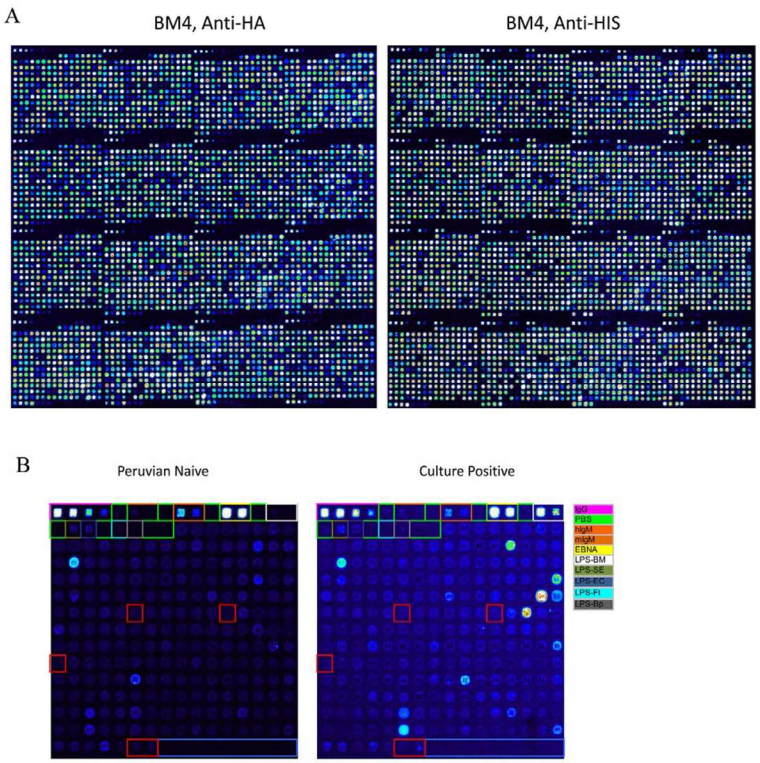

Figure S1. Construction of a *B. melitensis* full proteome Protein Microarray. Arrays were printed containing 3046 *B. melitensis* proteins, positive and negative control spots. Each array contains positive control spots printed from 4 serial dilutions of human and mouse IgG, 2 serial dilutions of EBNA1 protein, and "No DNA" negative control spots. (A) The array was probed with anti-His or anti-HA antibody, 97% of the protein spots were positive for the His tag, and 96% positive for HA tag, contributing to the expression of over 98% proteins. (B) Comparison of arrays probed with Peruvian naïve serum and Culture positive serum. The arrays were read in a laser confocal scanner. The signal intensity of each antigen is represented by rainbow palette of blue, green, red and white by increasing signal intensity. White spots are with saturated maximum signal intensity (~65000). Red spots are with near maximum signal intensity.

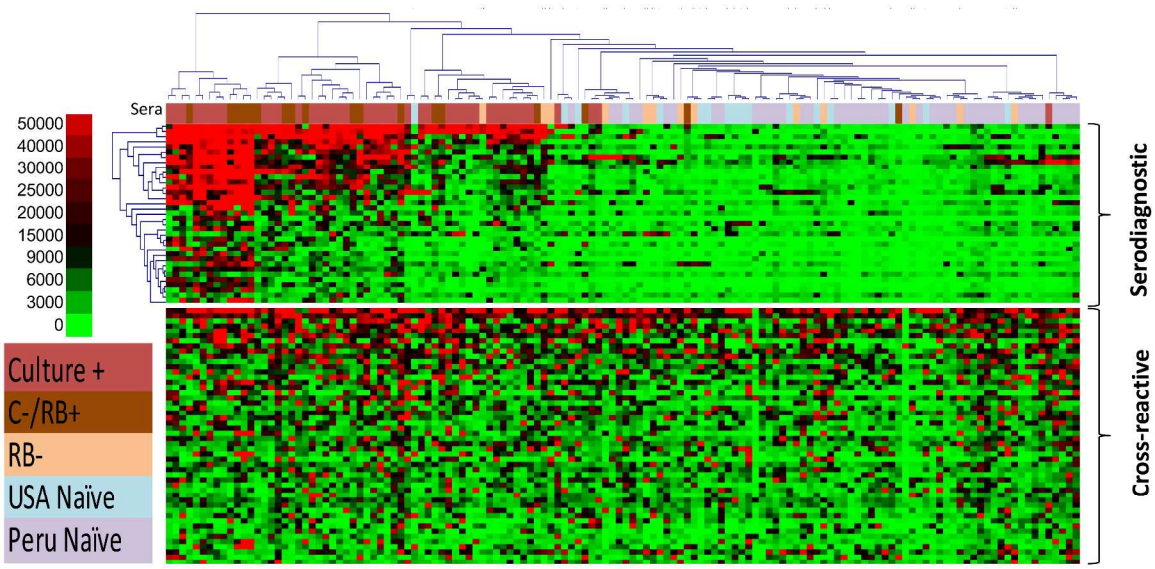

Figure S2. Arrays were probed with human sera organized into 5 groups: Culture Positive, Culture Negative/Rose Bengal Positive, Rose Bengal Negative, USA Naïve, and Peruvian Naïve, as described in the text. The heatmap displays intensity with red showing the strongest, bright green the weakest, and black intermediate. The antigens are listed in rows and are grouped into serodiagnostic and cross-reactive antigens. Human samples are in columns and are hierarchically clustered according to response against serodiagnostic antigens.

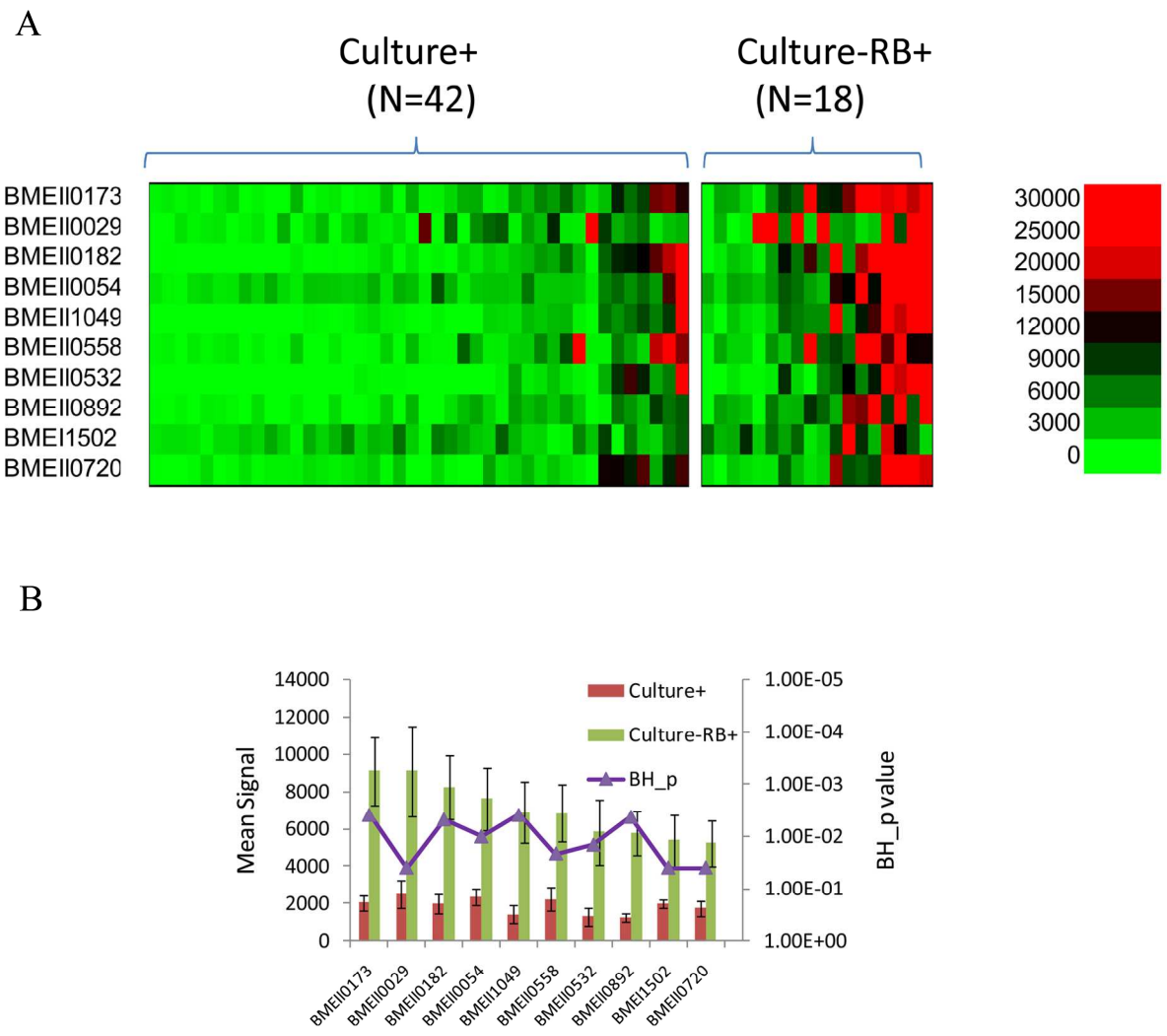

Figure S3. Comparison of serodiagnostic antigens for culture+ and culture-RB+ brucellosis. (A) Heatmap showing intensity of 10 serodiagnostic antigens differentially reactive in culture -/RB+ and culture + patients. The antigens are in rows. The human samples are in columns and sorted according to mean signal of each antigen. Numbers in parenthesis are case numbers from each group. (B) Histogram of mean signal of each serodiagnostic antigens in culture-RB+ and culture+ samples. BH corrected p value was overlaid for all antigens.