REACTION BIOLOGY

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SubQperior mouse tumor models

Imagine a syngeneic model with no tumor ulceration, 100% take rate and homogeneous tumor growth. Not possible?

We have developed our tumor models with an implantation method overcoming all common problems researchers experience with subcutaneous tumor models. The solution is simple: change the injection site from subcutaneous to mammary fat pad and experience an impressive difference: get beautiful growth curves and with the ease of calipering tumor size. SubQperior = superior to subcutaneous.

Tumor cell line LL-2

Origin: lung / mouse C57BL/6
Description: lewis lung carcinoma

Study example

Comparison of LL-2 tumor growth characteristic after subcutaneous vs. subQperior implantation shows larger tumor volumes and a longer treatment window for subQperior tumors.

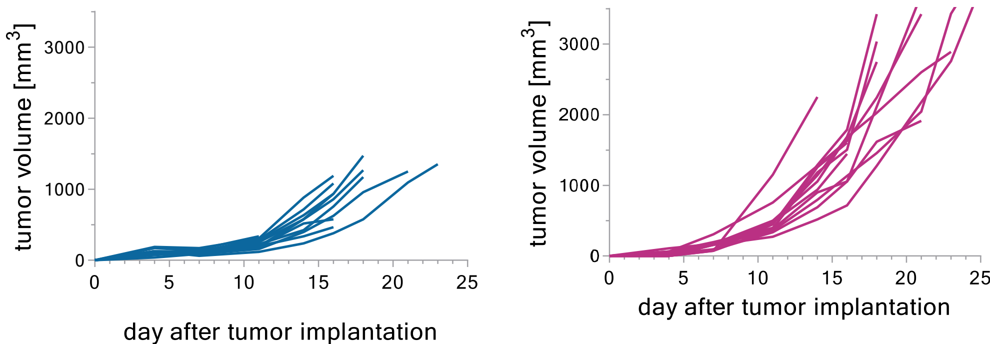

Figure 1: *C57BL/6 mice were implanted subcutaneously (left) and into the mammary fat pad (subQperior; right) with LL-2 cells. Data are displayed as single growth curves.*

Quality assurance

- Routine authentication of tumor cell lines by STR profiling
- Mycoplasma testing of tumor cells by PCR just prior to implantation
- Routine health monitoring of sentinel animals (according to FELASA guide lines)
- Animal work according to the 5R rules (reduce, refine, replace, responsible, remember)

Note: Graphs depicted are derived from study examples. Each study is a biological system of its own and subject to intrinsic variation.

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Study example – Immune Checkpoint Inhibitors

Mice bearing LL-2 cells implanted in the mammary fat pad were treated with anti-mPD-1 and anti-mCTLA-4. Treatment started after randomization when tumor volumes had reached a size of approximately 11 mm³.

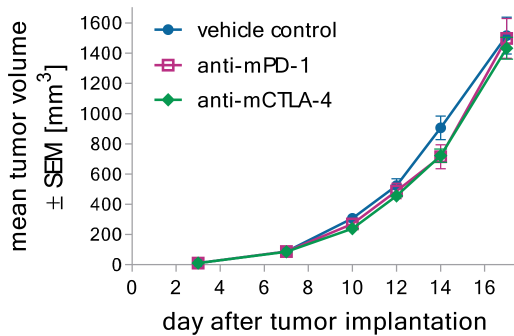

Figure 2: *LL-2 tumors were treated with anti-mPD-1 and anti-mCTLA-4. Tumor growth was monitored by calipering.*

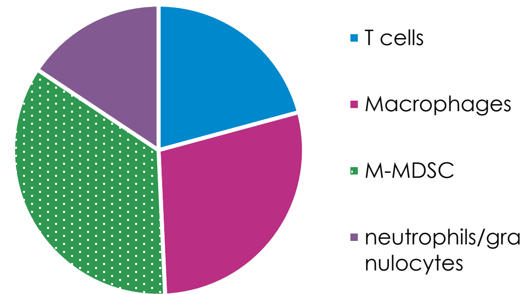

Figure 3: *Flow cytometry analysis of LL-2 primary tumor tissue showing the relative distribution of the major immune cell populations.*

Immune cell populations infiltrating LL-2 tumors

At tumor model endpoint, primary tumor tissues were appropriately processed and analyzed by flow cytometry for determination of T cell, B cell, macrophage, NK cell, dendritic cell and myeloid cell populations.

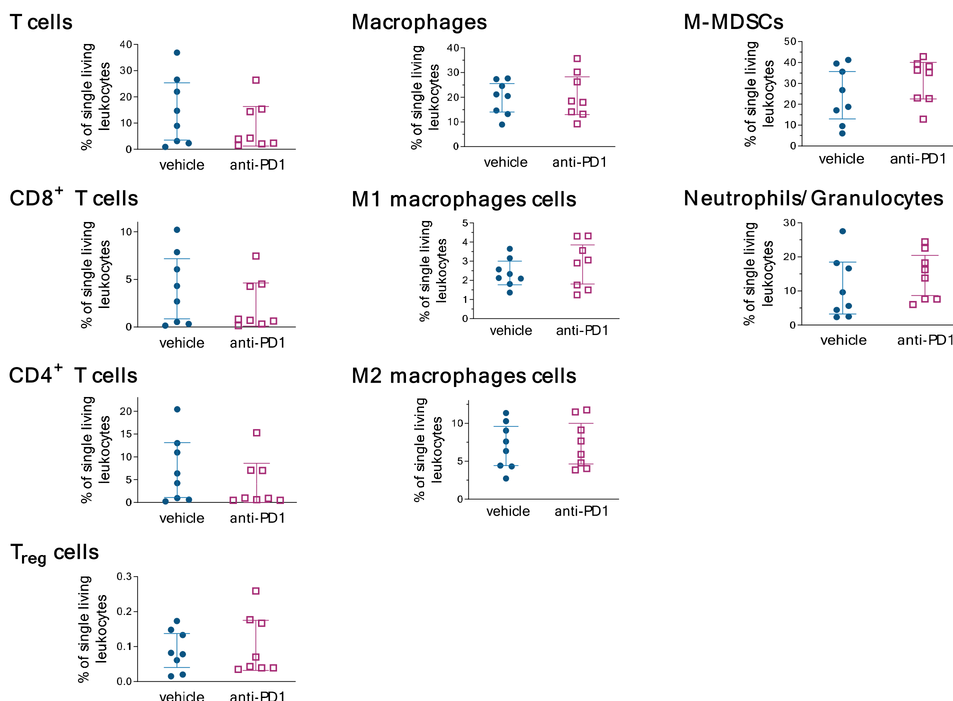

Figure 4: *Flow cytometry analysis of LL-2 primary tumor tissue is depicted as percentage of living immune cell tumor infiltrate. For each immune population, data are displayed as mean bar together with their corresponding + 95% CI.*

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