TRISKELION
RESEARCH FOR BETTER LIVING

CANCER IMMUNOTHERAPY

Triskelion tests and analyses chemical, pharmaceutical and biotechnology products, guaranteeing the safety and quality of the products we use every day. Triskelion ensures that we don't have to worry and that we can live safe and better lives.

PHARMA

CANCER IMMUNOTHERAPY - TREATMENT THAT HARNESSES AND ENHANCES THE POWER OF THE IMMUNE SYSTEM TO FIGHT CANCER - IS A PROMISING NEW CANCER TREATMENT MODALITY THAT HAS ALREADY REVOLUTIONIZED THE FIELD OF ONCOLOGY. WE HELP OUR CLIENTS TO ASSESS THE POTENTIAL CLINICAL SUCCESS OF THEIR NOVEL DRUG CANDIDATES BY PROVIDING ACCESS TO SELECTED PREDICTIVE MODELS IN CANCER IMMUNOTHERAPY, IN ADDITION TO SUPERIOR PRE-CLINICAL ADVICE FROM OUR EXPERIENCED TEAM OF RESEARCH PROFESSIONALS.

We envisage a collaborative approach in projects with our customers, which translates into a personal service with scientific discussions to develop and execute your studies. You will work with an experienced PhD-level scientist who will be your primary resource to assist in study design, monitor quality control and provide timely updates on study progress, allowing for real-time decisions that result in improved study outcomes. Our unique collection of well-validated *in vitro* and *in vivo* models, expertise in model development and dedicated professionals enable us to deliver the results you need, today.

IN VITRO ASSAYS

Evaluate your candidate therapeutics in functional assays using primary cells in non-antigen specific (superantigens) or antigen-specific approaches in the presence of your antagonist or agonist molecules to measure proliferation, cell surface activation markers and soluble cytokine expression.

IN VIVO MODELS

Our main categories of *in vivo* models are tumor xenografts in immunocompromised mice or syngeneic immunocompetent mice. Subcutaneous injection of tumor cells offers a relatively simple and efficient tumor model to test the efficacy of potential therapeutics. Furthermore, the model is useful in highlighting early signs of drug-related toxicity.

Immunocompromised mice. We offer a wide variety of traditional tumor cell lines, which can be studied as xenografts in mice. Several of these cell lines / models have been validated with clinically-available immune checkpoint inhibitors, providing a reference point to compare the efficacy of your drug candidate and testing combination strategies.

Immunocompetent mice provide the advantage of being able to study the interaction between the immune system and the tumor because the cells are from the same species as the host. Tumor growth in syngeneic model is rapid and highly translatable.

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PHARMA

TRISKELION'S CORE MISSION IS TO ACCELERATE YOUR DISCOVERY PIPELINE SO YOU CAN PROGRESS TO THE NEXT PHASE OF CLINICAL TESTING. WE DO THIS BY PROVIDING CLINICALLY RELEVANT AND HIGHLY TRANSLATIONAL MODELS OF HUMAN DISEASES. PROVIDING THIS DISTINCTIVE SERVICE AT A CONSISTENTLY HIGH LEVEL OF QUALITY IS MADE POSSIBLE BY THE UNIQUE BLEND OF PROFESSIONALS IN OUR TEAM. WE PRIDE OURSELVES ON THE QUALITY OF OUR WORK AND COMPLETING PROJECTS SWIFTLY AND COST-EFFECTIVELY.

CANCER IMMUNOTHERAPY

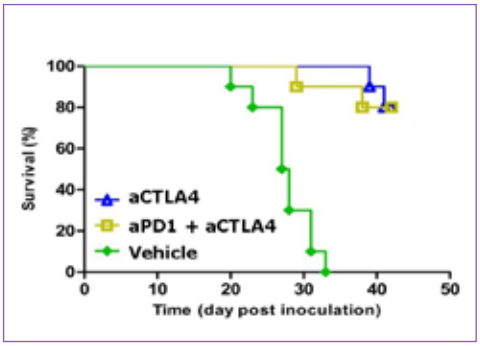

Figure 1. Kaplan-Meier plot of CT26-bearing mice treated with ICIs.

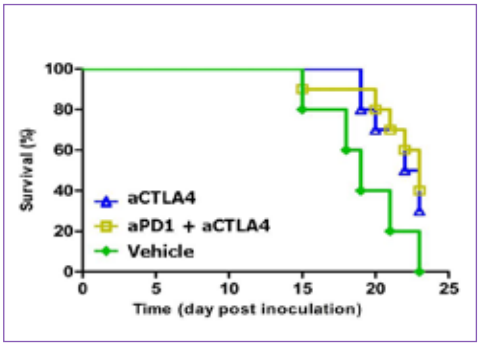

Figure 2: Kaplan-Meier plot of B16-F10-bearing mice treated with ICIs.

Currently, drug development in immunotherapy is centered around:

- Discovery and development of novel immunotherapeutic compounds
- Discovery of the molecular mechanisms underlying efficacy of immunotherapy
- Identification of biomarkers capable of predicting response to immunotherapy
- Testing synergy between different treatment modalities (i.e. immunotherapy + chemotherapy)

These and other questions can be addressed using immunocompetent animal models in which the response to reference drugs has been validated. In Figures 1 and 2 results are presented of the case study in which, we characterized the response to immune checkpoint inhibitors (ICIs) in syngeneic mouse tumor models to highlight differences in sensitivity and discuss potential applications.

In this experiment, C57BL/6 mice bearing B16-F10 (melanoma) or CT26 (colon cancer) tumors (injected subcutaneously) were treated with a control antibody, anti-CTLA-4, or a combination of anti-CTLA-4 + anti-PD-1 (3x, intravenously at 48H interval). These ICIs significantly improved the survival of CT26-bearing mice (Figure 1), while having little effect on the survival of B16-F10-bearing mice. Similar effects were obtained for tumor volume. These results indicate that the efficacy of ICIs is dependent on the tumor-challenge model used. The CT26 model is suitable for initial screening of candidate immunotherapeutic compounds, while the B16-10 model presents a more robust challenge and may be more suitable for testing combination strategies.

To further understand the molecular mechanism at play, we can isolate several tissues, such as tumor, (non-) draining lymph nodes and spleen, for further analysis. Triskelion offers a full complement of bioanalytic services such as advanced multi-color flow cytometry, including intracellular staining, Immunohistochemistry, cytokine profiling and ELISPOT.

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