

Supplementary Figures

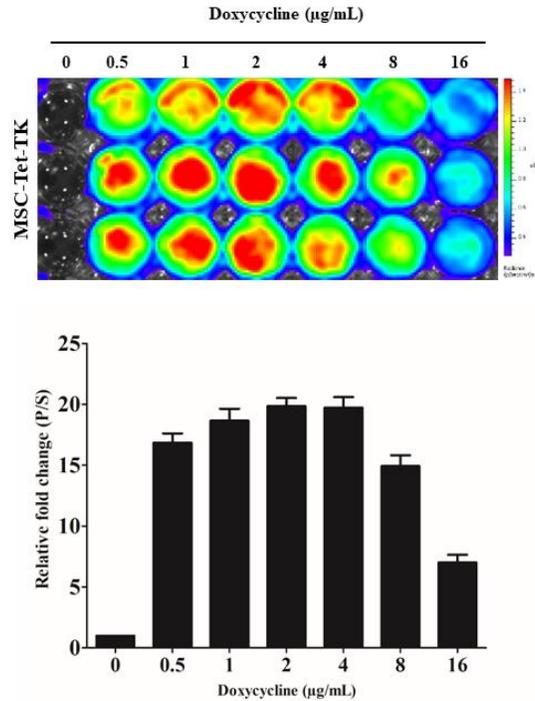
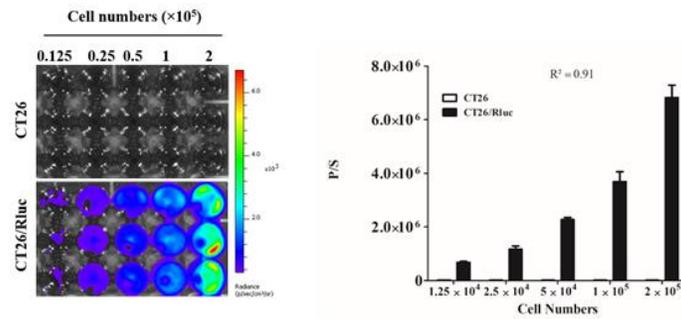


Figure S1. Fluc activity after induction with doxycycline (DOX) in MSC-Tet-TK cells. Fluc activity was determined by bioluminescent imaging (upper panel) after treatment of cells with the indicated concentrations of DOX for 48 h. The bar graph (lower panel) shows the quantitation of Fluc activity. Values are expressed as the mean \pm standard deviation (SD) of three experiments.

A



B

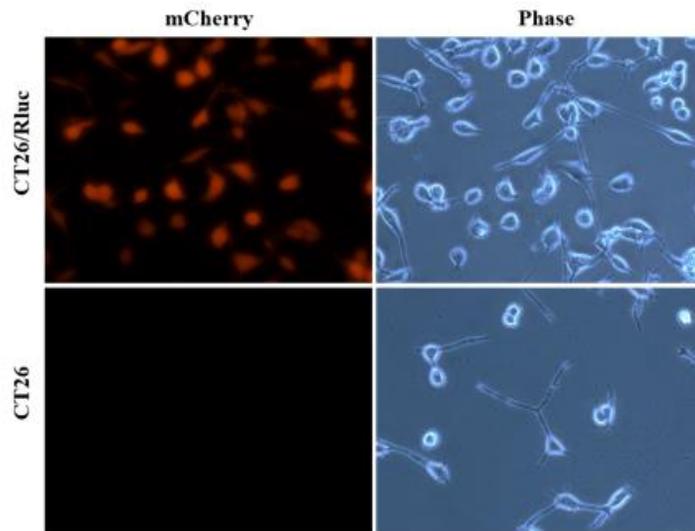


Figure S2. Rluc activity in CT26/Rluc cells. (A) Rluc activity was assessed in CT26 and CT26/Rluc cells at different cell densities by bioluminescent imaging (upper left-hand panel) and quantitated (upper right hand panel). Rluc activity strongly correlated with cell number (B) CT26/Rluc cells were strongly positive for mCherry expression by fluorescence microscopy.

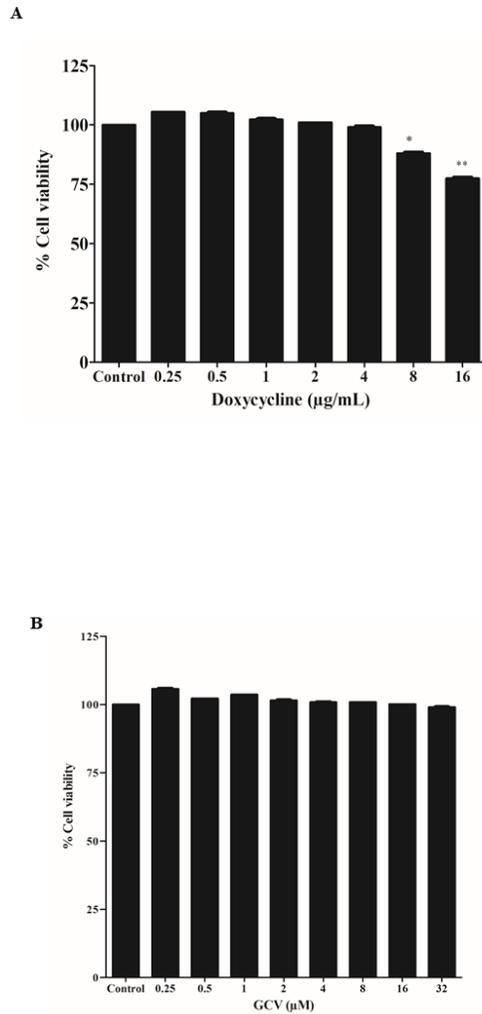


Figure S3. Effect of ganciclovir (GCV) and doxycycline (DOX) on naïve mesenchymal stem cell (MSC) viability. (A) Viability of naïve MSCs (determined by CCK-8 analysis) treated with GCV for 48 h. (B) Viability of naïve MSCs treated with DOX for 48 h. Values are expressed as the mean \pm standard deviation (SD) of three experiments, * $p < 0.05$, ** $p < 0.01$ (by Student's t test). NS: no significant changes.

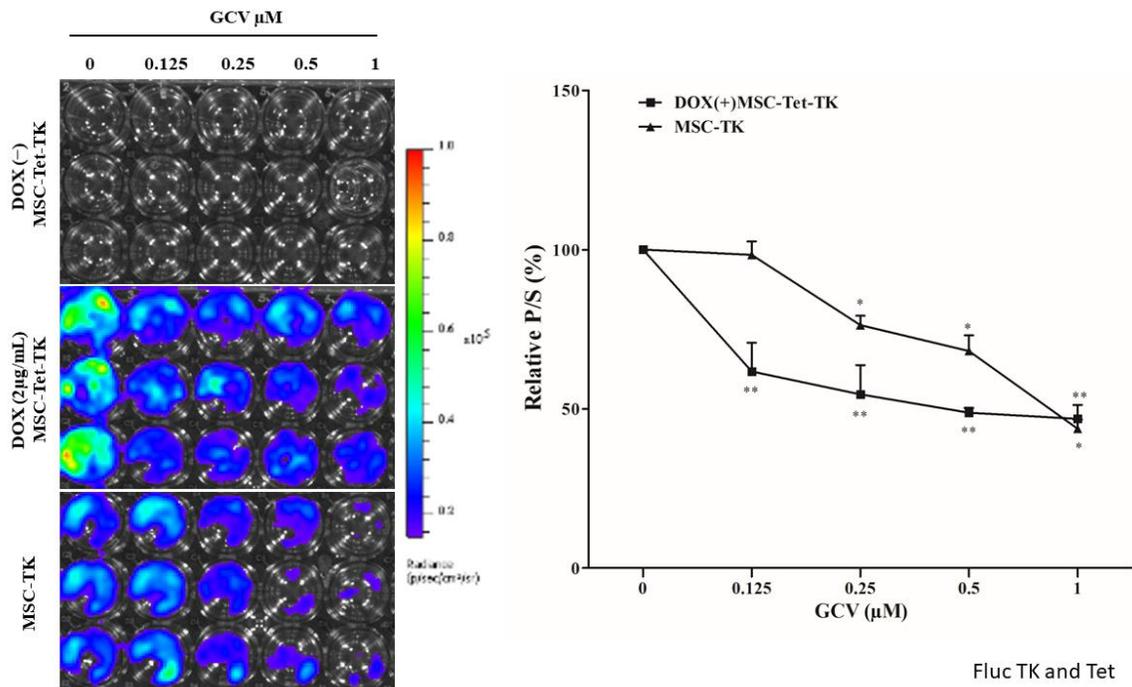


Figure S4. Bystander effect of MSC-Tet-TK and MSC-TK cells. (A) Bioluminescent imaging (BLI) of Fluc activity and quantitative data of MSC-Tet-TK and MSC-TK of cells co-cultured (1:1) with CT26/Rluc cells and treated with the indicated concentrations of GCV. MSC-Tet-Tk cells were either un-induced or were induced with doxycycline at the indicated concentration. Three individual experiment values are expressed as the mean \pm standard deviation (SD), * $p < 0.05$, ** $p < 0.01$ (by Student's t test).

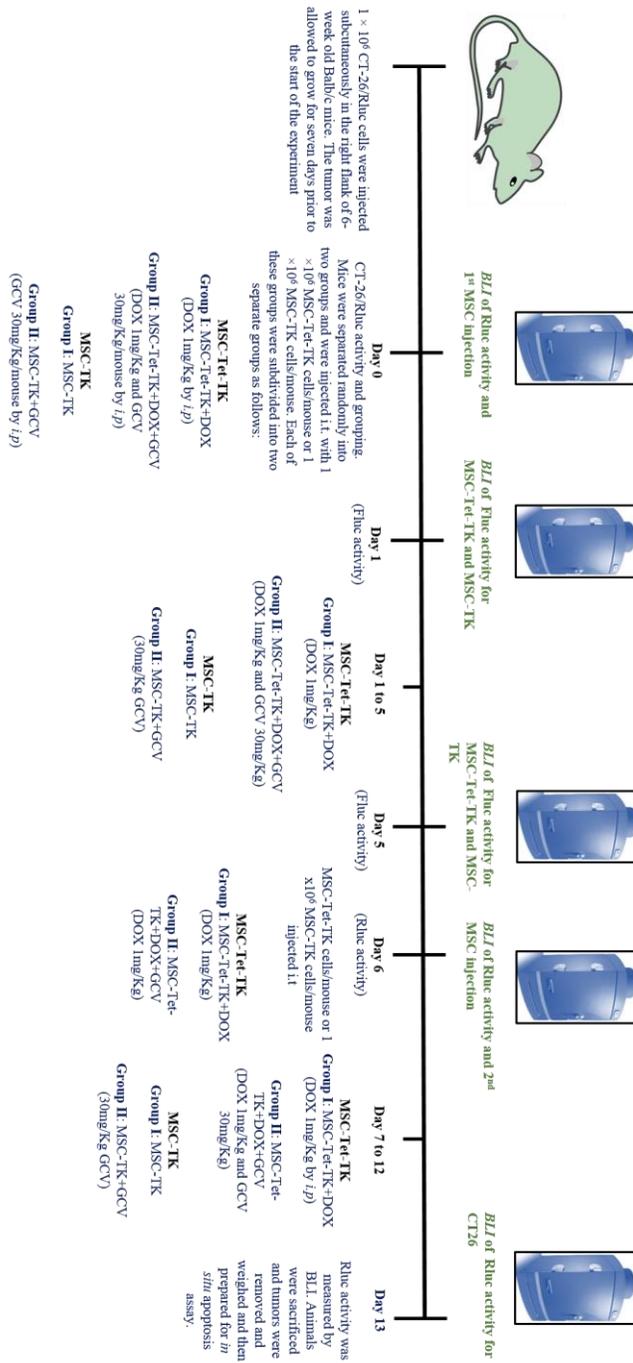


Figure S5. Schematic representation of the *in vivo* experimental design.

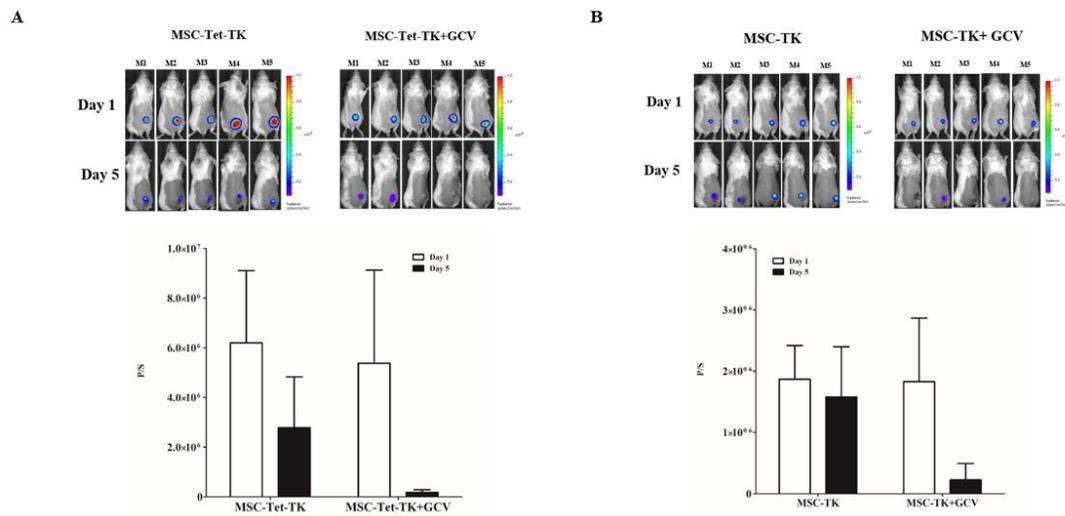


Figure S6. *In vivo* BLI imaging of Fluc activity in mice injected with MSC-Tet-TK (A upper panel) and MSC-TK cells (B upper panel) before and after GCV treatment (on days 1 and 5). Quantitation of BLI signal from MSC-Tet-TK mice (left hand panel) and MSC-TK mice (right hand panel).