Breast tumor model: EMT6

syngeneic – orthotopic – subQperior

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➢ SubQperior mouse tumor models

Imagine syngeneic models with almost no tumor ulceration, nearly 100% take rate, and homogeneous tumor growth.

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.

We have tested all of our subQperior models with common immune-checkpoint inhibitors and investigated their immune-infiltrate with our all-in-one 17 marker flow cytometry panel. Please inquire to see more data.

➢ EMT6 cells (CPQ-462)

Origin:	breast / mouse BALB/c
Description:	mammary carcinoma

➢ SubQperior vs. orthotopic breast cancer models

EMT6 origins in a breast tumor. Therefore subQperior is a special case: it is orthotopic. The method for tumor cell implantation into the mammary fat pad is the same procedure as orthotopic implantation of breast cancer cells. The EMT6 cells used in this tumor model do not express luciferase.

➢ Study example

subQperior implantation of EMT6 cells shows growth of tumors up to an average of 1,500mm^3 whereas tumor growth after subcutaeneous implantation leads to ulceration and early termination.

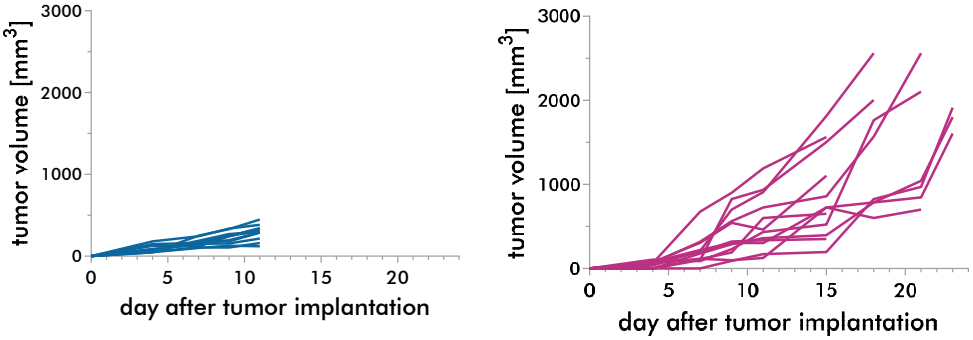

Figure 1: *Balb/C mice were implanted subcutan-eously (left) and into the mammary fat pad (subQperior; right) with EMT6 cells. Data are displayed as single growth curves.*

➢ 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 EMT6 cells implanted in the mammary fat pad were treated with anti-mPD-1. Treatment started after randomization when tumor volumes had reached a size of approximately 60 mm^3.

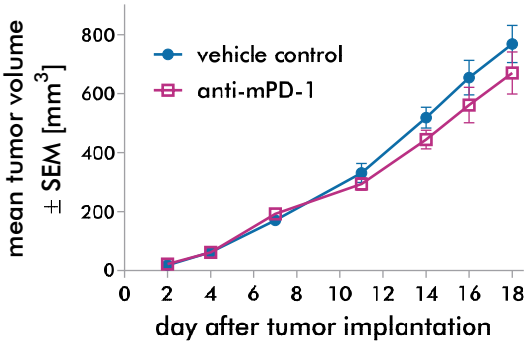

Figure 2: *EMT6 tumors were treated with anti-mPD-1. Tumor growth was monitored by calipering.*

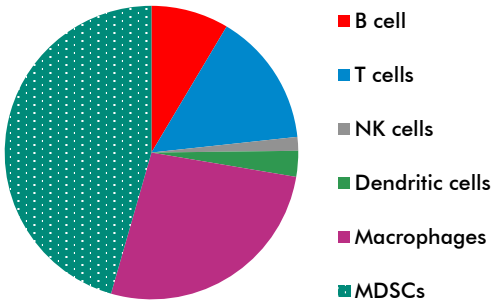

Figure 3: *Flow cytometry analysis of EMT6 primary tumor tissue showing the relative distribution of the major immune cell populations.*

➢ Immune cell populations infiltrating EMT6 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.

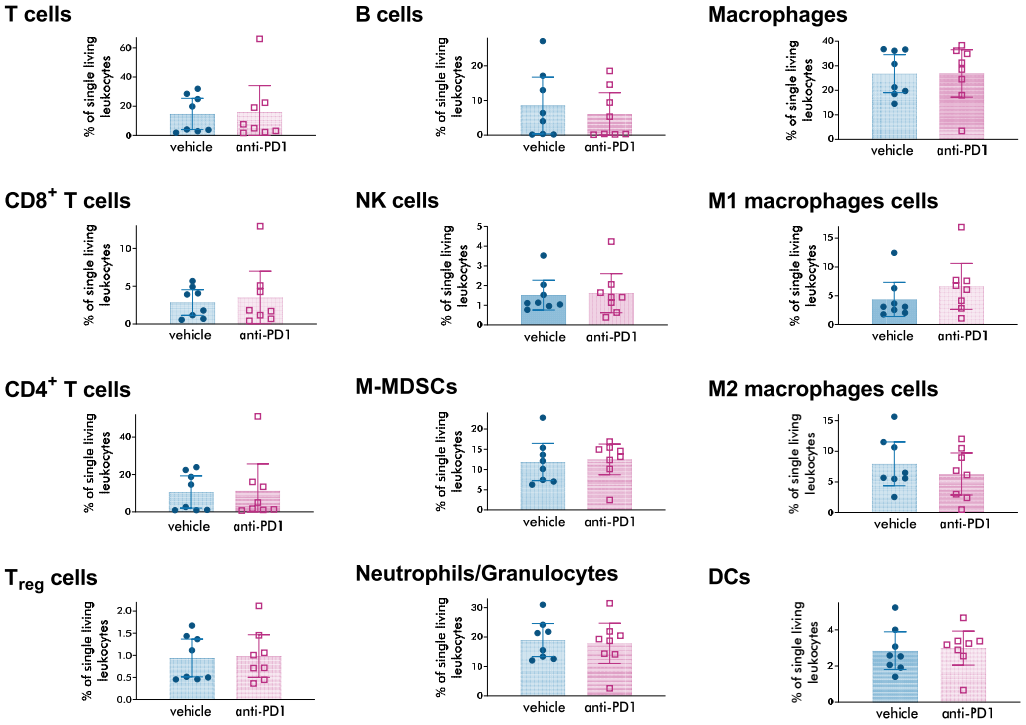

Figure 4: *Flow cytometry analysis of EMT6 primary tumor tissue is depicted as percentage of living immune cell tumor infiltrate. For each immune population, data are displayed as mean bar together with their corresponding + 95% CI.*