## Supplementary Methods

### Flow cytometric assays of $CD4^+Foxp3^+$ Tregs

Cells from draining lymph node (LN) and spleen were harvested and stained with APC-conjugated anti-CD4 (BioLegend) antibody, fixed and permeated by Foxp3/Transcription Factor Fixation/Permeabilization kits (eBioscience), and then stained with anti-Foxp3-PE (eBioscience) antibody. The frequency of $CD4^+Foxp3^+$ Tregs was finally determined through FACSCalibur (BD Biosciences).

## Supplementary Figures

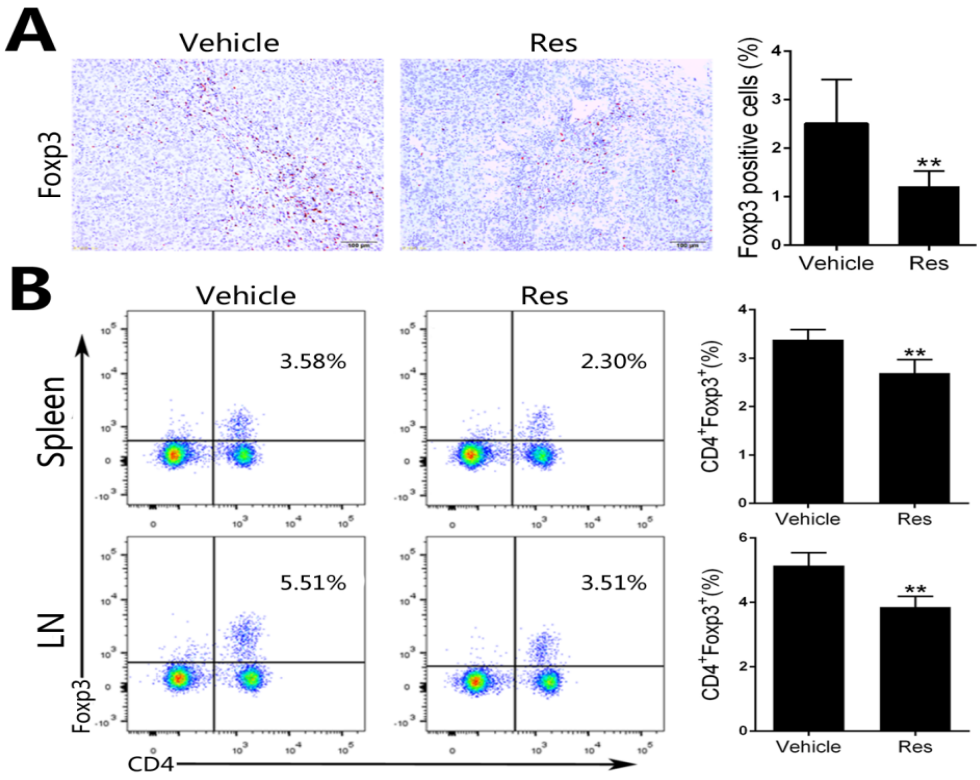


**Figure S1. Resveratrol treatment reduces the frequency of $CD4^+$ $Foxp3^+$ Tregs in the tumor bearing mice.** (A) Immunohistochemical analysis of Foxp3 expression in the tumors derived from subcutaneous tumors of C57BL/6 mice. (B) Spleen and draining lymph node (LN) cells were isolated from C57BL/6 tumor-bearing mice 3 weeks after treatment with or without resveratrol. The frequencies of $CD4^+Foxp3^+$ Tregs from spleen and LNs were enumerated by FACS analysis. Data of column graphs are presented as

mean ± SD (Res, resveratrol; n = 4-6 mice/group; two-tailed *t*-test: $^{**}p < 0.01$). One of three separate experiments is shown.

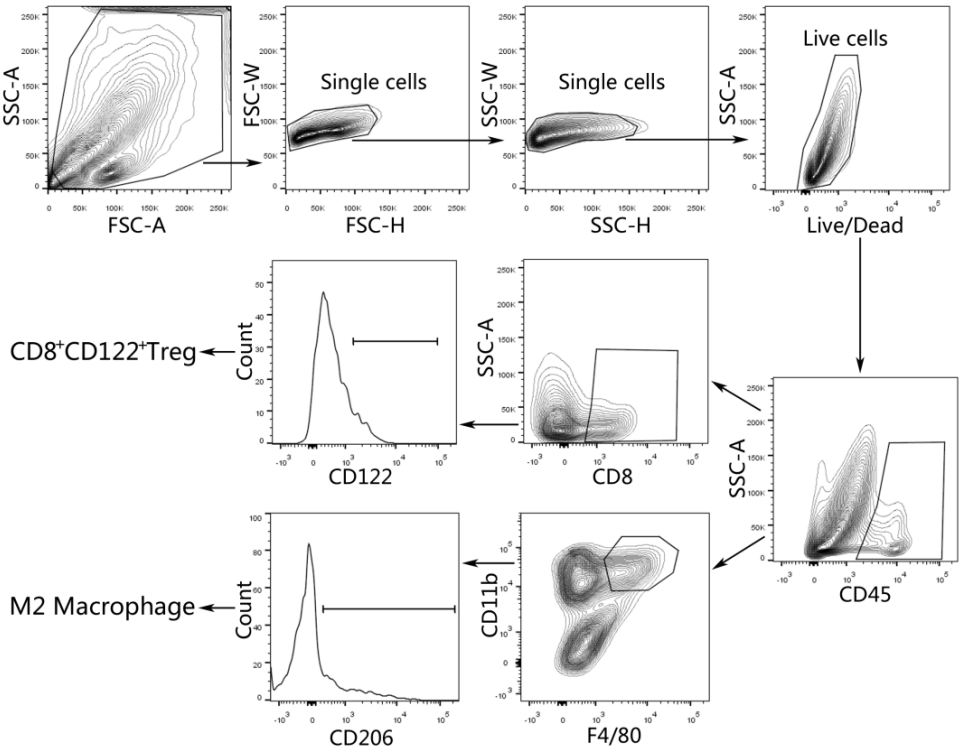


**Figure S2. Gating strategy used for intratumoral $CD8^+CD122^+$ Tregs and M2 macrophages.** FACS gating strategy of $CD8^+$ $CD122^+$ Tregs is shown for Fig. 2A, 5D and 7D, while that of M2 macrophages is also presented for Fig. 3A and 7F.

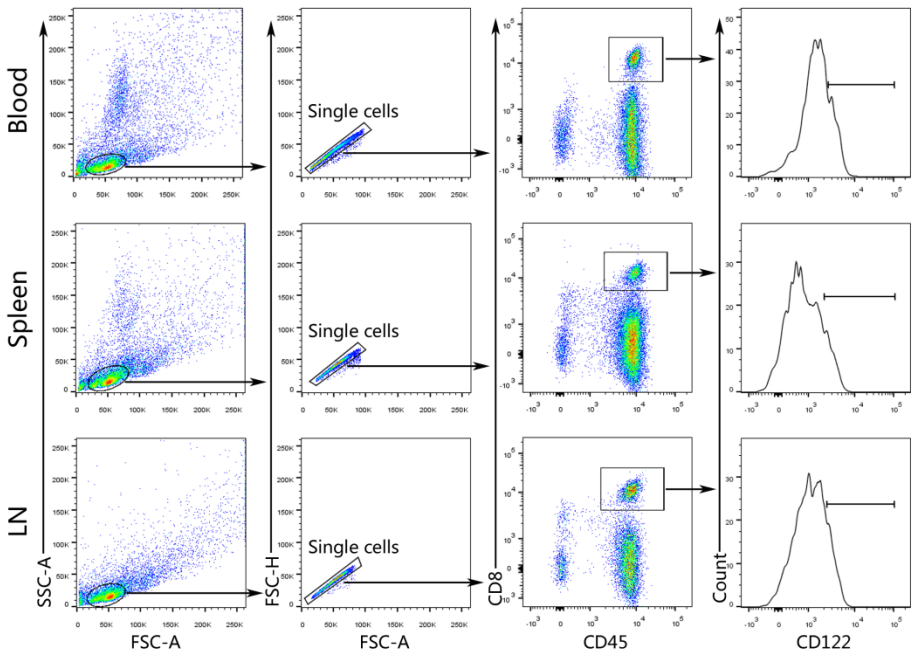


**Figure S3. Gating strategy for CD8$^+$ CD122$^+$ Tregs in the circulation.** FACS gating strategy of CD8$^+$ CD122$^+$ Tregs from blood, spleen and draining lymph nodes (LNs) is shown for Fig. 2B, 5E and 7E.

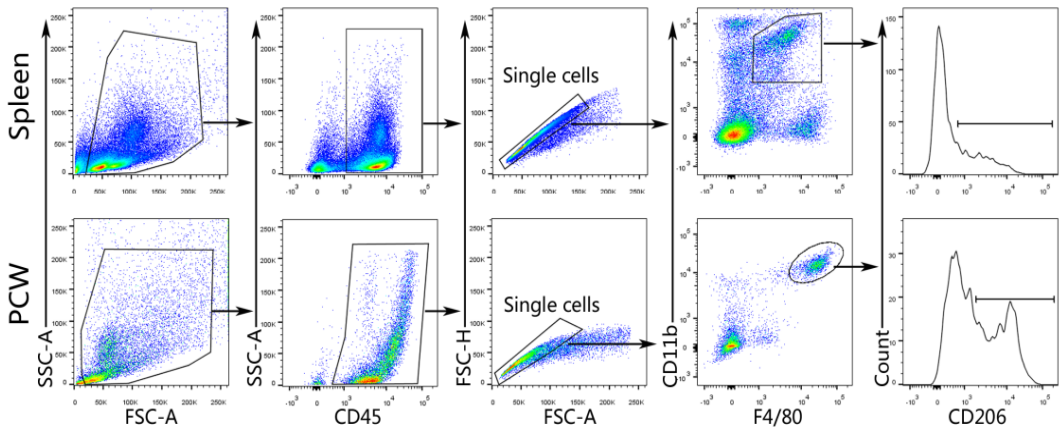


**Figure S4. Gating strategy for M2 macrophages.** FACS gating strategy of M2 macrophages derived from peritoneal cavity washes (PCW) and spleen is shown for Fig. 3C and 7F.

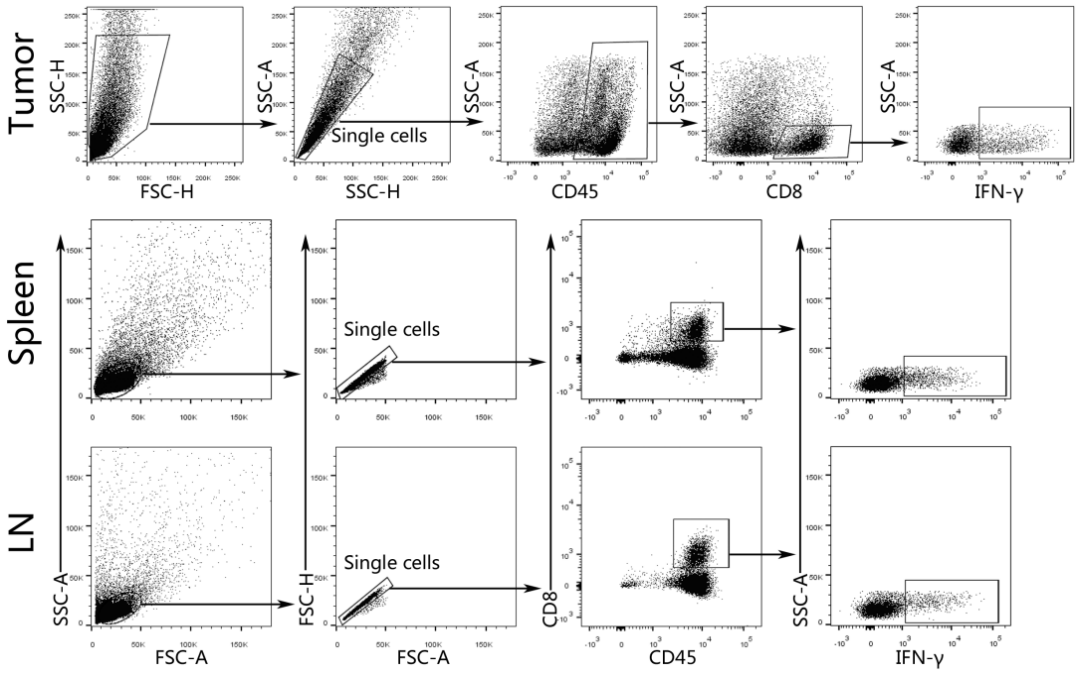


**Figure S5. Gating strategy for CD8$^+$IFN-γ$^+$ T cells in different tissues.** FACS gating strategy for CD8$^+$IFN-γ$^+$ T cells derived from tumor, spleen and draining lymph nodes (LNs) is shown for Fig. 4.