**A Structural Model for Binding of the Serine-Rich Repeat Adhesin GspB to Host Carbohydrate Receptors**

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**Supporting Text S1**

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Running Head: Carbohydrate recognition by GspB

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**Cation Binding site**

The bond distances and seven-coordination number of the cation binding site identified within the Siglec subdomain of GspBBR (**Fig. S1**) suggest that Ca2+ should bind preferentially. However, crystallization of GspBBR in the presence of a variety of cations (K+, Cd2+, Ho3+, Dy3+) resulted in spontaneous incorporation of each within this site (see **Supporting Protocols S1** for a detailed description of the assignment of ions in each situation), suggesting that cation binding at this location is both labile and promiscuous. To evaluate if the cation identity affects the geometry of the metal binding site, we chelated as-isolated GspBBR, homogeneously incorporated the site with Ca2+, and determined the structure (not shown). When compared to crystal structures of GspBBR containing K+, Cd2+, Dy3+, or Ho3+ at this site, no significant structural differences were observed.