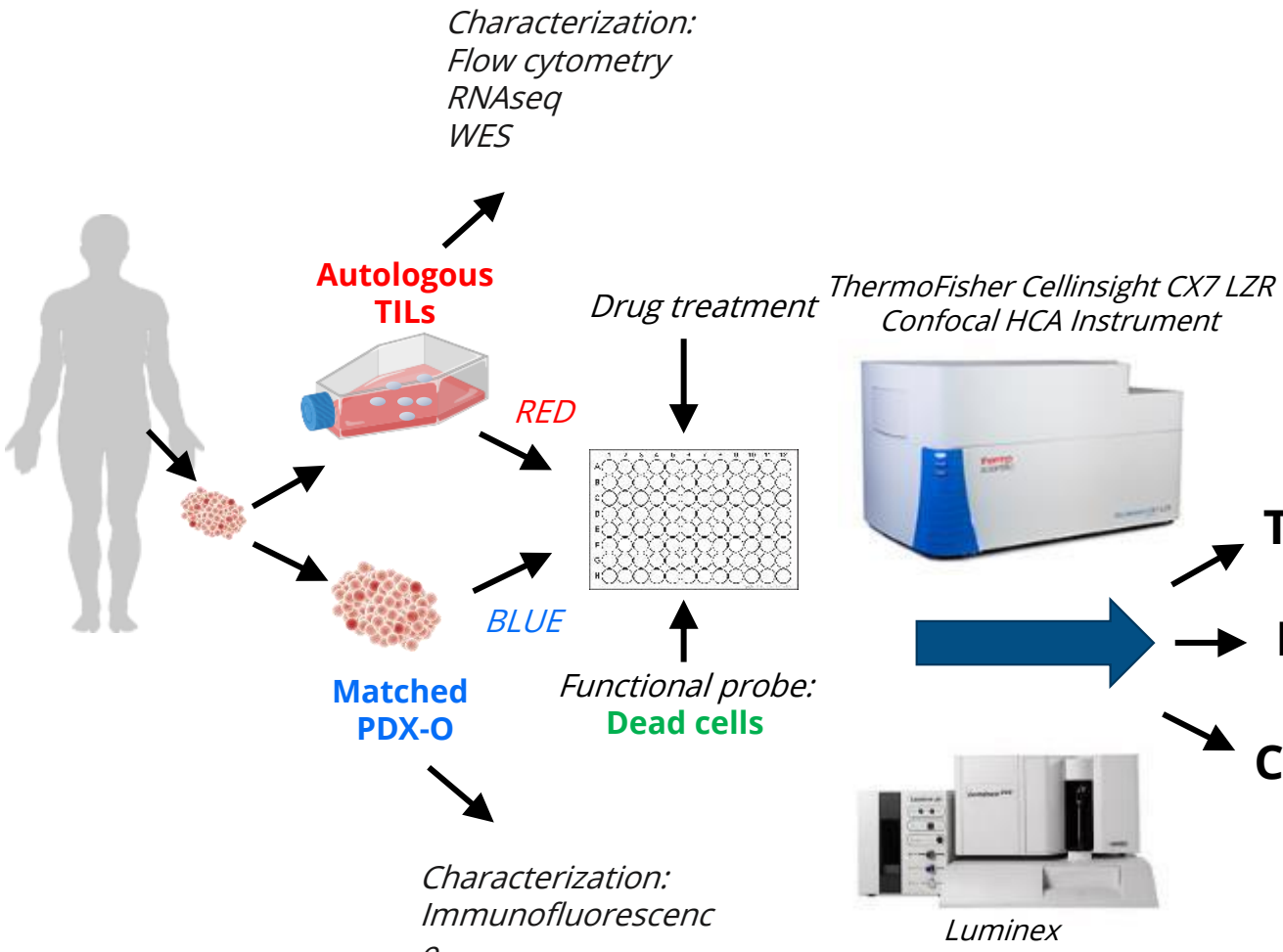
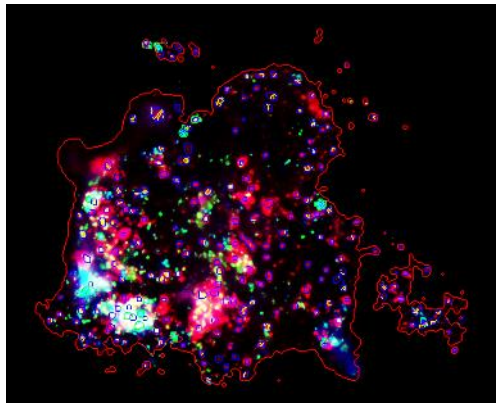
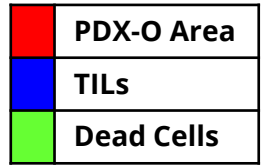
Methods







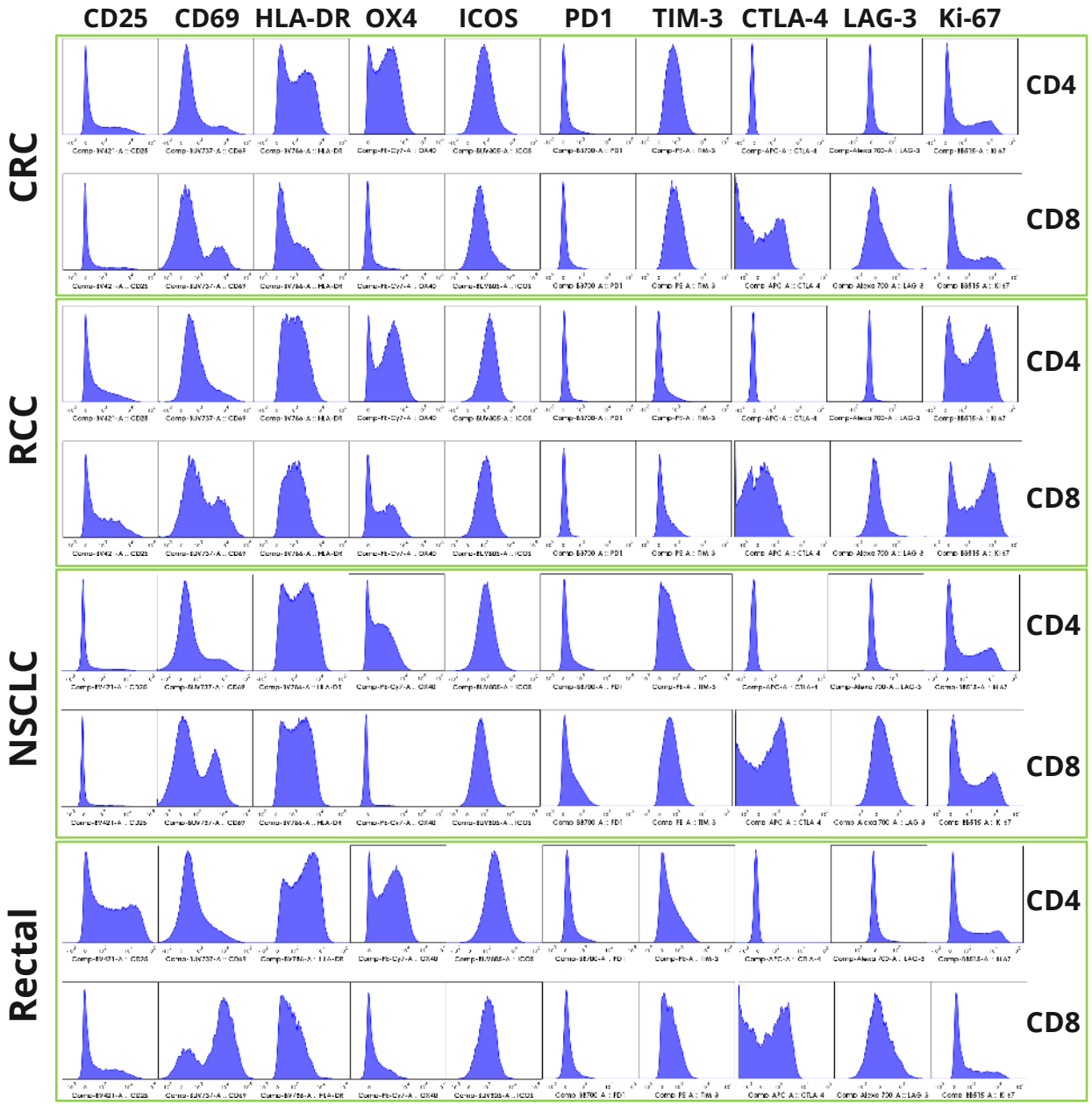
TIL Infiltration/Cytotoxicity Analysis

Marker Expression: Immunofluorescence

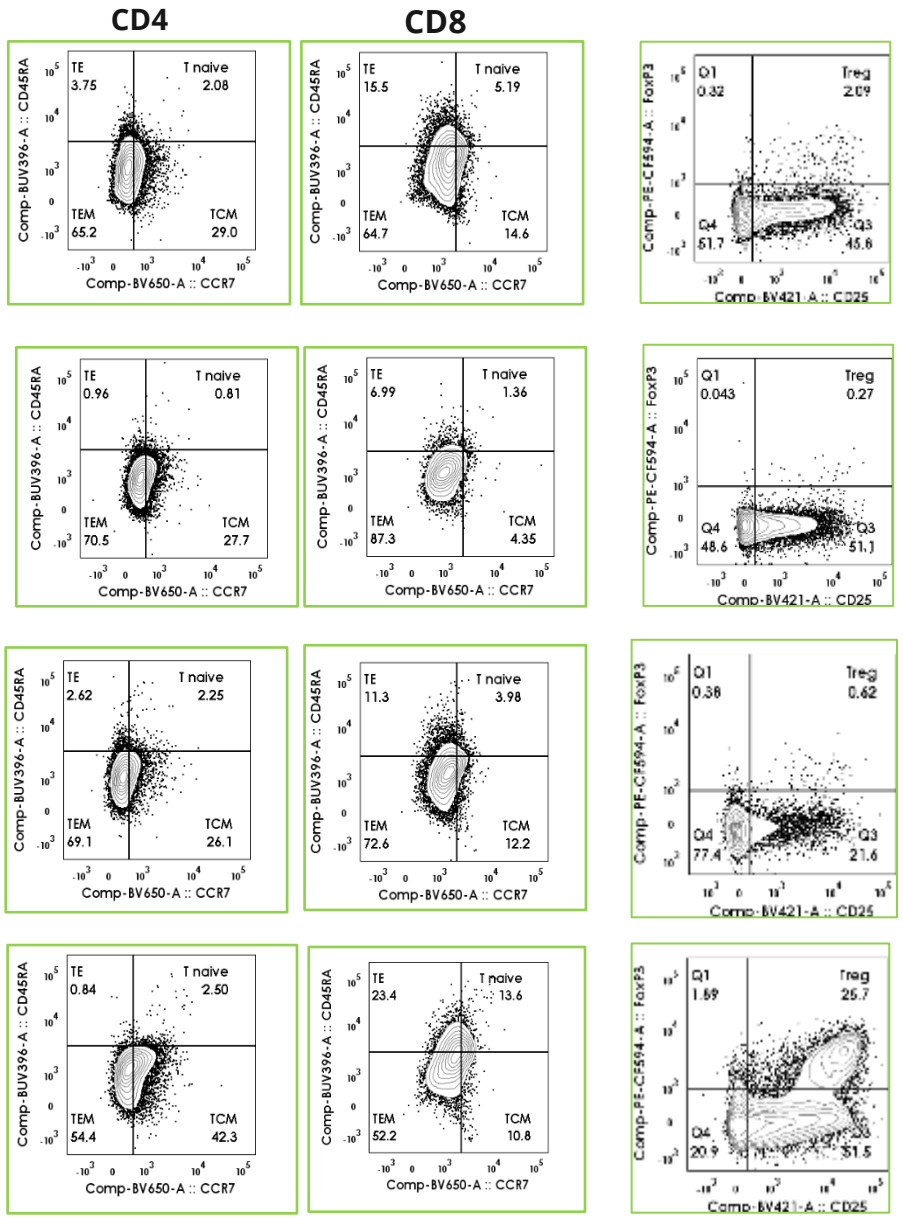
Cytokine profiling: Luminex

TIL Characterization

Exhaustion and Activation Markers



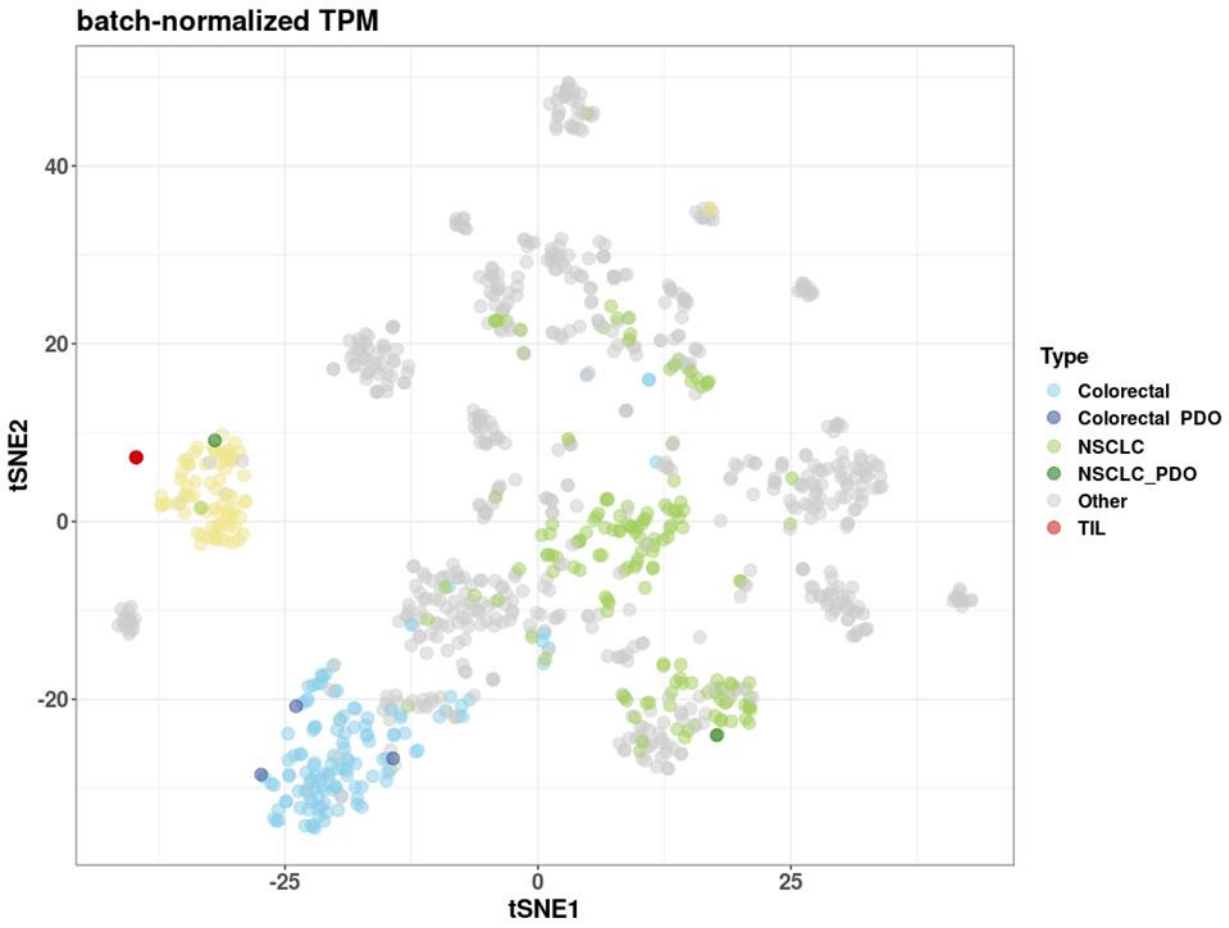
Memory Phenotypes



T Reg Phenotypes

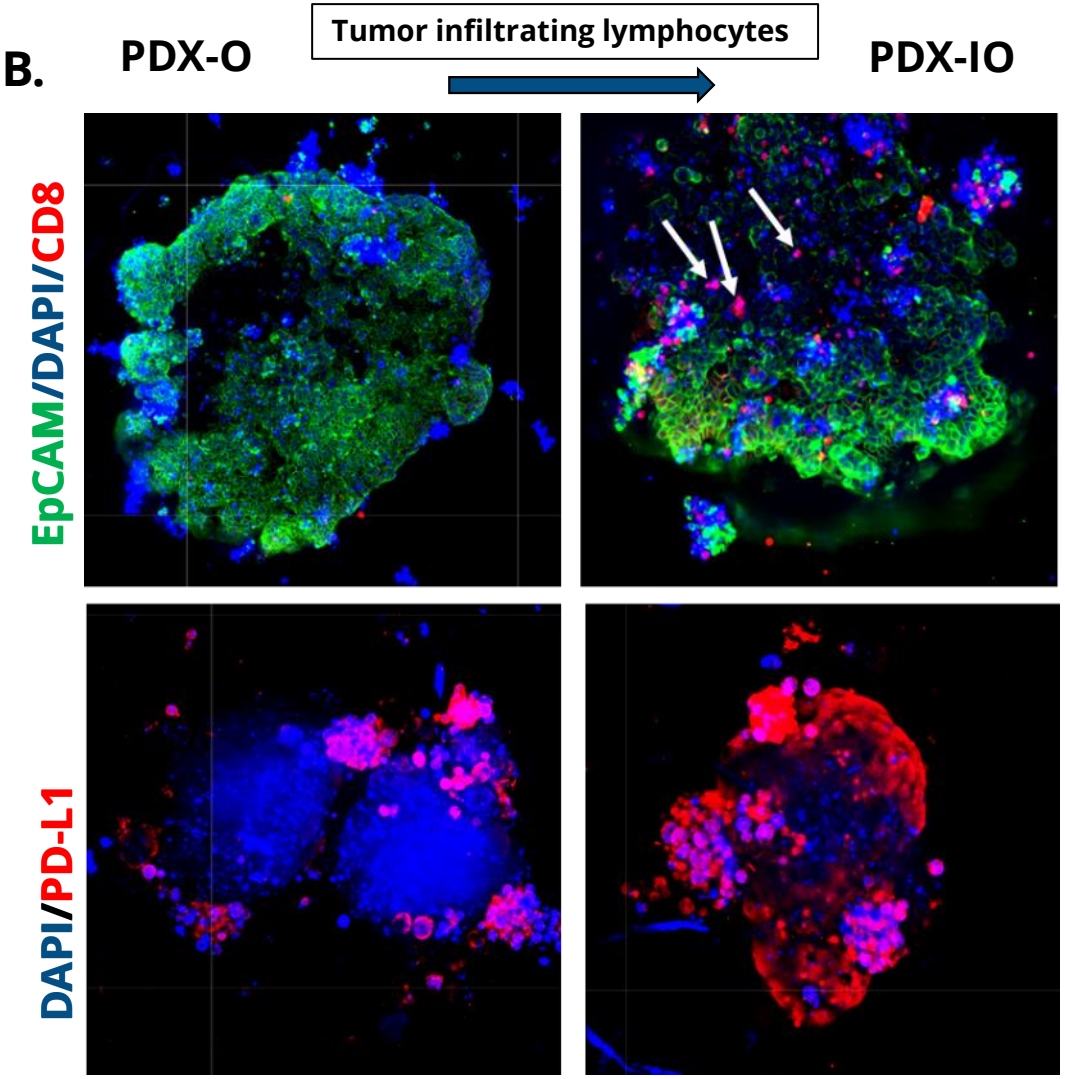
PDX-O and Coculture Characterization

A.



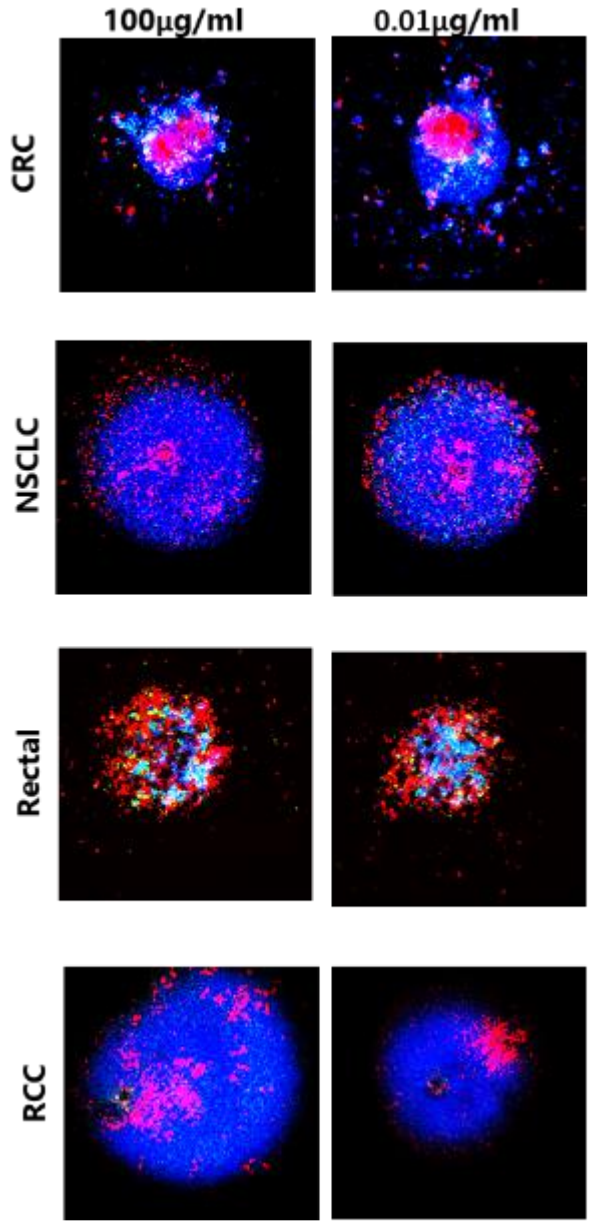
PDX-O aligns with respective Tumor types

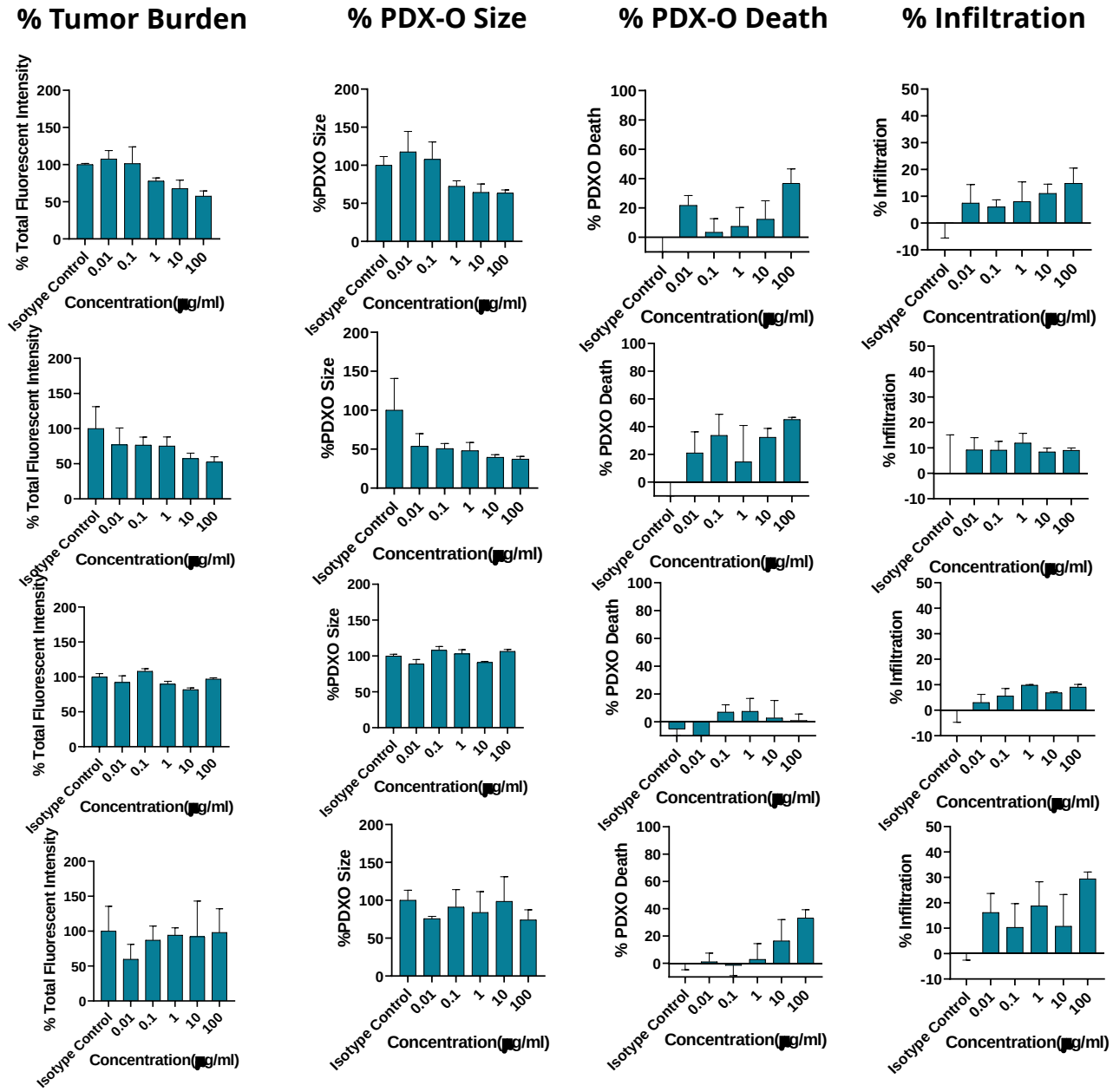
B.



IF confirms TIL infiltration and functional impact

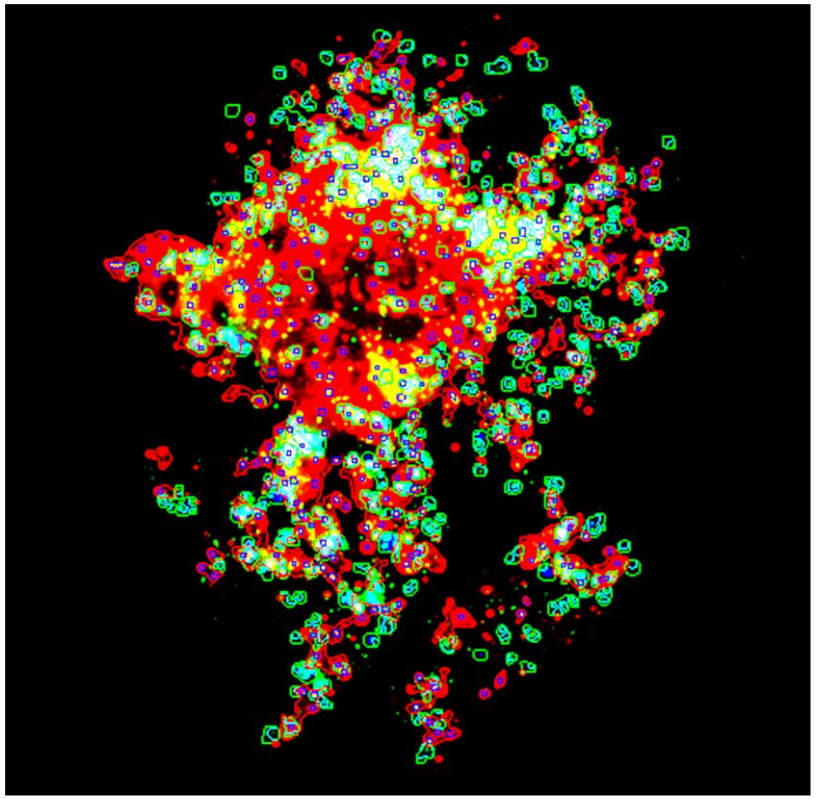
Evaluation of checkpoint inhibitor therapy in PDX-IO Autologous Cocultures via HCA





Results and Conclusion

- PDX-Os and Tumor-matched TILs were successfully established and characterized.
- Immunofluorescence for T cell marker and changes in cell surface markers in PDX-O confirmed tumor infiltration and functional impact of coculture.
- PDX-Os were characterized as responsive and non-responsive on the basis reduction in tumor burden and increase in tumor death and changes in cytokine profile. (Not shown)



Conclusion: Our patient autologous TILs – PDX-O culture platform can be used to model Immune therapeutic response with the tumor-specific immune microenvironment.

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