

**Supplementary Figure 6:** A. Kaplan Meier curve comparing overall survival in mice treated with PBS Control, CARG-2020, VLV-IL-12, VLV-17R ECD, VLV-shRNA PD-L1, and VLV-GFP;  $p < 0.0001$ ; B. CARG-2020 but not VLV-IL-12 modulates the innate immune system. Peritoneal lavage from VLV-IL-12 and CARG-2020-treated mice ( $n=6$ ) were analyzed by flow cytometry for macrophages using CD11b and CD206. VLV-IL-12 treatment is not able to increase the number of CD11<sup>low</sup>/CD206<sup>-</sup> macrophages compared to CARG2020. Representative dot plots shown. Gating strategy is shown in Supp. Fig. 1; C. Decrease on Ly6C+/Ly6G+ MSC is observed only in the CARG2020 treated group but not in those treated with VLV-IL-12 group. Representative dot plots shown. Gating strategy is shown in Supp. Fig. 1.

