**Dataset S6A.** Nine heavy chain sequences identified from signature sequence search using HV6-1 class signature version 1. Missing residues were filled in with germline amino acids.

**Dataset S6B.** Alignment of partial light chain sequences identified from paired heavy:light chain sequencing. Important contact residues were colored red.

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**Germline gene and known HV6-1 class (and associated light chain gene)**

**Signature identified HV6-1 antibodies with associated light chain gene**