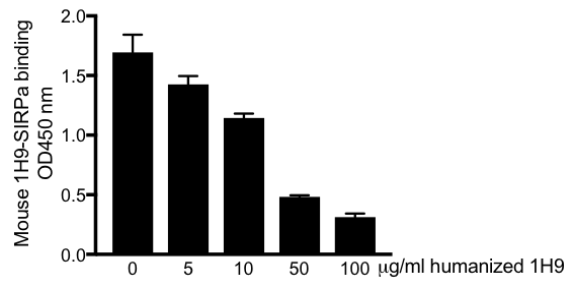
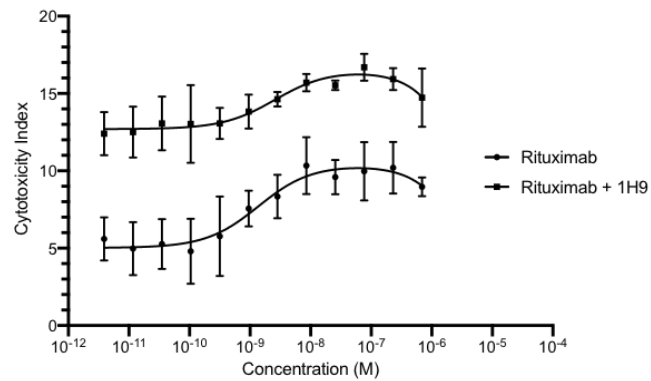


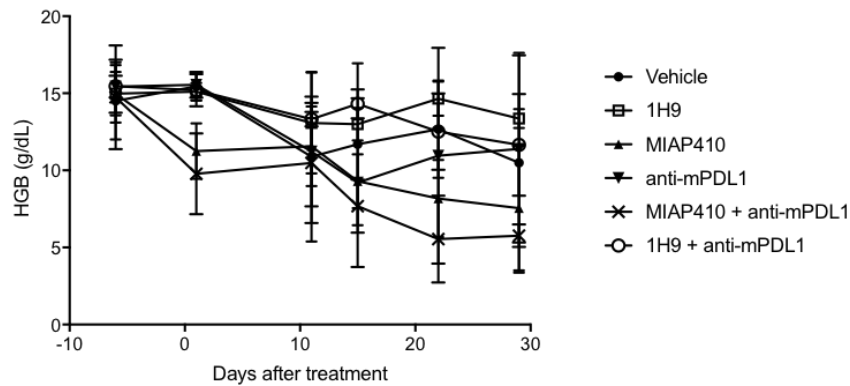
Supplementary Figure 1. Humanized 1H9 possesses the same antigen binding specificity as its parental antibody. Mouse 1H9 binding to SIRP α was detected by ELISA in the absence or presence of increasing concentrations of humanized 1H9. Each sample was assayed in duplicate. Data represent mean \pm S.D.



Supplementary Figure 2. Neutrophil-mediated cytotoxicity. Raji cells were co-incubated with purified human neutrophils for 4 hours in the presence of 10 $\mu\text{g/ml}$ of 1H9 and rituximab at the concentrations indicated. Data represent mean \pm S.D.



Supplementary Figure 3. Hemoglobin level in individual mouse. B16F10 (2.5×10^5) cells were engrafted subcutaneously into CD47-SIRP α double humanized mice (n=7 for PBS, 6 for anti-PD-L1, and 8 for the 1H9 and MIAP410 alone and in the combination groups). 12 days post engraftment, treatment was initiated with PBS, 10 mg/kg of 1H9, anti-PD-L1 antibody, MIAP410, or combination of 1H9 or MIAP410 with anti-PD-L1 antibody three times a week until the termination of the study. Hemoglobin was measured on day -6, 1, 11, 15, 22, and 29.



Supplementary Table 1. Genotypes of SIRP α from 22 human donors.

Donor	SIRP α Allelic variant
468	V2/V2
470	V1/V1
707	V1/V1
845	V1/V1
047	V1/V1
620	V1/V1
622	V1/V1
353	V1/V1
589	V1/V1
590	V1/V1
52	V1/V1
82	V1/V1
83	V1/V1
84	V1/V1
149	V1/V1
352	V1/V1
37	V1/V1
38	V1/V5
339	V1/V1
952	V1/V1
995	V1/V1
997	V2/V2