



**Figure S1: Macrophage Functional Phenotyping by Gene and Protein Expression of Immunomodulatory Factors.** Multiplex detection of immunomodulatory factors in six M $\Phi$  phenotypes were detected using magnetic bead-based quantification of mRNA and secreted protein. CD14<sup>+</sup> monocytes were isolated from human blood-derived PBMCs, differentiated into resting M $\Phi$  (M0, shown in blue) with M-CSF *ex vivo*, and polarized into five activated phenotypes using IFN- $\gamma$ /LPS (M1, shown in red), IL-4/IL-13 (M2a, shown in yellow), IC/LPS (M2b, shown in green), IL-10 (M2c, shown in gray), or IL-6/LIF (M2d, shown in purple). Gene and protein expression profile (diamond-whisker plots and bar charts, respectively) of key functional molecules were profiled by multiplex assay after 24 hrs of *ex vivo* polarization. Immunomodulatory factors include IL-27 (A), CCL4 (B), CXCL13 (C) IL-4 (D), IL-13 (E), IFN $\gamma$  (F), and IL-1RA (G). Diamond-whisker plots display 25%-75% quartile range, median, and mean. Bar charts indicate mean  $\pm$  SEM. Statistical analysis was performed for the MFI values (histogram bars) using repeated measures analysis of variance and model-based means post hoc test ( $p < 0.05$ ) with differing letters denoting statistical significance. Expression profiles were normalized to total cell count and include three biological replicates (N=3).