



**Figure S1.** Dynamic expression of PD ligands on macrophages by flow cytometry co-cultured with AWE and EE *in vitro*: **(a)** PD-L1 expression on M1 (F4/80<sup>+</sup>CD86<sup>+</sup>) and M2 (F4/80<sup>+</sup>CD206<sup>+</sup>) RAW246.7 cell line co-incubated with EE *in vitro*. **(b)** PD-L2 expression on M1 (F4/80<sup>+</sup>CD86<sup>+</sup>) and M2 (F4/80<sup>+</sup>CD206<sup>+</sup>) RAW246.7 cell line co-incubated with AWE *in vitro*. No significant changes were observed, and we indicate the specific expression of different antigens stimulating PD ligands *in vitro*.