



Supporting Information

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**Sulfisoxazole elicits robust antitumour immune response
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*Jung Min Shin, Chan-Hyeong Lee, Soyoung Son, Chan Ho Kim, Jae
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Sulfisoxazole elicits robust antitumour immune response along with immune checkpoint therapy by inhibiting exosomal PD-L1

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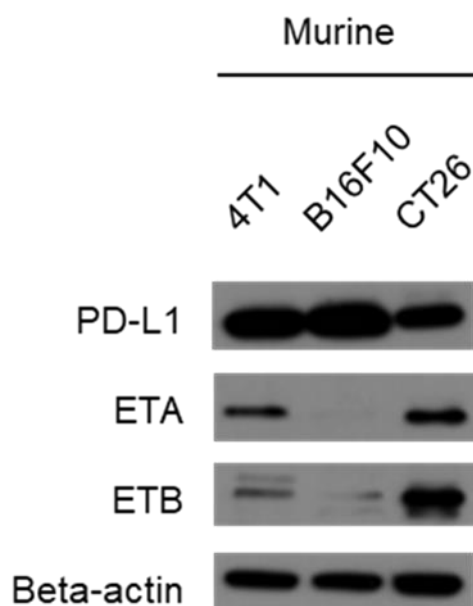


Figure S1. PD-L1, ETA, and ETB expression in murine cancer cell lines (4T1: breast cancer, B16F10: melanoma, CT26: colon cancer).

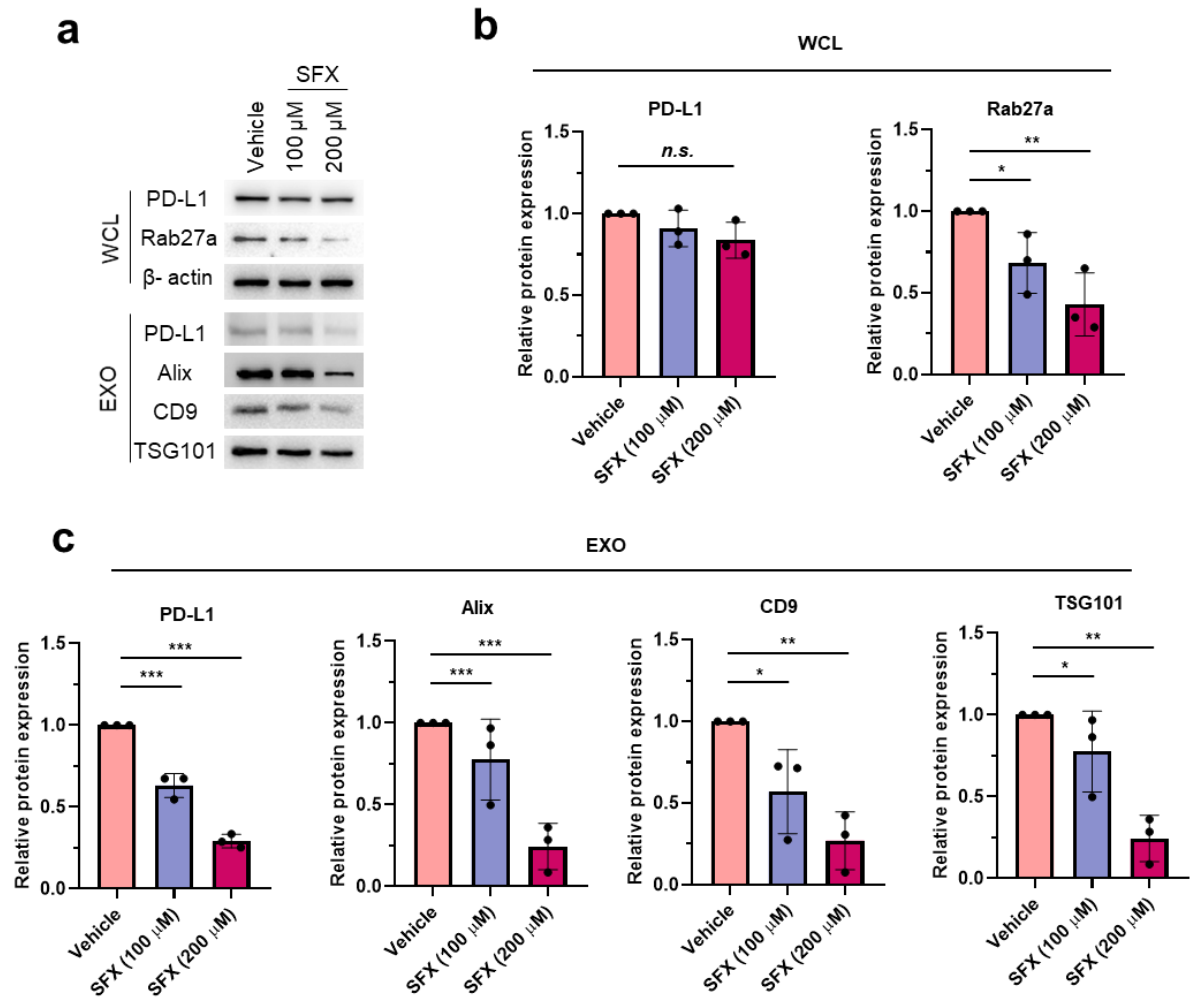


Figure S2. Sulfisoxazole (SFX) inhibits cancer EXO biogenesis and suppresses exosomal PD-L1 from CT26 murine colon cancer cell line. (a) Immunoblot for the indicated proteins in cell lysates and exosomes from CT26 cells treated with or without SFX. Beta-actin was used as loading controls for cell lysates. Exosomal proteins obtained from equal cell numbers (1×10^7) were loaded per lanes. (b) Quantification of PD-L1 and Rab27 in whole cell lysates ($n = 3$). (c) Quantification of exosomal proteins ($n = 3$). Significance was determined using an

unpaired two-tailed Student's *t*-test. *** $p < 0.001$, ** $p < 0.01$ and * $p < 0.05$. Error bar, standard deviation (SD).

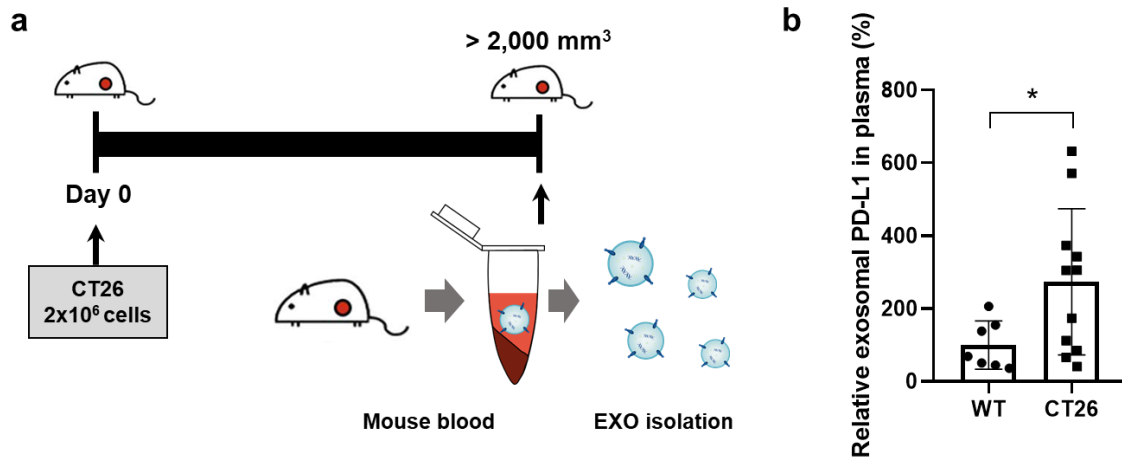


Figure S3. Quantification of exosomal PD-L1 in plasma from CT26 tumor-bearing mice. (a) Experimental regime of exosomal PD-L1 isolation. (b) Relative exosomal PD-L1 in plasma from WT and CT26 tumor-bearing mice ($n = 7$ and 11 for WT and CT26, respectively). Significance was determined using an unpaired two-tailed Student's *t*-test. *** $p < 0.001$, ** $p < 0.01$ and * $p < 0.05$. Error bar, standard deviation (SD).

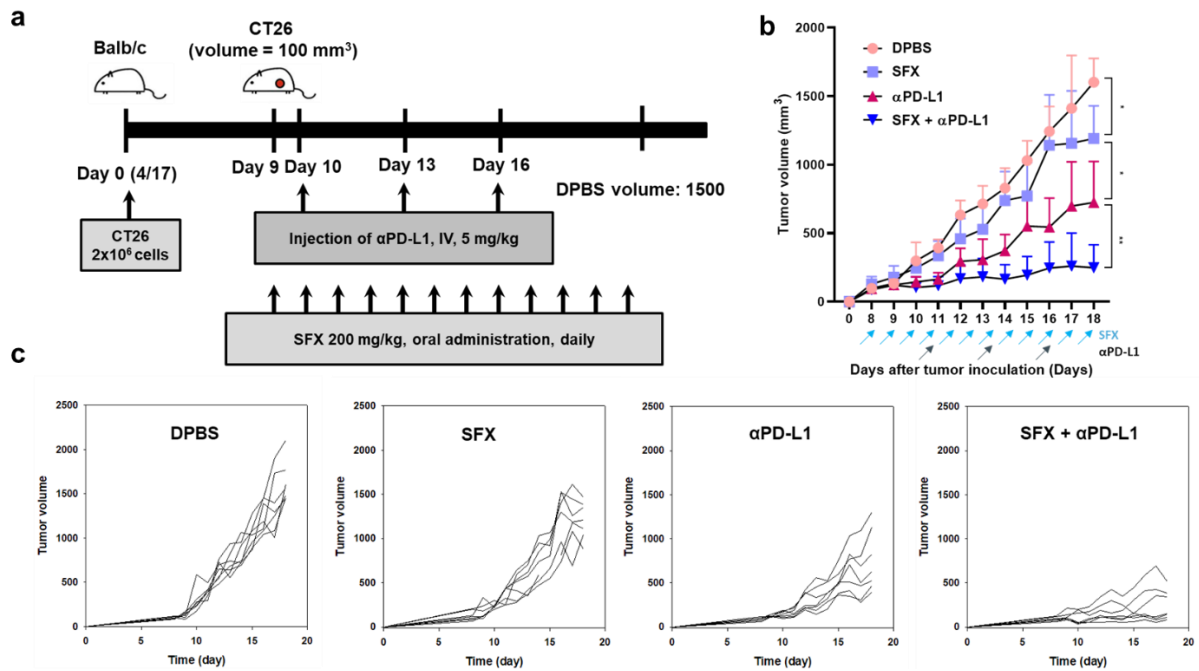


Figure S4. Antitumor efficacy of combinational treatment of SFX and α PD-L1 in CT26 tumor-bearing mice. (a) Experimental scheme for antitumor efficacy. (b) Average tumor volume ($n = 7$). (c) Individual tumor volume ($n = 7$). Significance was determined using an ANOVA with Tukey correction. *** $p < 0.001$, ** $p < 0.01$ and * $p < 0.05$. Error bar, standard deviation (SD).

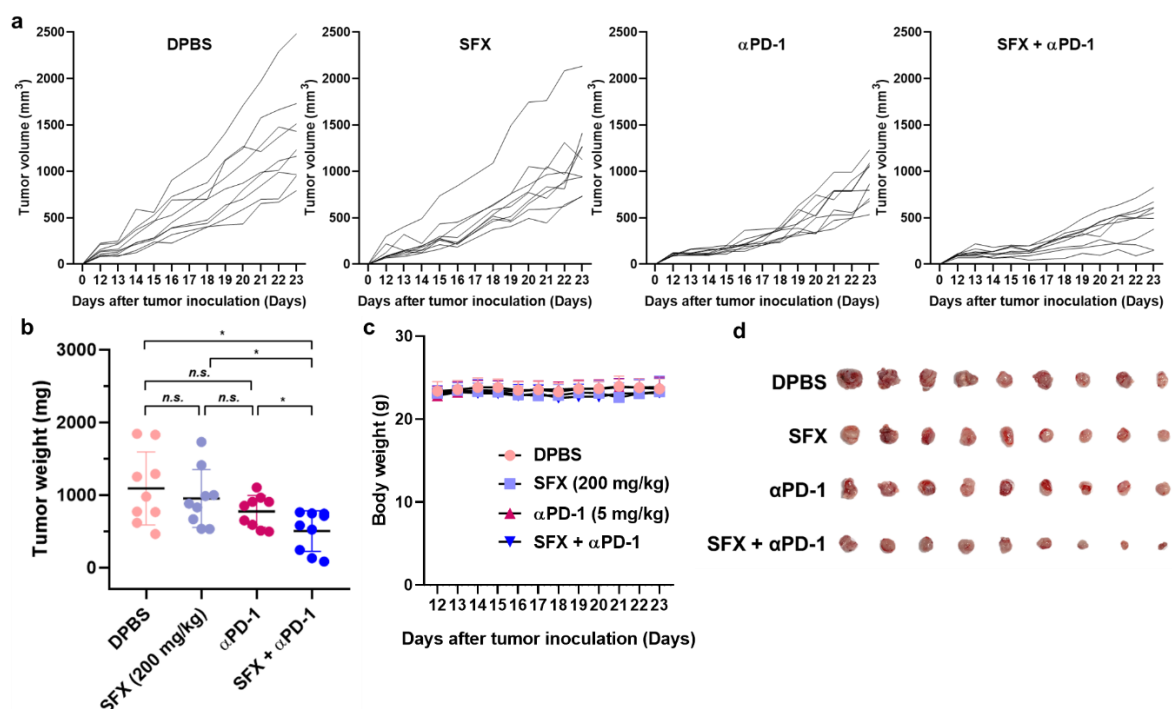


Figure S5. Antitumor efficacy of SFX, α PD-1, and SFX + α PD-1. (a) Individual tumor volume ($n = 9$). (b) Tumor weight after treatment ($n = 9$). (c) Changes in body weights ($n = 9$). (d) Photographs of the tumors harvested at 23 d ($n = 9$). Significance was determined using an ANOVA with Tukey correction. *** $p < 0.001$, ** $p < 0.01$ and * $p < 0.05$. Error bar, standard deviation (SD).

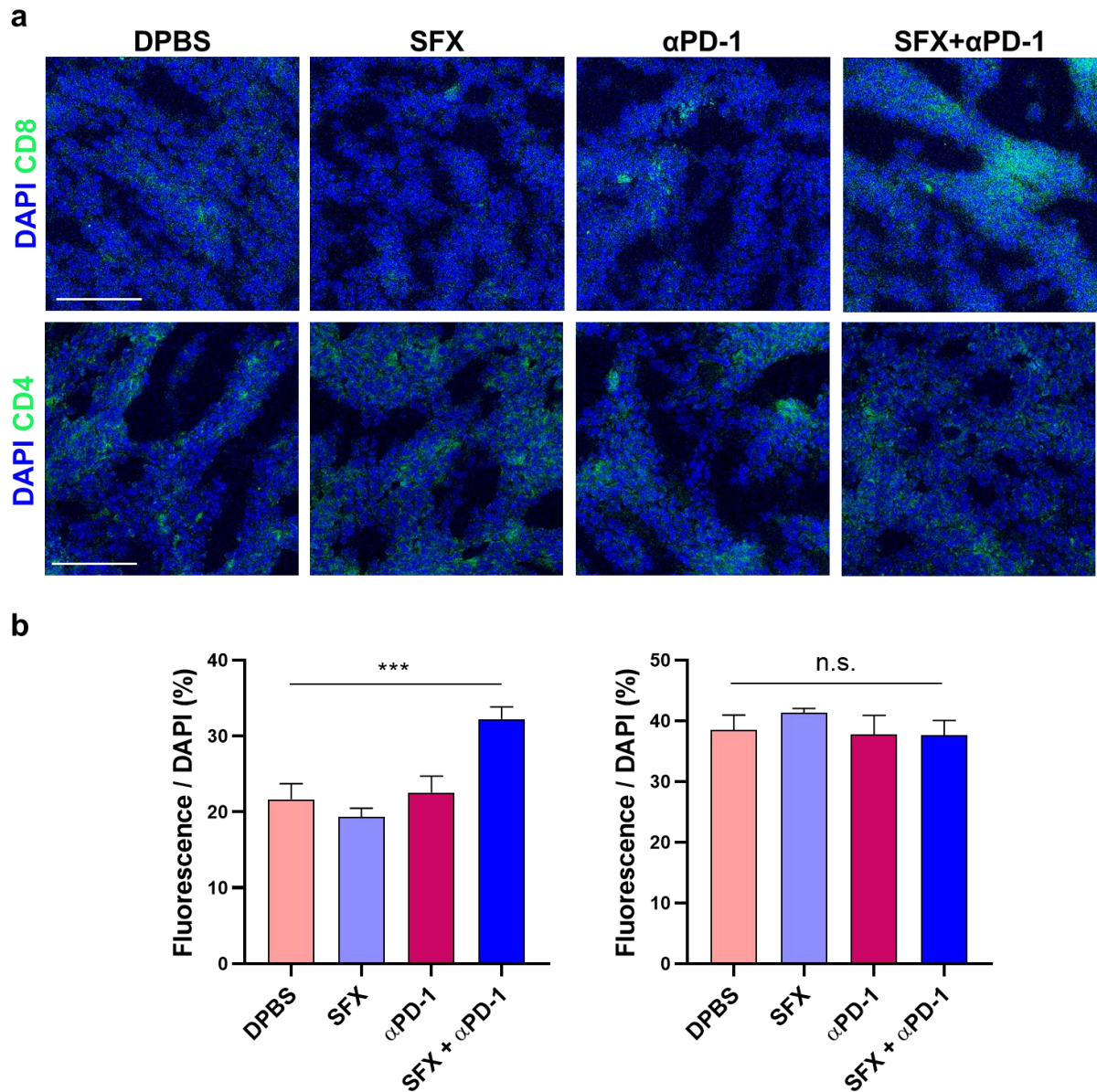


Figure S6. (a) Immunofluorescence microscopy images of CD8⁺ (upper) and CD4⁺ (lower) cells in the tumor microenvironment. Scale bars, 200 nm. Blue, cell nuclei. The images are representative of three independent experiments. (b) Relative value of fluorescence intensity to DAPI for CD8-FITC(left) and CD4-FITC(right), corresponding to data in **a** ($n = 3$). Significance was determined using an ANOVA with Tukey correction. *** $p < 0.001$, ** $p < 0.01$ and * $p < 0.05$. Error bar, standard deviation (SD).

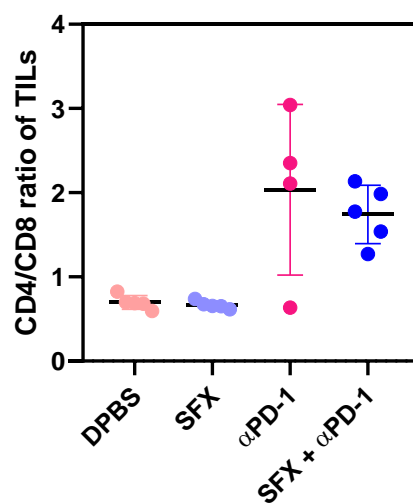


Figure S7. CD4/CD8 ratio of tumor-infiltrated lymphocytes in tumor microenvironment (DPBS ; $n = 5$, SFX ; $n = 5$, α PD-1 ; $n = 4$ and SFX+ α PD-1 ; $n = 5$).