

Figure S1. Flow cytometry gating strategy of T cell expressing immune checkpoint molecules in CD4<sup>+</sup> and CD8<sup>+</sup> T cells. Lag-3, lymphocyte activation gene-3; PD-1, programmed cell death-1; CTLA-4, cytotoxic T-lymphocyte-associated antigen-4; Tim-3, T-cell immunoglobulin and mucin-domain containing-3.

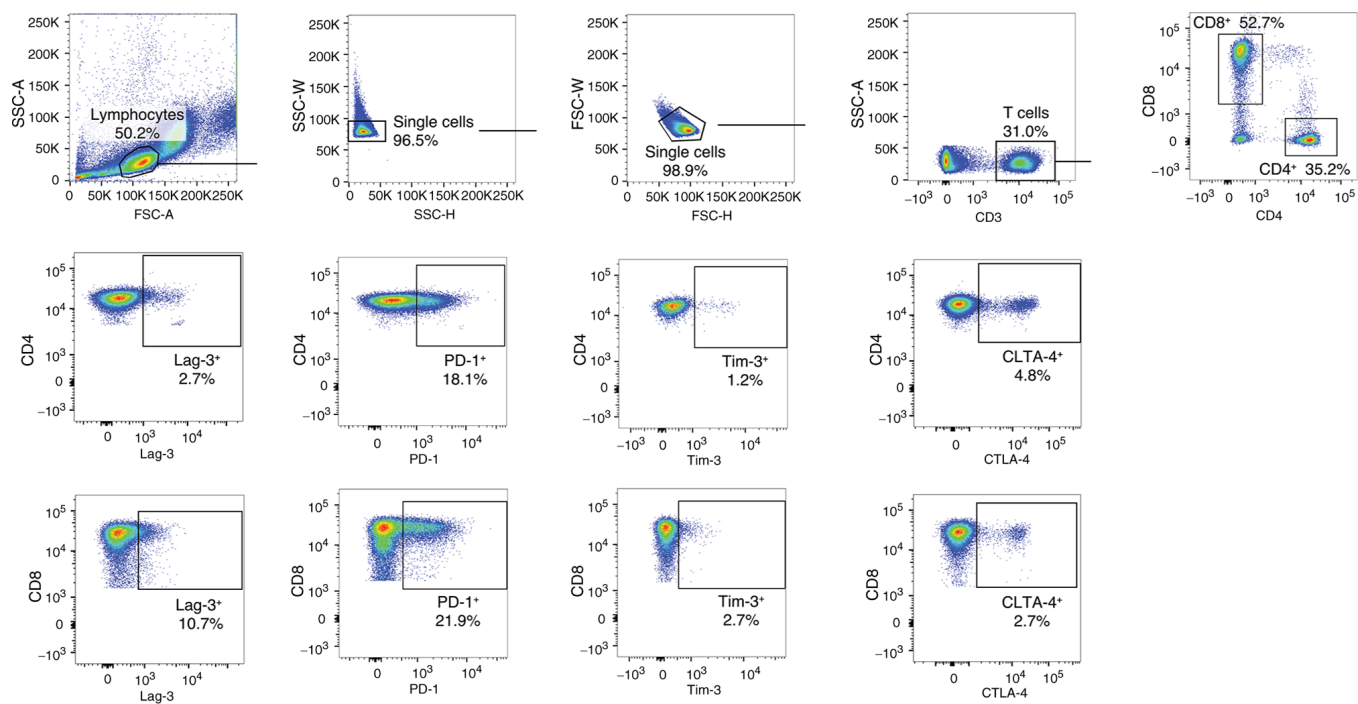


Figure S2. Detection of p53-specific IL-10 producing T cell and clinical outcome. Kaplan-Meier survival analysis based on p53-specific IL-10 production. (A) Overall survival based on IL-10-producing T-cell response. (B) Progression-free survival based on the IL-10-producing T-cell response.

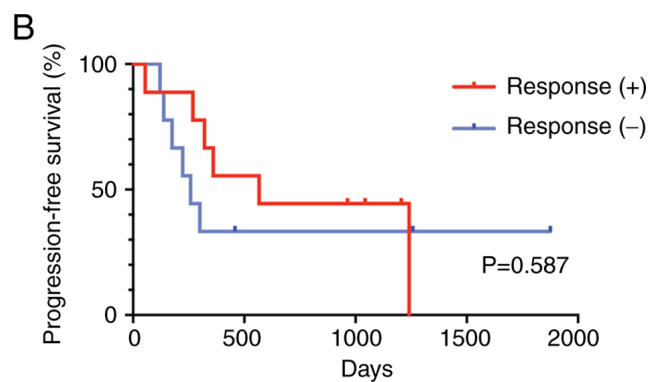
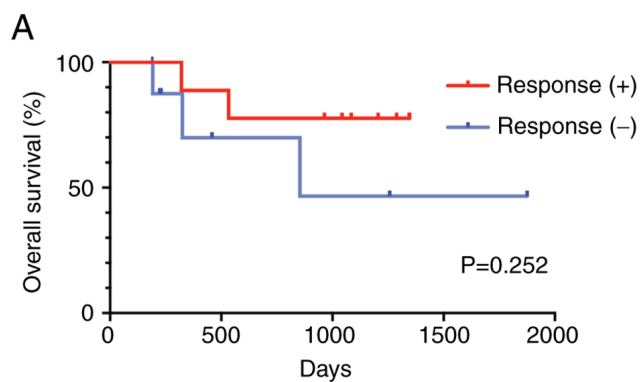


Figure S3. Enhancement of IFN- $\gamma$  production in response to p53 and MAGE-A4 by Lag-3 blockade. Lag-3 blockade failed to enhance p53 and MAGE-A4-specific IFN- $\gamma$  production in all patients. SFC, spot-forming cells; IFN- $\gamma$ , interferon- $\gamma$ ; ND, not done; Lag-3, lymphocyte activation gene-3.

