Subcutaneous colorectal cancer xenograft tumor model – HT29

Subcutaneous mouse tumor models
Subcutaneously implanted tumor cells represent a convenient means to test novel potential anticancer drugs in vivo. A large variety of human and murine cell lines derived from both, solid tumors or leukemias, covering a wide range of tumor geno- and phenotypes, have been adapted to grow in a murine host, and thus allow testing of a compound in the appropriate tumor model.

HT29 cells
Human HT29 cells (ATCC-No: HTB-38) were isolated from a patient with a colorectal adenocarcinoma. A Hematoxylin-Eosin stained paraffin section of a subcutaneous HT29 xenograft is shown in Fig. 1. As routine quality controls, the cells are regularly checked for Mycoplasma contamination and authenticity (via STR DNA Typing).

Expression of oncology relevant proteins
Expression data using western blotting and immunohistochemistry are available for a selection of protein kinases. For information, please inquire!

Tumor growth in vivo
HT29 cells harvested from tissue culture flasks are implanted into the subcutaneous space of the left flank of the mice. Resulting tumors are monitored by calipering twice weekly.

Animal weights are measured three times weekly. Animal behaviour is monitored daily. All mice are maintained in separated isolated housing at constant temperature and humidity.

Accessory services: tumor wet weight and volume measurement at necropsy, blood sampling, flow cytometry, paraffin embedding of tumor tissue, histological & pathological analysis, cytokine determination, provision of tumor tissue for target validation.

Study example
In the study shown here, one group of mice bearing subcutaneous HT29 xenografts was treated with Camptothecin, the other group with vehicle only. Treatment started after tumor challenge at day 1 (Preventional study type).

Figure 1: Hematoxylin-Eosin stained paraffin section of a subcutaneous HT29 xenograft.

Figure 2: Tumor growth of HT29 cells in a subcutaneous xenograft in vivo, tumor volume, mean values +/- SEM

Figure 3: Effect of Camptothecin on tumor growth of HT29 cells in vivo tumor volume, mean values +/- SEM