Liver tumor model: HEPA1-6
syngeneic – orthotopic

IN VIVO TESTING SERVICES

➢ Orthotopic tumor models

Implantation of tumor cells into the organ of origin allows organotypical interaction between tumor cells and surrounding stroma affecting growth, differentiation, and drug sensitivity of tumor cells. Moreover, tumor cells can spread to metastatic sites in other organs, with specificities comparable to the human situation. However, it must be emphasized that in most orthotopic tumor models metastasis is very heterogeneous. Reaction Biology developed several tumor models to address intentions aiming mainly at metastasis. Please refer to our homepage for more information. Nevertheless, analysis of the primary tumors of orthotopically implanted cancer cells gives a very prospective readout when testing a new compound.

➢ HEPA1-6 Luc cells (CPQ-540)

Origin: liver / mouse C57BL/6
Description: hepatoma
Modification: stable expression of firefly luciferase

➢ Study outline

HEPA1-6 Luc cells are injected into the spleen of each mouse under anesthesia and allowed to migrate into the liver for 5 minutes via Vena lienalis. Thereafter, the spleen will be resected from the body. Tumor growth is monitored via in vivo bioluminescence imaging (BLI) once weekly. Using BLI, animals are randomized into treatment groups according to apparent tumor sizes. During the study, animal behavior is monitored daily and animal weights are measured three times weekly. At necropsy, all tumors will be isolated for determination of tumor weights and volumes.

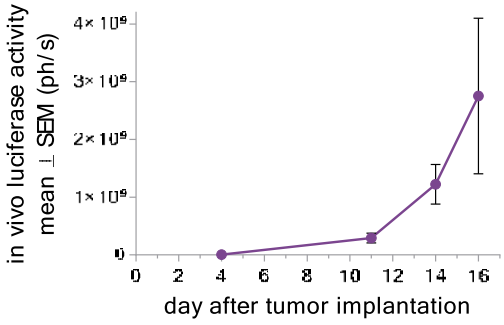

Figure 1: *In vivo tumor growth of HEPA1-6 monitored via whole body in vivo bioluminescence.*

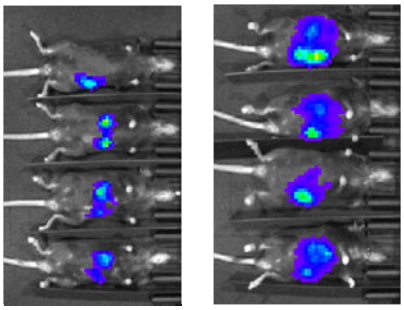

Figure 2: *Measurement of whole body in vivo biolulminescence at different days after implantation.*

➢ 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.