

Research Note: Signalment & Heat Stress in Dogs

Dogs rely on an increased respiratory rate to initiate the necessary cooling when overheated; as such, brachycephalic dogs are particularly susceptible to hyperthermia when heat stressed. This study demonstrated that brachycephalic dogs have a decreased capacity for thermoregulation but that BCS appears to be a more important factor than breed. When considering heat stress situations, including air travel, both factors should be taken into account.

Source

Davis MS, Cummings SL, Payton ME. Effect of brachycephaly and body condition score on respiratory thermoregulation of healthy dogs. *J Am Vet Med Assoc.* 2017;215(10):1160-1165.

Research Note: Babesiosis Vaccine Antigens

Existing commercial vaccines against babesiosis contain soluble parasite antigens (SPAs) from in vitro culture supernatants of *Babesia canis*. This study identified and characterized the specific antigen in SPA serum that confers immunity in vaccinated dogs (ie, canine *Babesia* antigen [CBA]) and sequenced the gene that encodes it. The gene was then cloned and expressed in *Escherichia coli*. The recombinant CBA (rCBA) was found to protect against challenge infection in rCBA-vaccinated dogs. The rCBA antigen could replace existing SPA vaccines, thereby eliminating the need for dog blood and serum for production of vaccine.

Source

Moubri K, Kleuskens J, Van de Crommert J, et al. Discovery of a recombinant *Babesia canis* supernatant antigen that protects dogs against virulent challenge infection. *Vet Parasitol.* 2018;249:21-29.

The rCBA antigen could replace existing SPA vaccines, thereby eliminating the need for dog blood and serum for production of vaccine.

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