

## Transplanting CT-26 colon cancer cell line to mice for establishing a syngeneic model of cancer

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**Background and Aims:** Among different mouse models developed to assess properties of anti-cancer agents, syngeneic models are mice bearing tumors of genetically same murine strain. These models offer an intact immune and microenvironment system for testing immunotherapeutic and anti-angiogenic agents. Providing a physiological condition, these models can be employed to estimate anti-tumor effects as well as cytotoxicity of natural or synthetic drug candidates. The aim of this study was to set up CT-26 murine colon cancer model for in vivo drug screening.

**Methods:** CT-26 mouse colon cancer cell line was grown under appropriate conditions.  $2 \times 10^6$  cells were suspended in 0.2 ml PBS and were injected subcutaneously into the left flank of Balb/C mice ( $n=10$ ). Palpable tumors were measured for their volume twice a week using a digital caliper. Tumors were excised after 3 weeks for pathological evaluation.

**Results:** Nine out of ten mice developed palpable tumors 11 days after inoculation. Three mice died during the test period and the remaining ones continued to bear growing tumors until they were humanely killed for dissection of tumors. Hematoxiline and Eosine staining showed transformed epithelial growth of colon cancer. Invasion to adjacent skeletal muscle cells was detectable and no immune cell infiltration was seen.

**Conclusions:** Our experiment denotes that generating a murine syngeneic model is rapid and cost-effective. Increase in size of tumor shows proper induction of angiogenesis and interaction of tumor cells with host system. This method is thus practical enough to be created in our pharmacology laboratories as a complementary procedure in screening agents with anti-cancer potentials.

**Keywords:** Syngeneic; Mice; CT26; Colon cancer