

# Tumor Transplantability in Mice Kept in Standard Non-enriched Environment (Control) or Enriched Environment

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## Abstract

We have previously shown that the transplantability of a murine ovary granulosa cell tumor cell line, OV3121, was significantly enhanced in syngeneic B6C3F<sub>1</sub> female mice irradiated with gamma-rays at a low dose-rate of 20 mGy/day for 400 days (total accumulated dose = 8000 mGy). Transplantability, however, was decreased when mice are kept in an enriched environment. The purpose of this study is to clarify whether the adverse effects caused by exposure to continuous low dose-rate gamma-rays are alleviated by environmental enrichment, using tumor transplantability as an index. OV3121 cells were transplanted into irradiated and non-irradiated mice. Each group was then divided and assigned to 2 environment conditions, standard (SE) and enriched (EE; larger cage or running wheel). So far, our results suggest that tumor transplantability might be decreased in larger cages, but provision of running wheels do not have any effect. We have also started experiments using two igloos (shelters) in one cage.

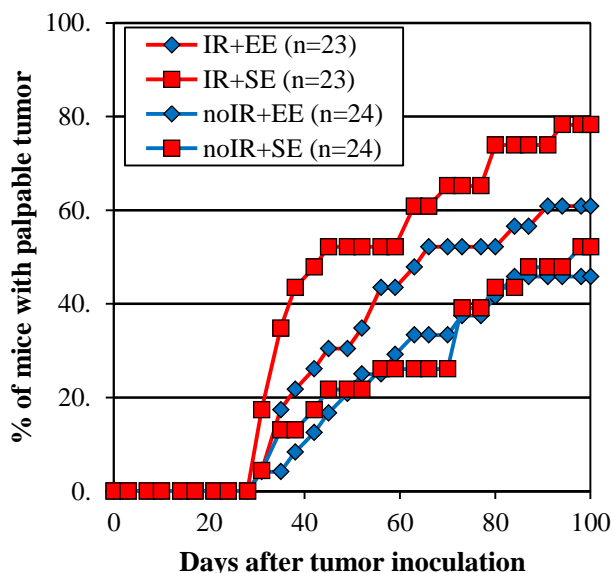


Fig. 1 Comparison of tumor transplantability in enriched environment using EE-L (larger) cages. IR, irradiated; noIR, nonirradiated; EE, enriched environment; SE, standard environment.

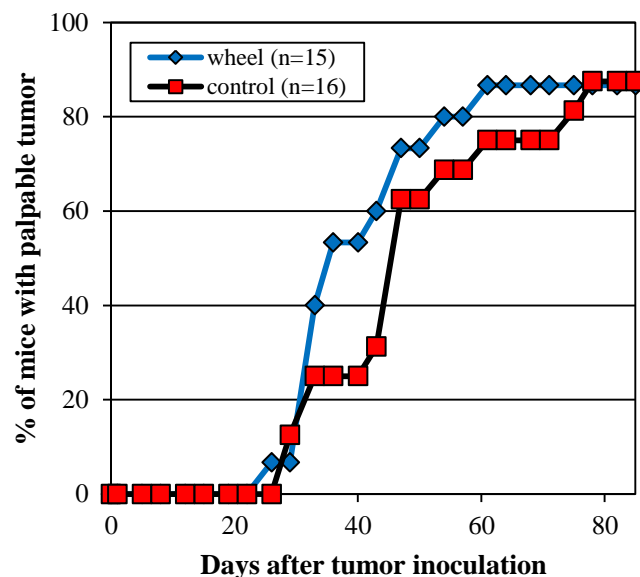


Fig. 2 Comparison of tumor transplantability in enriched environment using running wheels.



Fig. 3 An example in which two igloos were installed in a normal breeding cage.