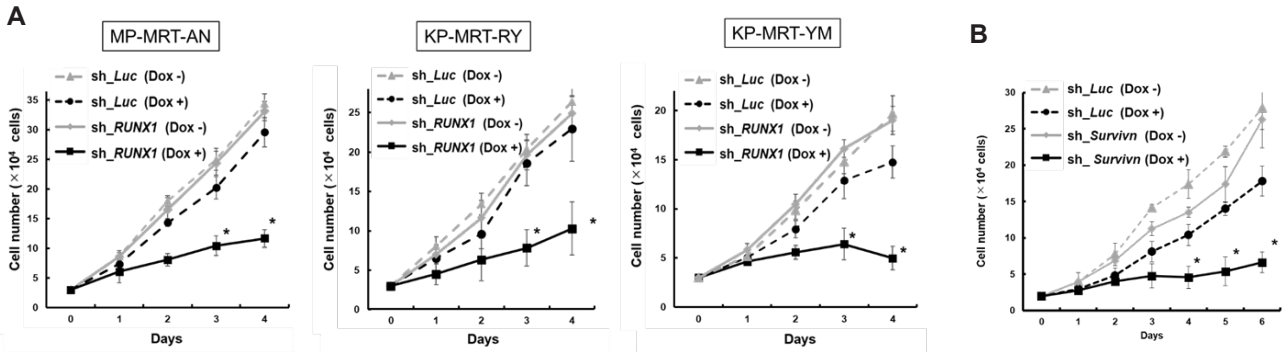
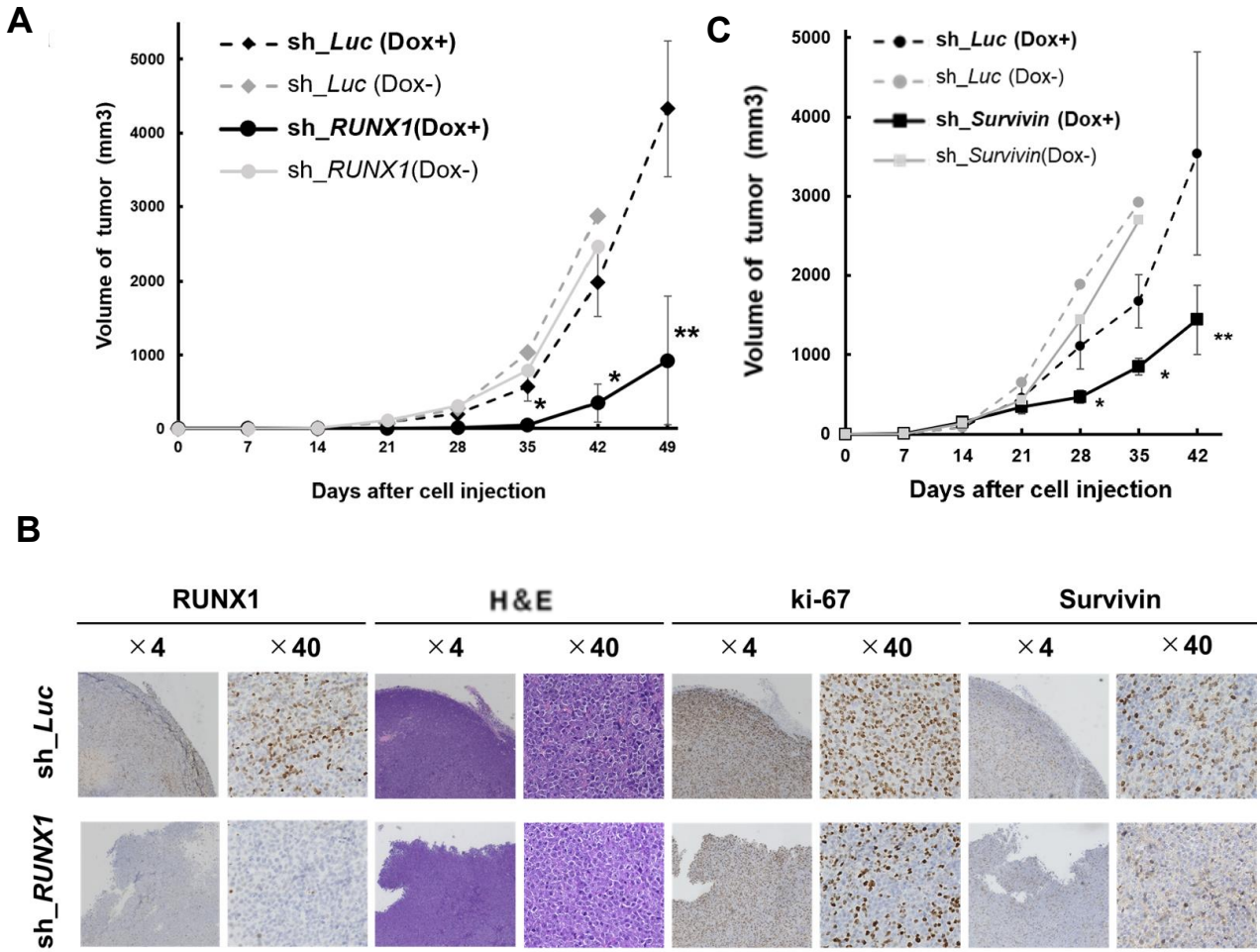
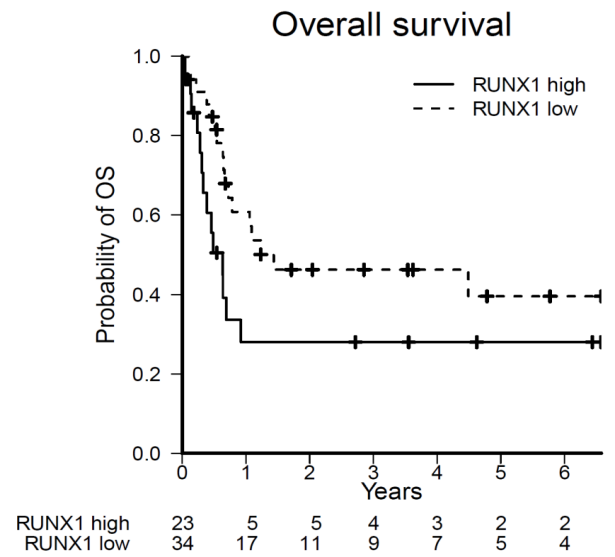


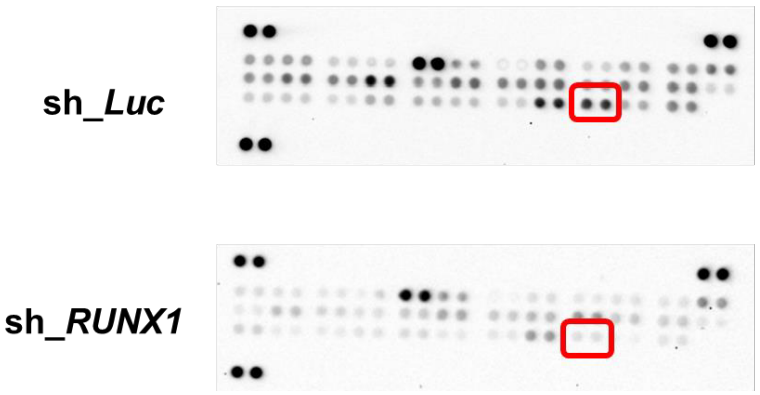
Supplementary Fig. S1. (A) Growth curves of MP-MRT-AN, KP-MRT-RY, and KP-MRT-YM cells transduced with the control (sh_*Luc*) or runt-related transcription factor 1 (RUNX1) short hairpin RNAs (shRNAs) (sh_*RUNX1*). Cells were cultured with (Dox+) or without (Dox-) 3 μM doxycycline (n = 3). The effect of Dox administration was negligible. (B) Growth curves of MP-MRT-AN cells transduced with the control (sh_*Luc*) or survivin shRNAs (sh_*Survivin*). Cells were cultured with (Dox+) or without (Dox-) 3 μM doxycycline (n = 3). The effect of Dox administration was negligible. Data are represented as the mean ± SEM. $*P < 0.05$, by two-tailed Student's *t*-test.



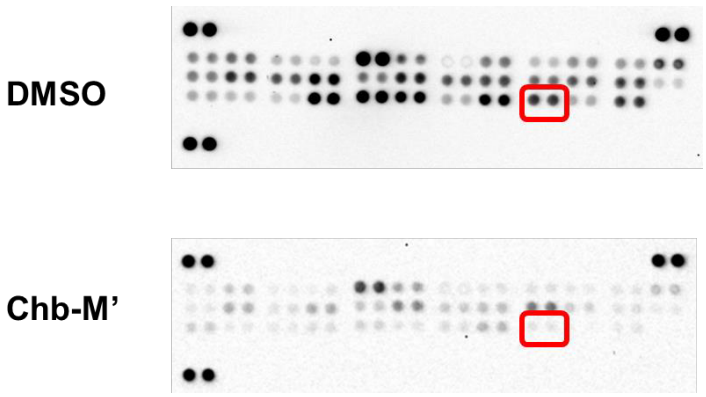
Supplementary Fig. S2. *RUNX1* knockdown suppresses malignant rhabdoid tumor (MRT) cell proliferation *in vivo*. (A) Anti-tumor effects were examined by changes in the volume of xenograft tumor cells with knocked down RUNX1 by shRNA or transduced control. The effect of Dox administration was negligible (sh_*Luc* [Dox-]: n = 1, sh_*RUNX1* [Dox-]: n = 1). (B) Representative microscopic images of tumor histology with knocked down RUNX1 by shRNA or transduced control. Results obtained from staining and immunohistochemical staining with anti-human RUNX1, H&E, ki-67, and anti-human survivin antibodies are shown (original magnification ×4 and ×40 [insets]). (C) Anti-tumor effects were examined by changes in the volume of xenograft tumor cells that knocked down survivin by shRNA or transduced control. The effect of Dox administration was negligible (sh_*Luc* [Dox-]: n = 1, sh_*Survivin* [Dox-]: n = 1). Data are represented as the mean ± SEM. $*P < 0.05$, $**P < 0.01$, by two-tailed Student's *t*-test.



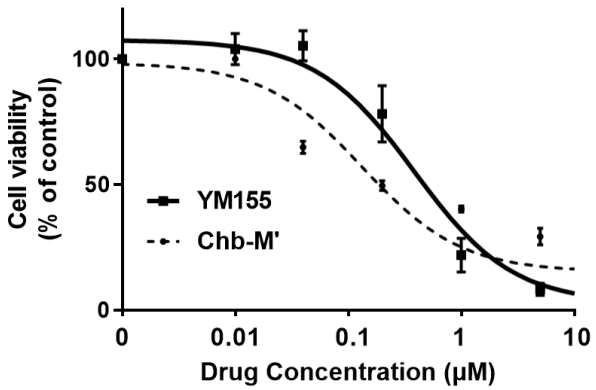
Supplementary Fig. S3. Patients with high *RUNX1* expression were associated with a poorer prognosis than those with low-expression. Kaplan-Meier curve of overall survival (OS) in the RUNX1-high and -low groups. The numbers of subjects with RUNX1-high and -low expression were n = 23 and 34, respectively. $P = 0.07$, log-rank test. Data were retrieved from the TARGET Rhabdoid Tumor Subproject (https://ocg.cancer.gov/programs/target/projects/kidney-tumors).



Supplementary Fig. S4. Knockdown of RUNX1 markedly inhibits the levels of survivin. Results of the human apoptosis array in MRT cells transduced with shRNA targeting *RUNX1* or control luciferase. A pair of spots indicates one of the apoptosis-related proteins, and the red rectangles indicate the spots of survivin.



Supplementary Fig. S5. Levels of survivin are markedly decreased in MRT cells treated with Chb-M'. The result of the human apoptosis array in untreated (DMSO) and Chb-M'-treated MRT cells. The red rectangles indicate the spots of survivin.



Supplementary Fig. S6. Anti-tumor effect of Chb-M' is expected to be the same as YM155 in MRT cells. Dose-response curves of Chb-M' and YM155 in KP-MRT-YM cells. The cells were treated with the indicated concentrations of Chb-M or YM155. Forty-eight hours after treatment, cell viability was examined using a water-soluble tetrazolium salt (WST) assay (n = 3). Data are represented as the mean ± SEM.