

# Roles of genomic island 3 (GI-3) BAB1\_0278 and BAB1\_0263 open reading frames (ORFs) in the virulence of *Brucella abortus* in BALB/c mice

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The genomic island 3 (GI-3) shared by *Brucella melitensis* and *Brucella abortus* contains 29 genes encoding mostly unknown proteins. Within this island, the open reading frames (ORFs) BAB1\_0278 and BAB1\_0263 are present, BAB1\_0278 encodes a hypothetical protein of 64 amino acids sharing a domain with the GcrA superfamily, whereas the amino acid sequence of BAB1\_0263 showed 42% identity with an iron regulated Lsr2 protein. We obtained one deletion mutant for each one of these ORFs present within the *B. abortus* GI-3 named BA-278 and BA-263, respectively. Both mutants were evaluated with respect to their ability to invade and replicate in nonprofessional and professional phagocytes (HeLa and J774.A1 cells) and their virulence in mice. Both mutants invaded efficiently HeLa and J774. A1 cells, however, 48-h post-infection the BA-278 mutant showed a lower intracellular persistence. The deletion of the ORF BAB1\_0278, also affected the persistence of *B. abortus* in the spleens of mice, unlike to