



Figure 1. Secretion of interferon- γ (IFN- γ ; Abs_{450nm}) in a whole-blood assay by control noninfected cows (Control) or cows naturally infected with *Mycobacterium avium* subsp. *paratuberculosis* (Infected). Whole blood was incubated for 18 hr with medium alone (NS), concanavalinA (ConA), pokeweed mitogen (PWM), a whole-cell sonicate of *M. avium* subsp. *paratuberculosis* (MPS), johnin purified protein derivative (JPPD), or recombinant MAP proteins, MAP0900, MAP1087, MAP1203, MAP1204, MAP1272c, MAP2077c, or MAP4327c. Data are expressed as means \pm SEM.