

```

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Bb_WI91-23_cp32-10 59  LKERHLDVGNALKEKLLAEESLFQDKLAALKLAALKAARKIEGTTDANNNTARKIWAEE
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Bb_64b_cp32-5     117 AKLVGVTIKFSGSNTGKGAEMSKAEVQIDKIKFLEEGTN
Bb_94a_cp32-7     117 AKLVGVTIKFSGSNTGKGAEMSKAEVQIDKIKFLEEGTN

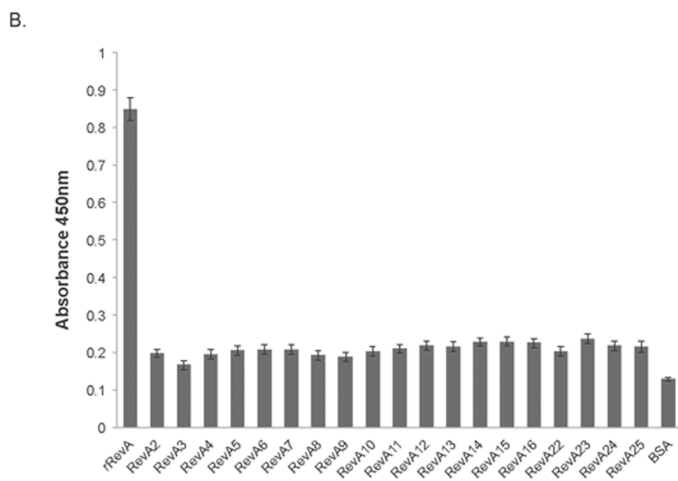
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Supplemental Figure 1. Predicted amino acid sequences of RevA proteins of *B. burgdorferi* sensu stricto (strains B31, N40, 297, 156, 29805, Bol26, 94a, 118a, WI-91-23, 72a, 64b), *B. garinii* PBi, and *B. spielmanii* strains A14s and pCEq17. Identical amino acid residues found in the greater than 50% of proteins are boxed and shaded black; similar residues are shaded in gray.

A.

MRNKNIFKLFFAAMLFVMACKAYVEEKKEIDSLMEDVLALVNDSSGGKFKDYKDKINELKENLKDIGNAELKEKLLNLQ
 NSFQDKLAAKLAALKAAKNTIENITDKDQDISKRKIWSEAKLVGVTPLLGSNTSGNGDKMSKNAVEQIDKVIKFLLEGTN

REVA2: FAAMLFVMACKAYVEEKKEI
 REVA3: FVMACKAYVEEKKEIDSLME
 REVA4: KAYVEEKKEIDSLMEDVLA
 REVA5: EEKKEIDSLMEDVLALVNDSS
 REVA6: DSLMEDVLALVNDSSGGKFK
 REVA7: DVLALVNDSSGGKFKDYKDK
 REVA8: VNDSSGGKFKDYKDKINELK
 REVA9: GGGKFKDYKDKINELKENLKD
 REVA10: DYKDKINELKENLKDIGNAE
 REVA11: INELKENLKDIGNAELKEKL
 REVA12: ENLKDIGNAELKEKLLNLQN
 REVA13: IGNAELKEKLLNLQNSFQDK
 REVA14: LKEKLLNLQNSFQDKLAAKL
 REVA15: LNLQNSFQDKLAAKLAALKA
 REVA16: SFQDKLAAKLAALKAAKNTI
 REVA22: KDQDISKRKIWSEAKLVGVT
 REVA23: SKRKIWSEAKLVGVTVPLLG
 REVA24: WSEAKLVGVTVPLLSNTSG
 REVA25: LVGVTVPLLSNTSGNGDKM



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Supplemental Figure 2. RevA epitope mapping. **A.** Complete amino acid sequence of the *B. burgdorferi* B31 RevA protein. A series of 20 amino acid peptides of RevA were synthesized with 10 amino acid overlap. Underlined residues represent coverage of RevA protein. **B.** Plates were coated with 10 µg/ml recombinant RevA protein or RevA peptides, and recognition of linear peptide epitopes by pooled serum from infected mice was measured by ELISA. Data represent the means and standard errors from 3 separate experiments with 6 wells per condition.