

SubQperior

the next generation of tumor models

A superior implantation method for cell-line derived tumor models

- Homogeneous tumor growth
- Reproducible study outcome
- Outstanding statistical value

Standard implantation via subcutaneous injection causes frequent ulceration resulting in early abrogation of studies, leaving researchers with too short treatment windows and high heterogeneity with poor statistical value of study results.

To overcome these challenges, we have developed a superior implantation method for standard cell-line derived tumor models.

subQperior: tumor cell implantation into the mammary fat pad.

Let's discover together.

1

SubQperior implantation
results in larger tumors.

2

Homogenous and reliable
growth yields study
outcomes with outstanding
statistical value.

3

Tumors are measured via
caliper making the handling
as easy and inexpensive as
for subcutaneous models.

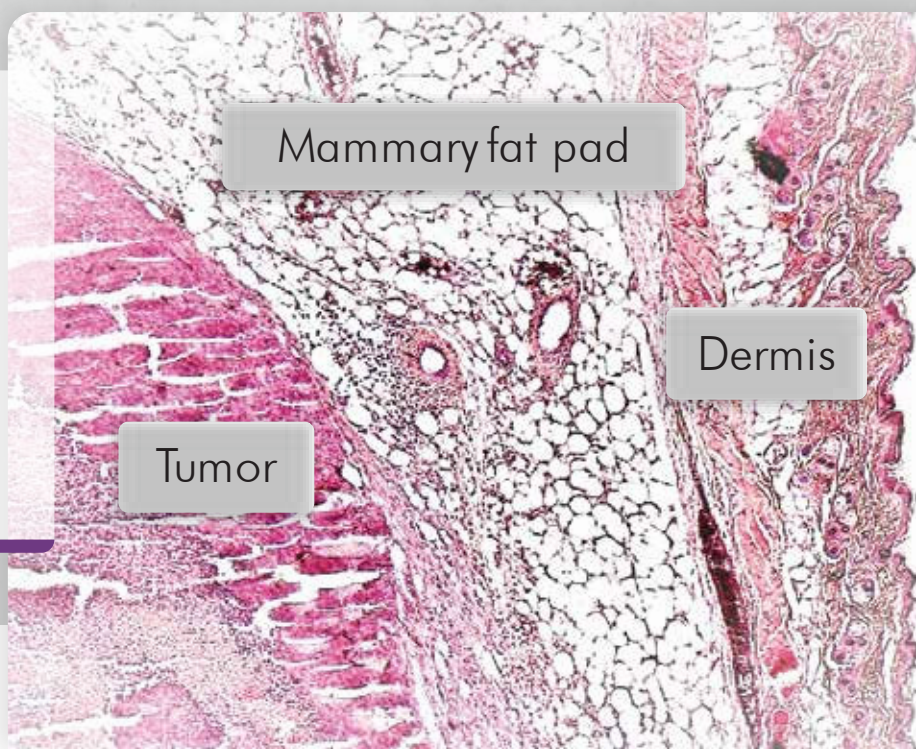
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Homogeneous tumor growth
of subQperior models allows
to reduce the number of mice
per arm.

The subQperior advantage

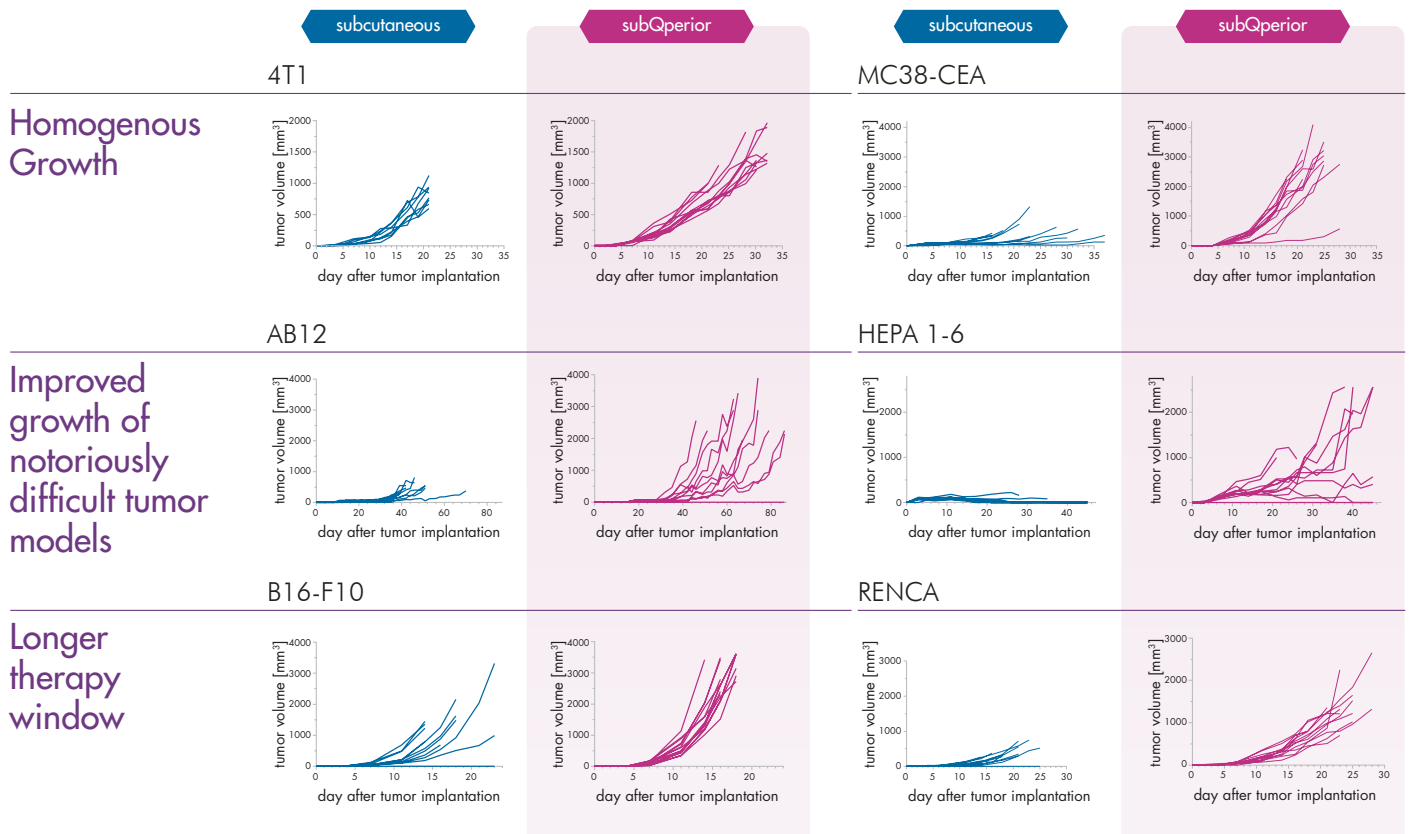
Tumor cell implantation in the
mammary fat pad allows for tumor
growth in tissue with the tumor cells
being surrounded by stroma.

The mammary fat pad serves as
buffer zone between tumor and
dermis restricting ulceration and
allowing superior growth of tumors
in comparison to subcutaneous
implantation.



Let's discover together.

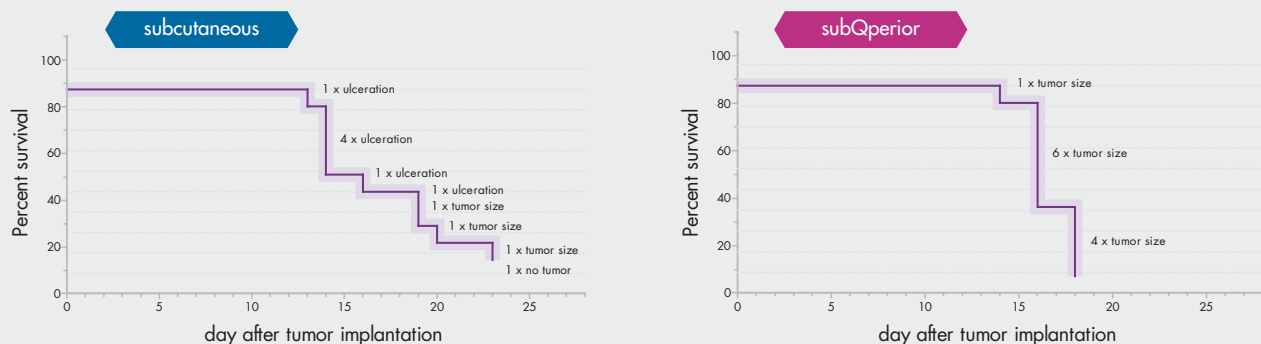
Comparison of subcutaneous and subQperior tumor models



Tumor cells were implanted subcutaneously or subQperior in the respective mouse strain of tumor origin. Tumor growth was monitored via calipering. Mice were sacrificed at their individual termination time points.

Larger tumor sizes + Homogeneous growth + Reproducible results = Efficacy studies with outstanding statistical value

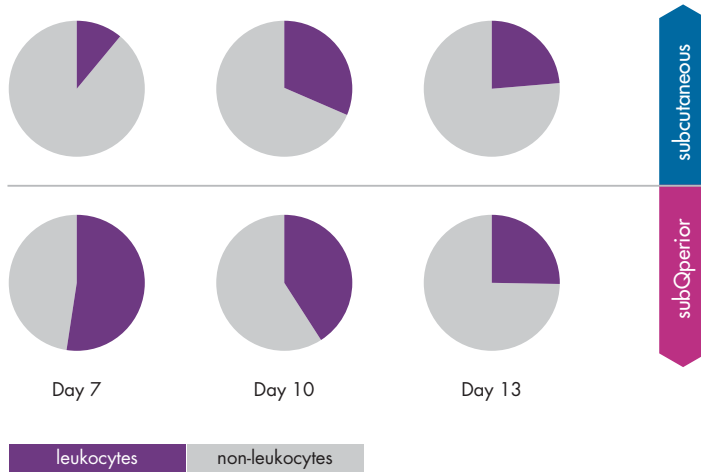
SubQperior tumor implantation overcomes ulceration as the main cause of study termination



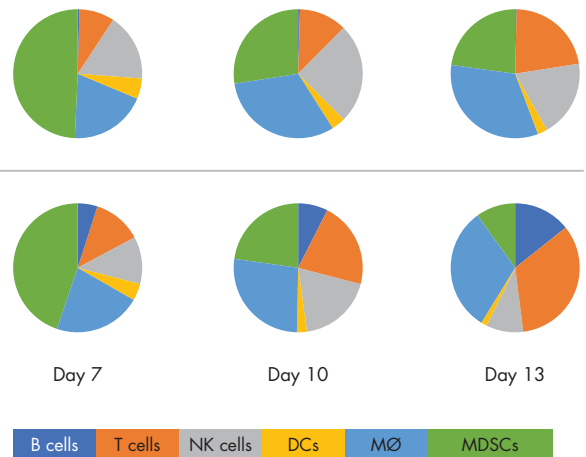
Kaplan-Meier plot showing the causes of death of mice bearing B16-F10 tumors after subcutaneous or subQperior implantation. Tumor ulceration is the cause of termination for 7 animals after subcutaneous implantation. In contrast, all animals with subQperior tumor implantation were taken down because tumors reached maximum allowed size.

Immune cells infiltrating subQperior and subcutaneous CT26wt tumors

Total amount of tumor-infiltrating leukocytes

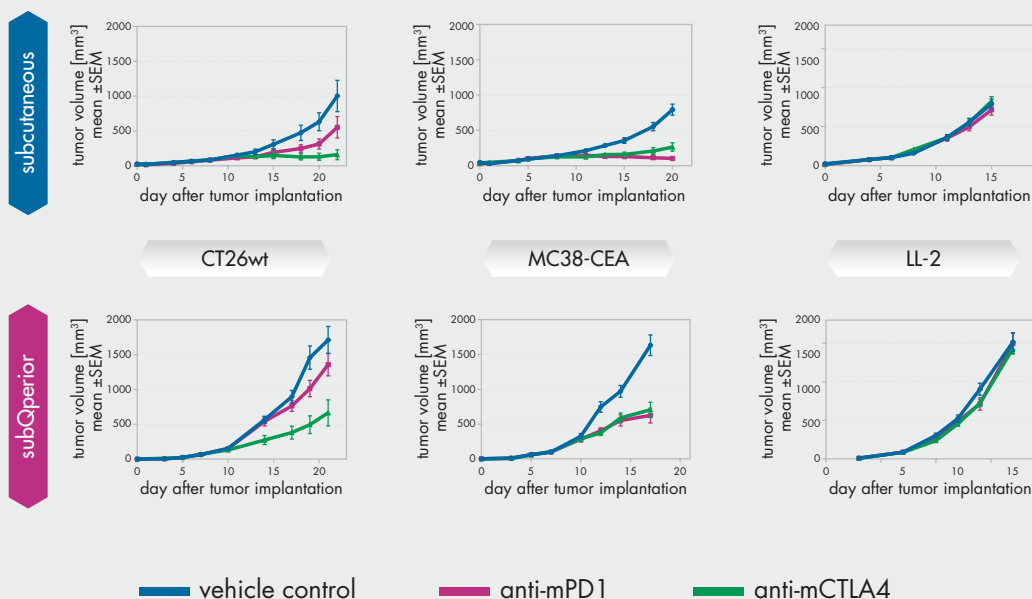


Occurrence of immune cell populations



Syngeneic CT26wt colon tumor cells were implanted subcutaneously and subQperior, respectively. On day 7, day 10 and day 13 after implantation, five animals were euthanized and the tumors were harvested for flow cytometry analysis. The tumor was disrupted, erythrocytes removed and up to 3×10^6 single cells dispensed per well. Cells were stained for live/dead and the antigens CD3, CD4, CD8a, CD45, CD25, CD11b, Ly6C, Ly6G, F4/80, CD11c, MHC class II, CD206, CD335, CD49b, B220 and FoxP3. The samples were analyzed by flow cytometry using a LSR Fortessa (Becton Dickinson).

Immune Checkpoint Inhibitor treatment show similar responses for subcutaneous and subQperior tumor models

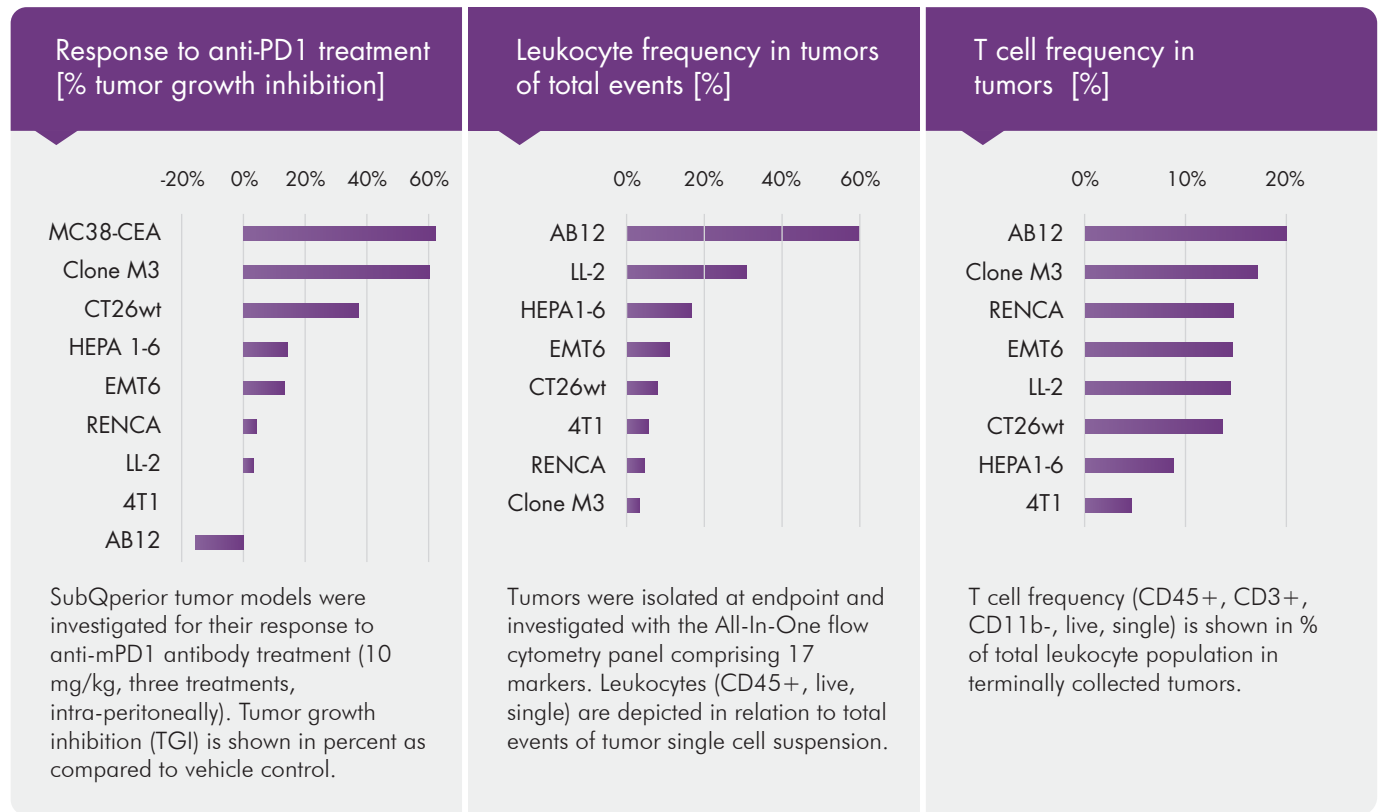


Tumor cells were implanted subcutaneously or subQperior in the respective mouse strain of tumor origin.

Tumor growth was monitored via calipering. After randomization, mice were treated with vehicle, anti-mPD1 or anti-mCTLA4 antibody, each at 10 mg/kg, three treatments, intra-peritoneally.

subQperior
tumor models
superior to subcutaneous

SubQperior tumor models show a variety of immune phenotypes



Representative examples of subQperior study results. Data points are derived from one study only and do not account for biological variation.

SubQperior panel screen - quarterly

Every three months, ProQinase offers a panel screening option to evaluate the efficacy of client compounds on 6 tumor models with fast turnaround.

Choose 6 out of 8 tumor models

CT26wt	MC38-CEA	Clone M3	B16.F10	4T1	RENCA	EMT6	LL/2
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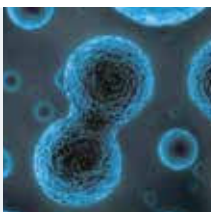
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Reaction Biology
USA • Germany

✉ requests@reactionbiology.com
☎ +49-761-769996-0 • +1-610-722-0247
🌐 www.reactionbiology.com