

➤ 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.

➤ CT26wt Luc cells (CPQ-364)

Origin: colon / mouse BALB/c
Description: colon carcinoma
Modification: stable expression of firefly luciferase

➤ Study outline

CT26wt Luc cells are orthotopically implanted into the caecum, a part of the colon compartment. Thereafter, tumor growth will be monitored via in vivo bioluminescence imaging (BLI) once weekly. Using BLI, animals will be 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.

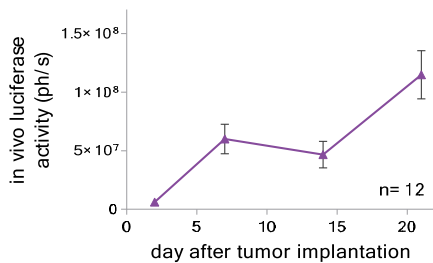


Figure 1: In vivo tumor growth of CT26wt monitored via BLI.

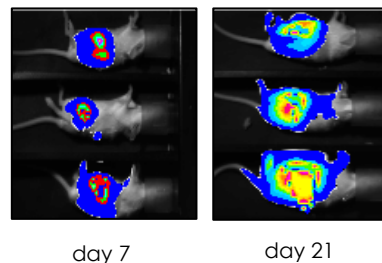


Figure 2: Measurement of bioluminescence at different days after implantation.

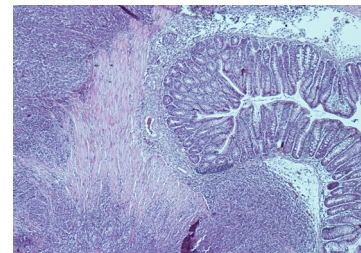


Figure 3: Haematoxylin and eosin stained paraffin section of colon mucosa and CT26wt tumor tissue.

➤ Study examples – Capecitabine and anti PD-L1

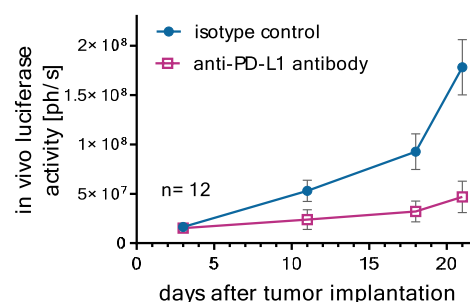
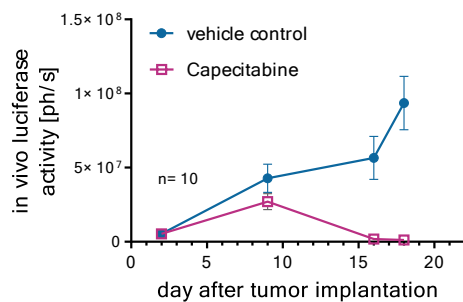


Figure 4: Mice bearing orthotopically implanted CT26wt tumors were treated with Capecitabine (left panel) and anti PD-L1 (right panel) respectively and tumor growth was monitored via BLI.