**Detection and Characterization of Canine Antibody
to Human Albumin**

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ABSTRACT

Objective—To determine the canine immune response to human albumin (HA) by
ELISA detection of canine anti-HA IgG antibodies.

Animals—Fourteen critically ill dogs that received 25% HA as part of their treatment
protocol. Two healthy dogs with no known exposure to HA received 2 infusions of 25%
HA and served as positive controls. Forty-seven healthy dogs and 21 critically ill dogs
with no known exposure to HA served as negative controls.

Procedures—An ELISA assay was developed using HA and anti-canine IgG antibody,
validated with positive and negative control samples, and confirmed with Western blots.
Serum samples were collected from the critically ill dogs prior to the infusion, at hospital
discharge, and 4 to 6 weeks and 6 months after HA administration. Serum samples were
collected at 2 to 4 week intervals from the 2 positive control dogs for 101 weeks. A single
serum sample was collected from each of the negative control dogs. ELISA assays were
performed on all serum samples.

Results—The critically ill dogs enrolled in the study showed a strong IgG antibody
response on ELISA to HA. The peak antibody response was seen at 4 to 6 weeks after
administration. In both positive control dogs, the antibody response was positive at 10
days post HA administration and continued past 97 weeks. The peak antibody response
was seen at 3 weeks in 1 dog and at 9 weeks in the other dog. In the negative control
dogs, 5/68 (7%) had a positive antibody response.

Conclusions—Canine IgG immune response to HA, as detected by an ELISA, is
pronounced in both magnitude and duration. Some dogs with no prior history of HA
administration were positive for anti-HA IgG antibodies. This may be an idiosyncratic
response, or may be due to prior sensitization to non-canine albumin.