Supporting Information

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SI Material and Methods

Hematology, Blood Biochemistry, and Humoral Immune Responses. Phlebotomy was performed using the femoral vein with a venous blood collection system (Becton Dickinson). Viremia was assayed by traditional plaque assay (1). Hematological values of blood samples collected in tubes containing EDTA were determined by using a hematologic analyzer (Coulter), and biochemistry values were measured using a Piccolo point-of-care blood analyzer (Abaxis). To determine the specific antibody titers against Ebola virus and Marburg virus (MARV), irradiated virus for each of the filoviruses was used to coat PVC ELISA plates (Dynatech Laboratories). The coated plates were incubated overnight at 4 °C, and the assay was carried out as previously described (2). Antibody titer was defined as the reciprocal of the highest dilution giving a net optical density value of +3 SDs greater than background. Background was determined by using prechallenge serum from each individual animal for comparison with the postchallenge sera.

Postmortem Examination. For all animal studies described here, the body of each animal that died or was euthanized as a result of the severity of clinical disease was submitted for gross necropsy under Biosafety Level 4 containment. Samples of the following organs were collected from each animal and fixed in 10% (vol/vol) buffered formalin for histology: liver, spleen, kidney, axillary lymph node, and inguinal lymph node. The set of formalin-fixed tissue samples from each monkey was held for a minimum of 21 d and transferred to the US Army Medical Research Institute of Infectious Diseases histopathology laboratory. All tissue samples were trimmed, routinely processed, and embedded in paraffin. Sections of the paraffin-embedded tissues 5 μm thick were cut for histologic examination. The histology slides were deparaffinized, stained with H&E, and placed under coverslips.

1. Moe JB, Lambert RD, Lupton HW (1981) Plaque assay for Ebola virus. *J Clin Microbiol* 13:791–793.

2. Swenson DL, et al. (2008) Vaccine to confer to nonhuman primates complete protection against multistrain Ebola and Marburg virus infections. *Clin Vaccine Immunol* 15:460–467.

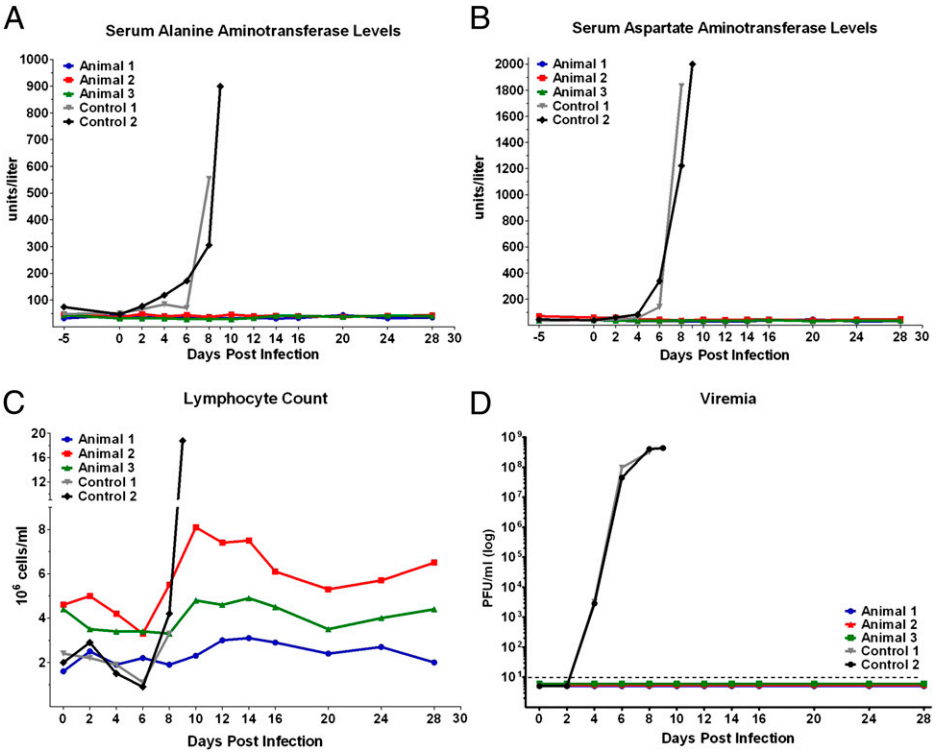

Fig. S1. Serum enzyme levels, lymphopenia, and viremia after MARV infection. Serum collected at indicated days after infection was analyzed by Piccolo analyzer to determine (*A*) alanine aminotransferase and (*B*) aspartate aminotransferase. (*C*) Whole blood collected at indicated days postinfection was analyzed by complete blood counts to measure lymphopenia. (*D*) Viral loads were determined at indicated days postinfection by plaque assay using serum. Dotted lines indicate assay limit of detection.

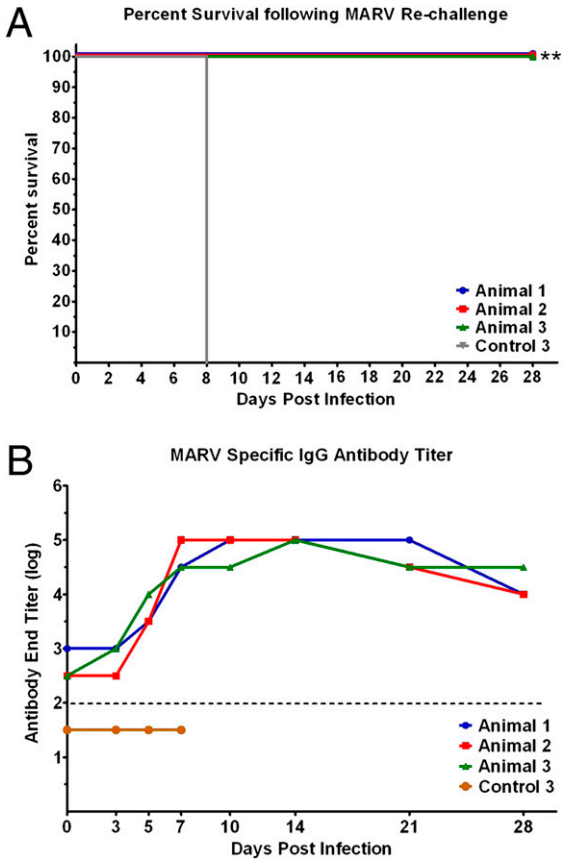

Fig. S2. Percent survival and filovirus-specific antibody titers after infection. (*A*) Percent survival and (*B*) MARV-specific IgG antibody titers after rechallenge with MARV in the absence of IgG treatment. Serum collected from nonhuman primates at indicated days postinfection was analyzed by ELISA against whole irradiated MARV antigen. MARV-specific antibody end titers are reported. Dotted line indicates assay limit of detection (**$P < 0.01$, Fisher exact test).

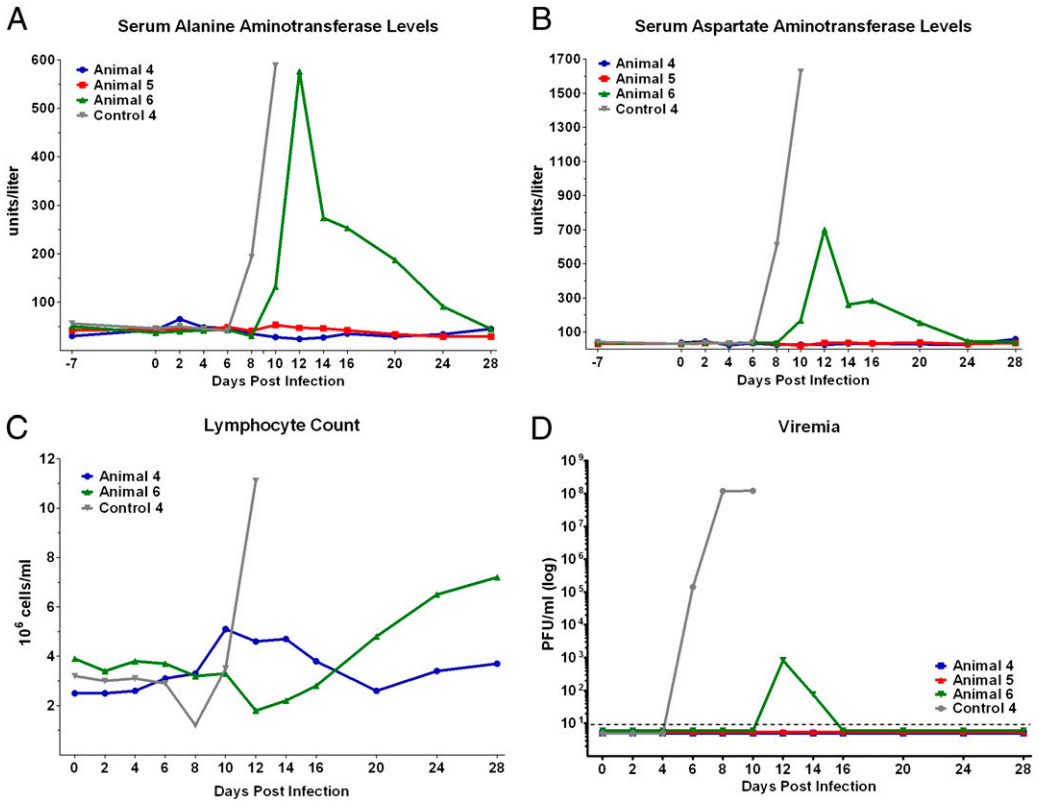

Fig. S3. Serum enzyme levels, lymphopenia, and viremia after MARV infection. Serum collected at indicated days postinfection was analyzed by Piccolo analyzer to determine (*A*) alanine aminotransferase and (*B*) aspartate aminotransferase. (*C*) Whole blood collected at indicated days postinfection was analyzed by complete blood counts to measure lymphopenia. (*D*) Viral loads were determined at indicated days postinfection by plaque assay using serum. Dotted lines indicate assay limit of detection.

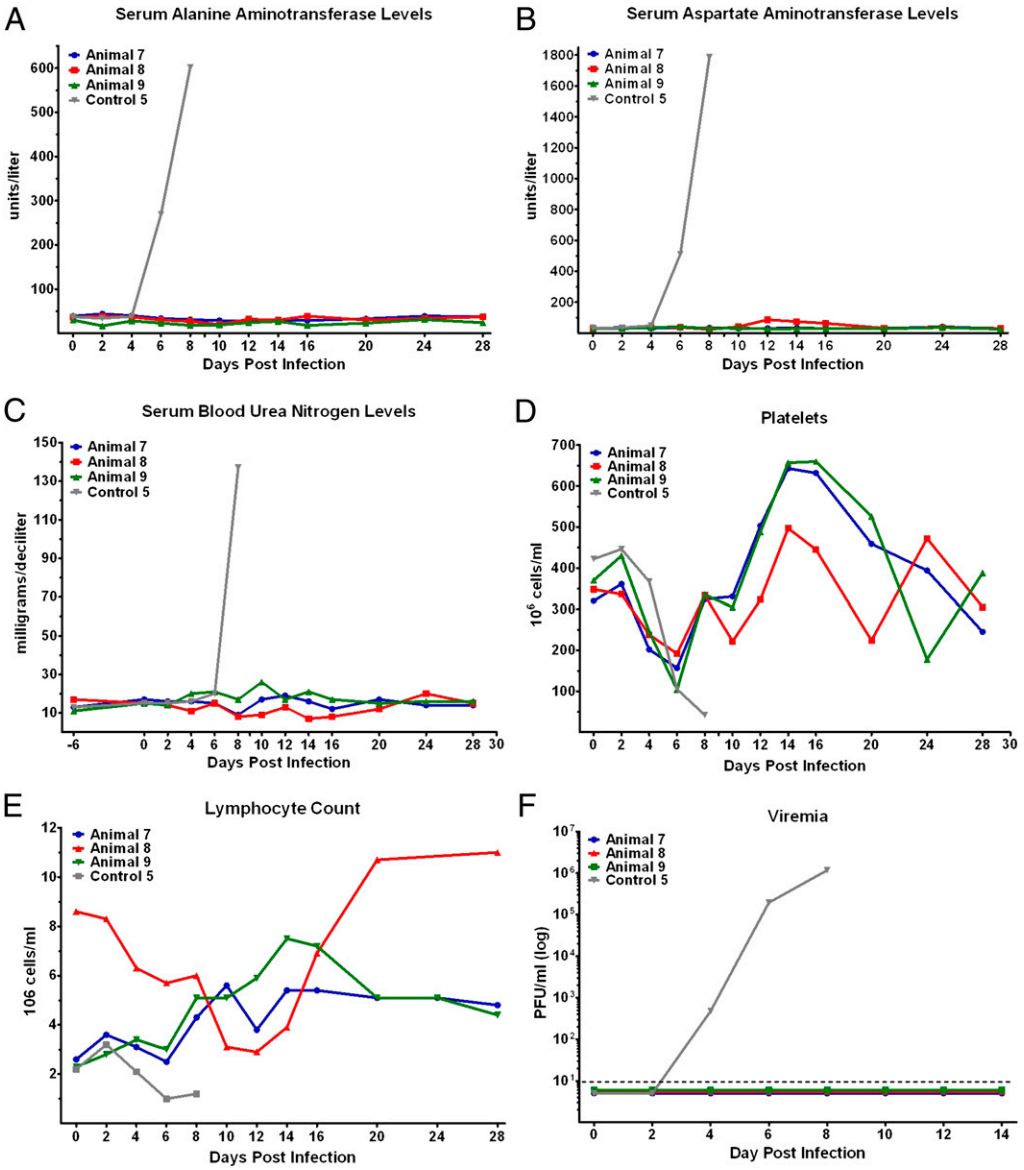

Fig. S4. Serum enzyme levels, lymphopenia, and viremia after MARV infection. Serum collected at indicated days postinfection was analyzed by Piccolo analyzer to determine (*A*) alanine aminotransferase, (*B*) aspartate aminotransferase, and (*C*) blood urea nitrogen levels. Whole blood collected at indicated days postinfection was analyzed by complete blood counts to measure (*D*) platelets and (*E*) lymphopenia. (*F*) Viral titers were determined using serum collected at indicated days postinfection by plaque assay.