

➤ Metastasizing mouse tumor models

In metastatic tumor models, tumor spreading originates either from a primary tumor or is artificially induced by intravenous or intracardial tumor cell injection. The metastatic pattern is dependent on the tumor cell line with a preference of lung metastasis in case of intravenous injection. For human tumor cell lines immune-compromised mice are used with the advantage to study classical antitumoral test compounds. In contrast, murine tumor cell lines can be grown in immune-competent mice (syngeneic), providing a functional immune system to assess novel immunotherapeutic approaches.

➤ Tumor cell line MDA-MB-231(Z1)

Origin: breast / human
Description: pleural effusion mammary adenocarcinoma

➤ Study example

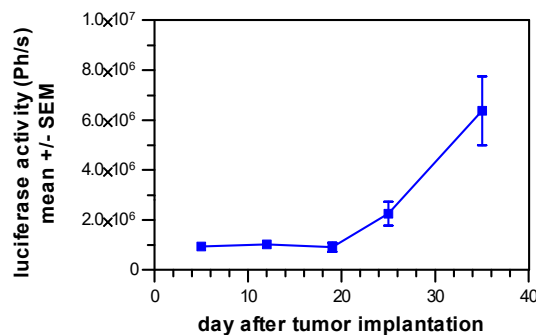


Figure 1:
MDA-MB-231(Z1) metastases growth monitored by in vivo bioluminescence imaging

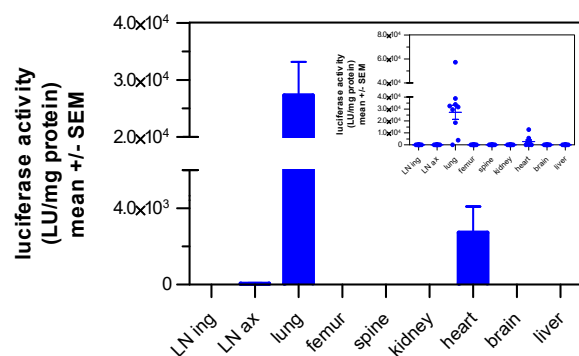


Figure 2:
Detection of MDA-MB-231(Z1) metastases in different organs monitored by ex vivo luciferase measurement

➤ Reference items tested

Docetaxel: strong antitumoral response (positive control)

➤ Quality assurance

- Routine authentication of tumor cell lines by STR profiling
- Mycoplasma testing of tumor cells by PCR prior to implantation
- Routine health monitoring of sentinel animals (according to FELASA guide lines)
- Adherence 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.