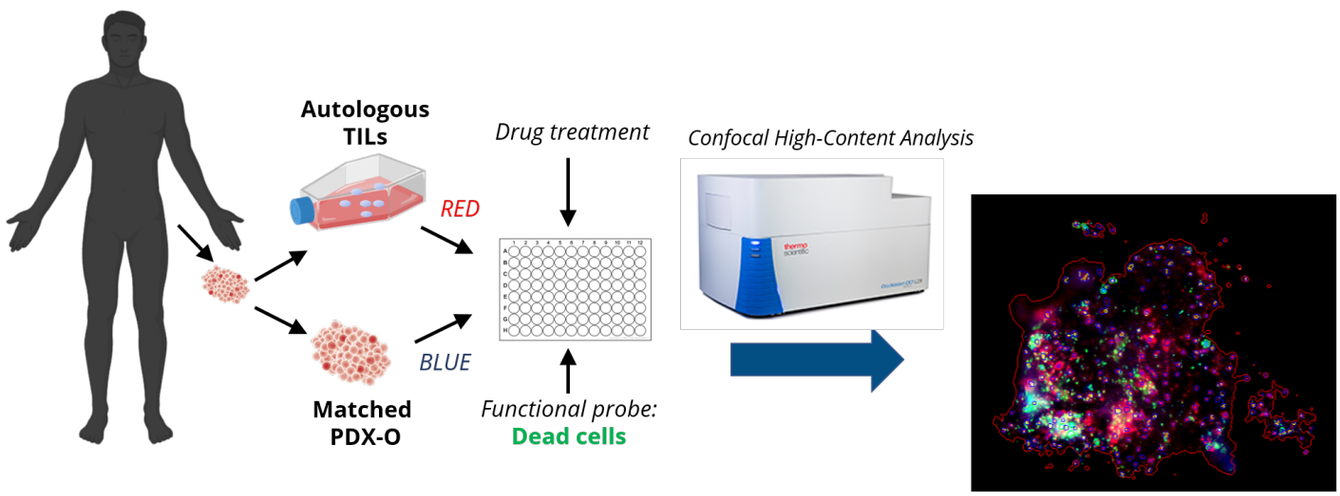
AUTOLOGOUS TIL PLATFORM

Autologous Tumor Infiltrating Lymphocyte (TIL) Platform

Immuno-Oncology research in the area of solid tumors is growing rapidly with new discoveries in the assessment of tumor infiltrating lymphocytes (TILs). TILs are an assembly of lymphocytes that have infiltrated the stroma of a tumor. These TIL cells are made up of largely T cells that are actively engaged in destroying or maintaining the tumor. However, the cellular constituents and specific cytokine milieu that is needed to effectively modulate the anti-tumor response varies widely between different solid tumor types throughout the body. Champions Oncology has launched an innovative new platform enabling immuno-oncology researchers the ability to test their therapeutics in a 3D organoid assay that can mimic mechanism of action. The Autologous TIL platform is an ex vivo 3D co-culture platform developed and optimized to interrogate the responses of your immuno-oncology drugs with a tumor-specific microenvironment in only 4 days using PDX-O (patient-derived xenograft organoids) collected with matched, autologous TIL samples.

Autologous TIL Platform Methodology

Champions' well-characterized bank of solid tumors contains patient samples from which PDX-organoids have been established from multiple tumor types* (NSCLC and Colorectal) and autologous TILs have been produced from each solid tumor sample. The Autologous TIL Platform utilizes a short-term culture system that supports the growth and survival of the PDX-O solid tumor as well as the patient matched TILs ex vivo with the addition of cytokine supplemented media for 4 days.



*Additional Autologous TILs with patient-matched organoids are in development at Champions.

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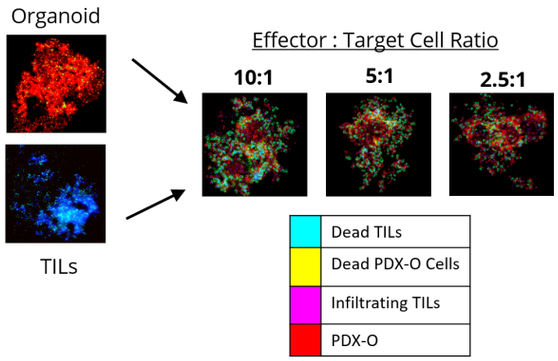
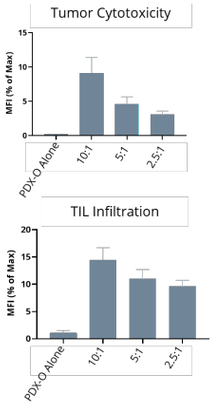
Confocal High Content Analysis Assay

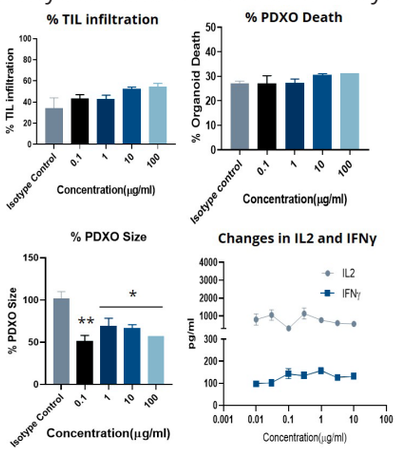
The high content analysis assay using confocal microscopy was developed using 3 colors, TILs and PDX-O tumor cells labeled with distinct dyes and a dead cell detection dye. Several Effector to Target cells ratios were tested to assess tumor cytotoxicity and TIL infiltration.





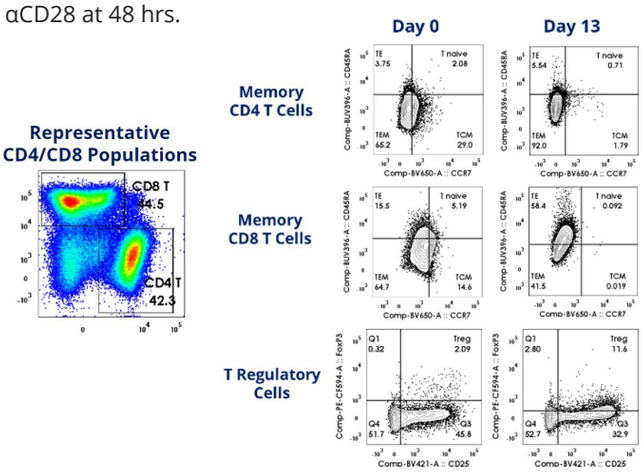
Checkpoint Inhibition Drives Increased TIL Infiltration & Reduction in PDX-O Size

CRC PDX-O samples were co-cultured with autologous TIL samples in 10:1 ratio and subjected to a 10 fold dilution dose response of Keytruda and assessed after 4 days in co-culture.



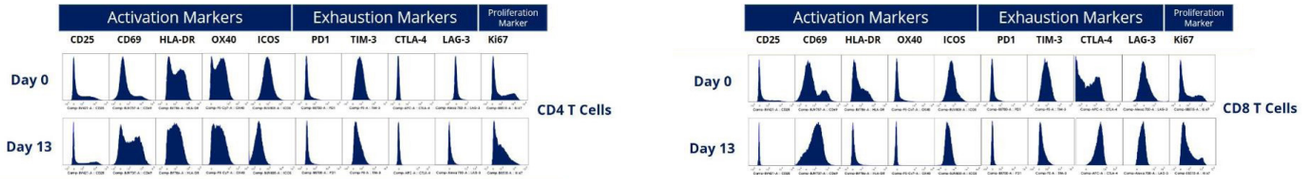
Autologous TILs Contain Memory & T Regulatory Cells

The Autologous TIL samples also contain Memory CD8+ T Cells and T Regulatory Cells after stimulations with αCD3/αCD28 at 48 hrs.



Autologous TILs Express Increased Exhaustion and Activation Markers

Donor PBMCs and autologous TILs stimulated with αCD3/αCD28 were evaluated at 48 hrs. The TIL samples show increased expression of CD25, CD69, Ki-67 and also several checkpoint inhibitor markers following stimulation compared to the normal donor PBMCs, illustrating that these autologous TIL samples are primed to destroy tumors.



For additional information on Champions' Autologous TIL Platform, please reach out to your Business Development Representative.

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