

Factors Modifying the Effects of Low Dose-Rate Irradiation

Daisaku TAKAI

Department of Radiobiology

Abstract

The initial purpose of this study is to identify factors that could "modify" the effects of long-term low dose-rate radiation exposure and their mechanisms, and its ultimate purpose is to identify factors that reduce the risk of health effects of radiation. As modifiers, we focus on lifestyle and environmental factors, bearing in mind that long-term low dose-rate irradiation is considered a form of chronic stress. In the first year, we have set up experiments to examine the influence of environmental factors, specifically space allocation and social isolation of mice in their cages.

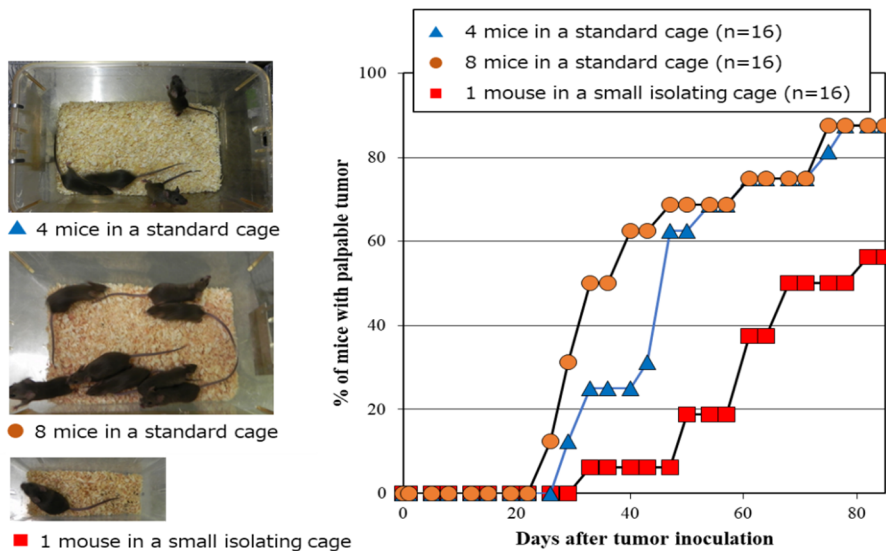


Fig. 1 Comparison of tumor transplantability in mice housed under different conditions in space allocation and isolation (photos on the left). The ability to eliminate transplanted tumor cells was compared. p value (\blacktriangle vs \blacksquare) < 0.05 (in log rank test).

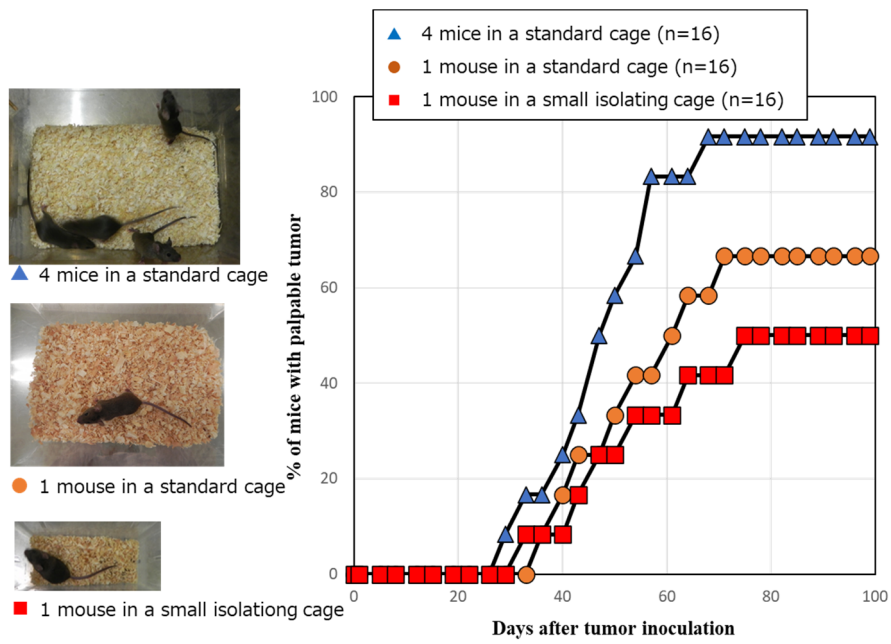


Fig. 2 Comparison of tumor transplantability in mice housed under different conditions in space allocation and isolation (photos on the left). The ability to eliminate transplanted tumor cells was compared. p value (▲ vs ■) < 0.05 and p value (▲ vs ●) > 0.05 (in log rank test).