

Fig. S1

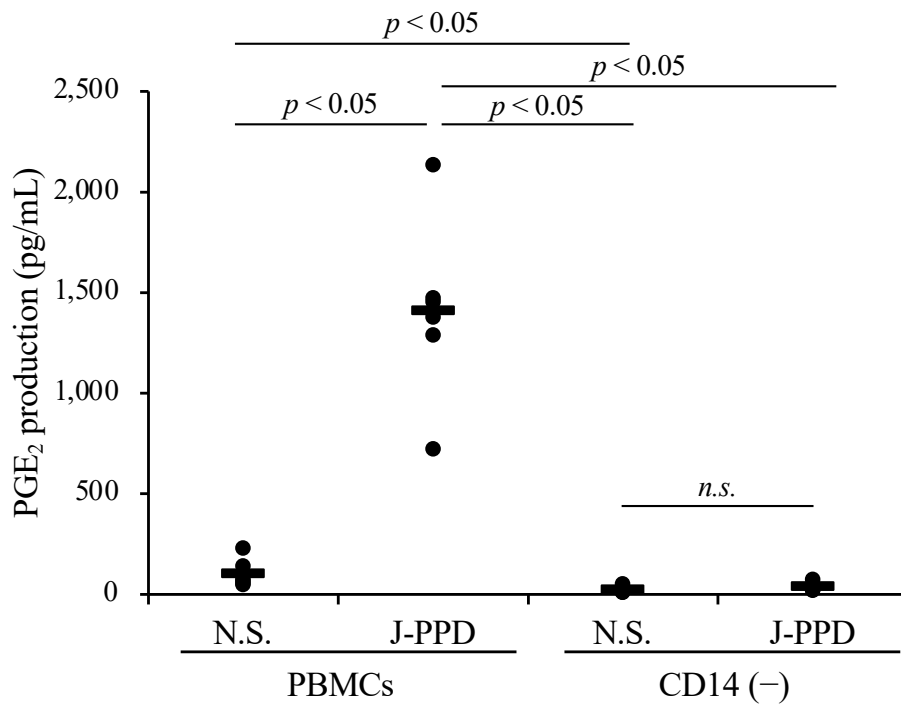


Fig. S2

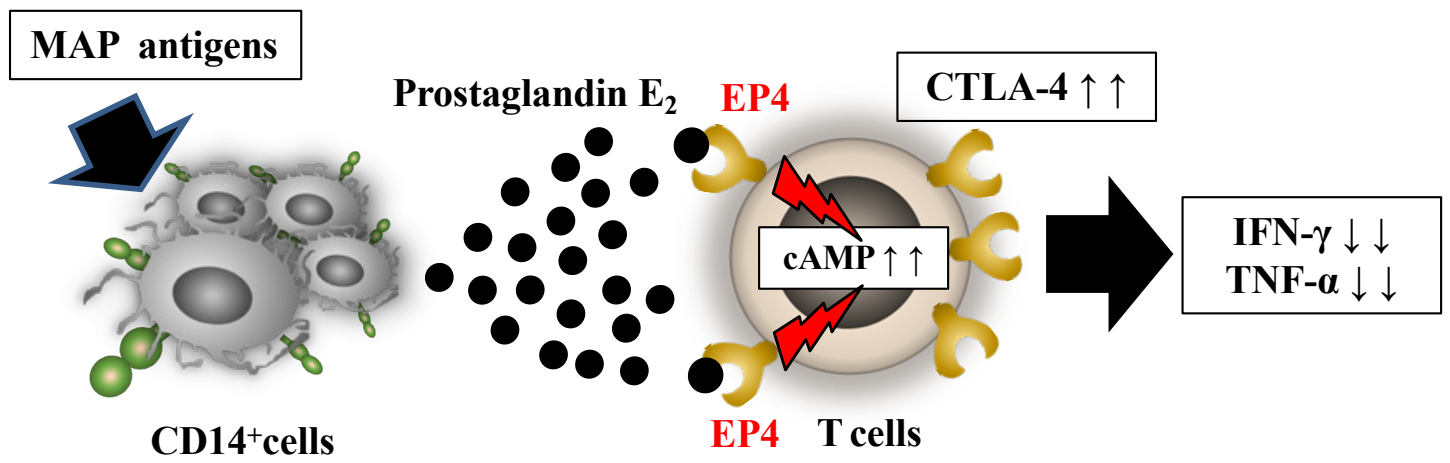


Fig. S3

Figure S1

The gating strategy used for CTLA-4 staining. Total lymphocytes were first gated in a forward scatter (FSC)/side scatter (SSC) plot (a) and then in a singlet population (b). Cells were subsequently gated for CD3⁺IgM⁻ population (c) and further gated for CD4 or CD8 expression. Gated CD4⁺ or CD8⁺ T cells were analyzed for CTLA-4 expression, respectively. The fluorescence threshold for classifying the percentage of CTLA4⁺ cells was determined by comparison to isotype control antibodies.

Figure S2

PGE₂ production from PBMCs and CD14⁺ cell-depleted PBMCs. PBMCs or CD14⁺ cell-depleted PBMCs from *M. avium* subsp. paratuberculosis-infected cattle ($n = 6$) were cultured in the presence of J-PPD. The concentrations of PGE₂ in culture supernatants were measured using ELISA. *P* values were obtained using Steel–Dwass tests. N.S.: no stimulation; CD14 (-): CD14⁺ cell-depleted PBMCs.

Figure S3

Diagram of PGE₂-mediated immunosuppression by increased expression of CTLA-4 in Johne's disease.