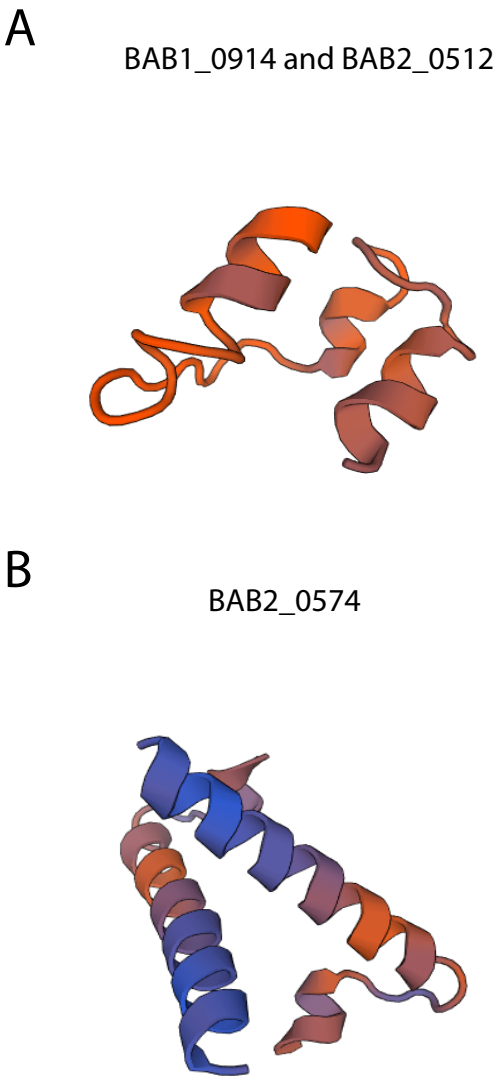

Figure S1. Predicted protein structures of BAB1_0914, BAB2_0512, and BAB2_0574.

Protein structure homology-modelling as depicted by the free online server SWISS-MODEL for BAB1_0914 and BAB2_0512 (A) and BAB2_0574 (B).

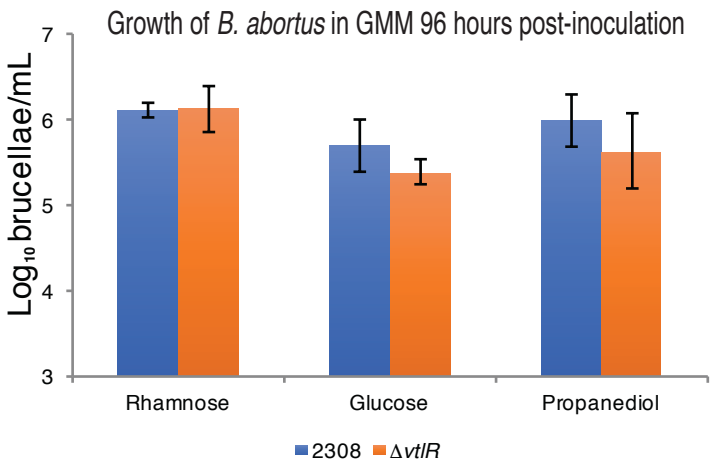

Figure S2. *B. abortus* 2308::Δ*vtlR* sensitivity to L-rhamnose, D-glucose, and propanediol.

B. abortus 2308::Δ*vtlR* growth 96 hours post-inoculation in GMM in the presence of 24 mM L-rhamnose, D-glucose, or propanediol.

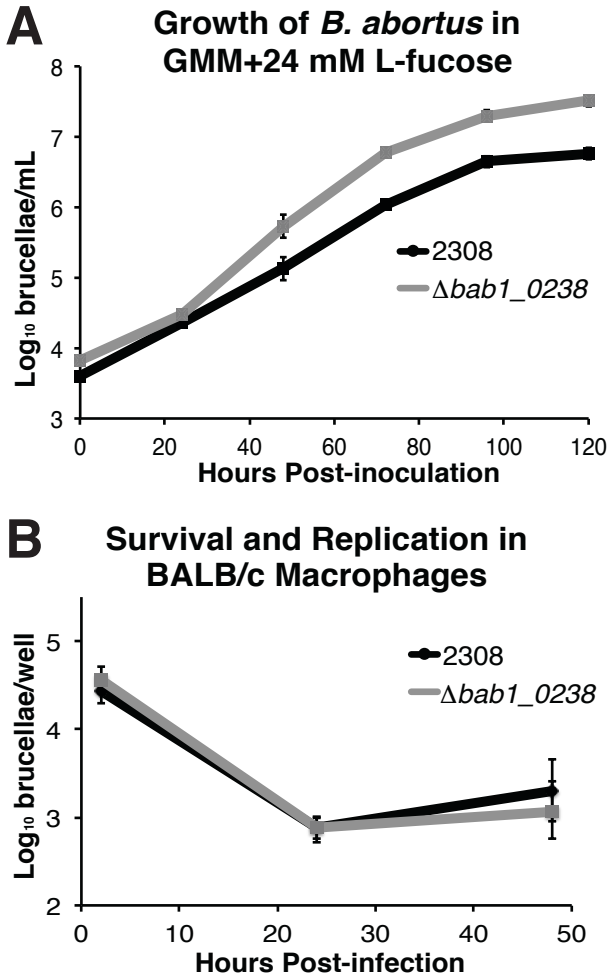

Figure S3. Growth kinetics and virulence of *B. abortus* 2308 and *B. abortus* 2308::Δ*bab1_0238* . A. Growth of *B. abortus* strains in Gerhardt's minimal medium (GMM) + 24 mM L-fucose. Cultures of (GMM) supplemented with and without the addition of 24 mM L-fucose were inoculated with *Brucella* strains at an initial concentration of ~5x10^3 CFU/ml and incubated at 37^{o}C. Samples were collected and serial diluted to calculate Log10 brucellae/mL every 24 hours.

B. Macrophage survival and replication experiments. Primary peritoneal macrophages from BALB/c mice were infected with *B. abortus* 2308 or the isogenic *bab1_0238* deletion strain (Δ*bab1_0238*). Macrophages were lysed 2, 24, and 48 hours post-infection, and the number of intracellular brucellae was determined by serial dilatation and plating on agar medium.

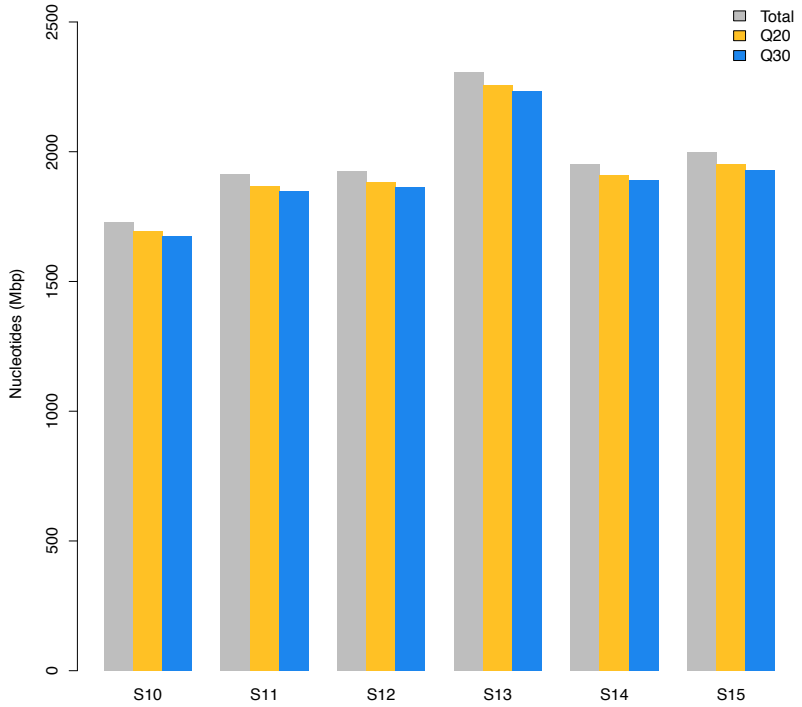

Figure S4. Sequencing summary after quality control. Bars in different colors represent nucleotides from all (Total, grey) sequencing quality greater than or equal to 20 (Q20, yellow), and sequencing quality greater than or equal to 30 (Q30, blue). Samples S10-S12: 3 replicates of *B. abortus* 2308 cultured in GMM; S13-S15: 3 replicates of *B. abortus* 2308 cultured in GMM - Fucose (100 μM).