CHAMPIONS ONCOLOGY

Creating Greater Certainty in the Fight Against Cancer

Pre-clinical/ Translational | Oncology/ Immuno-Oncology | Cancer Indication Cohorts

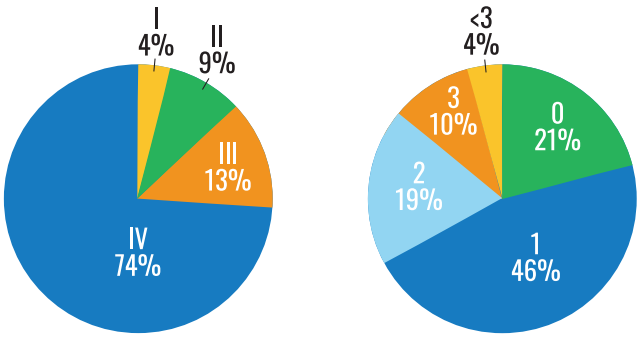
CRC PDX Models

Champions Oncology currently has **over 180 Colorectal (CRC) cancer PDX models** available for oncology pharmacology studies and drug development.

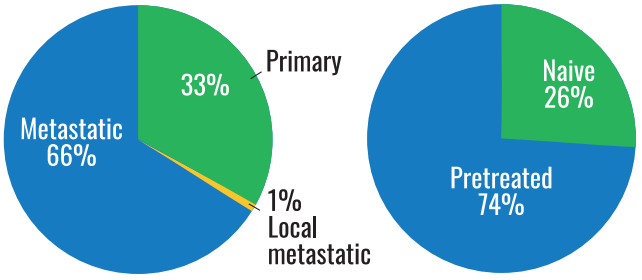
These models are clinically relevant, established from patients with **late stage, metastatic and heavily pretreated disease**.

With more than **120 of these models characterized by next generation sequencing (WES and RNASeq)** and in vivo drug response testing a large and diverse data set can be utilized to assess biomarkers of response/non-response within this indication.

Patient Demographics



Clinical Stage | Lines of Therapy



Tumor Status | Treatment History

Patient Treatment Histories

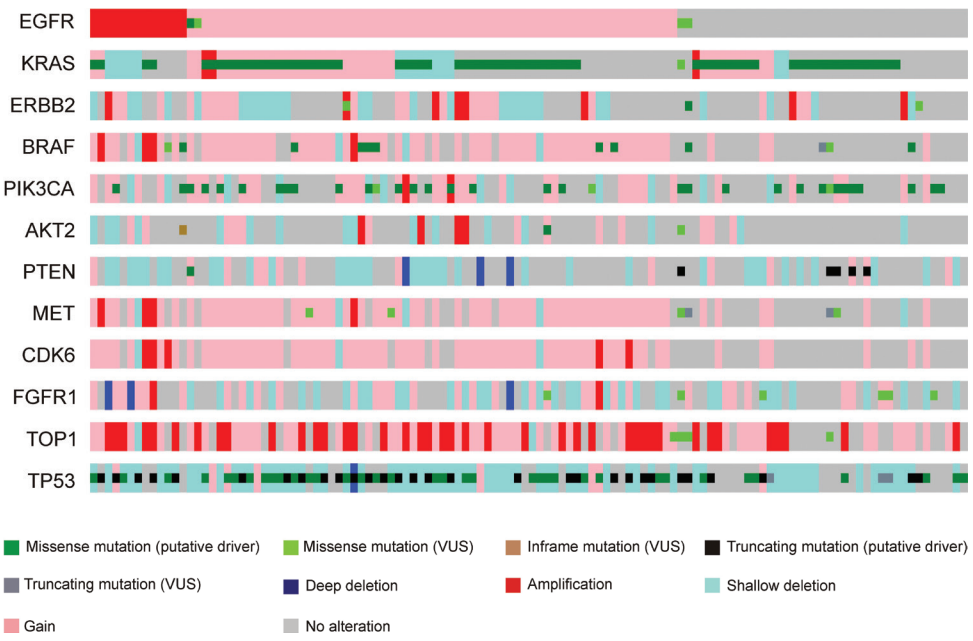
More than 75% of models have been pretreated, having been exposed to a wide range of treatments, from chemotherapy to targeted inhibitors, alone or in combination.

Pretreatment Drug Class	# of Models
Anti-metabolite (e.g. 5-FU)	135
Platinum agent	83
Angiogenesis inhibitor	55
Topoisomerase inhibitor	55
Naïve	29
RTKi	24
DNA damaging agent	5
Nucleoside analog	2
ATPase inhibitor	1

In Vivo Drug Testing

CRC models have been benchmarked for response to wide selection of treatments. Known in vivo response to standard of care therapy can be compared to the response of oncology agents in development.

Molecular Analysis



Utilizing the available complex genomic data the CRC models have been characterized for aberrations in druggable pathways including mutations, copy number variations and gene fusion events.

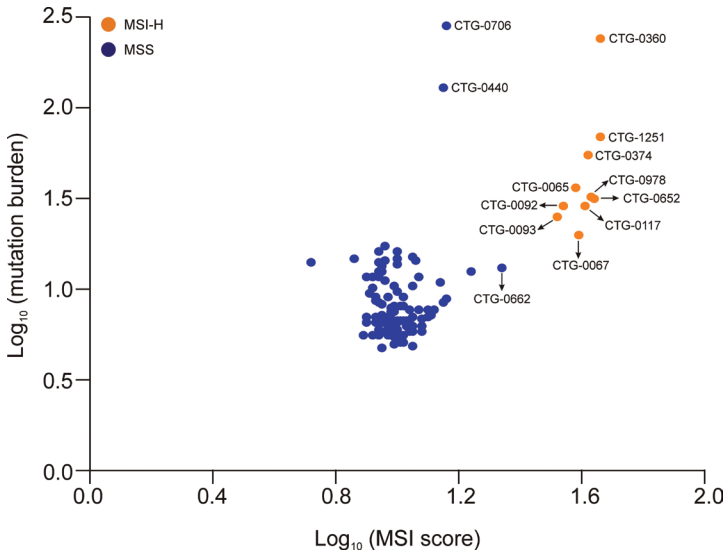
Gao et al. Integrative analysis of complex cancer genomics and clinical profiles using the cBioPortal. Sci. Signal. 6, pl1 (2013)

VUS = variant of unknown significance

Potential Biomarkers of Response to Immuno-Oncology Agents

Microsatellite instability (MSI) and mutation burden are two key biomarkers for potential to respond to immuno-oncology agents, with both believed to be critical indicators of neoantigen generation and tumor immunogenicity. MSI, in particular, is a hyper-mutable phenotype displayed by many colorectal tumors, with implications for prognosis and therapeutic decision-making. MSI scores and mutation burdens were calculated across Champions colorectal models and plotted as shown in the graph below. Models that may have high immunogenic potential and value for IO studies are highlighted.

*generated using MSIsesnsor; Niu B, et al, Bioinformatics, 2015



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Please visit **championsoncology.com** for access to the Champions TumorGraft database and updated information about Champions Oncology PDX models.