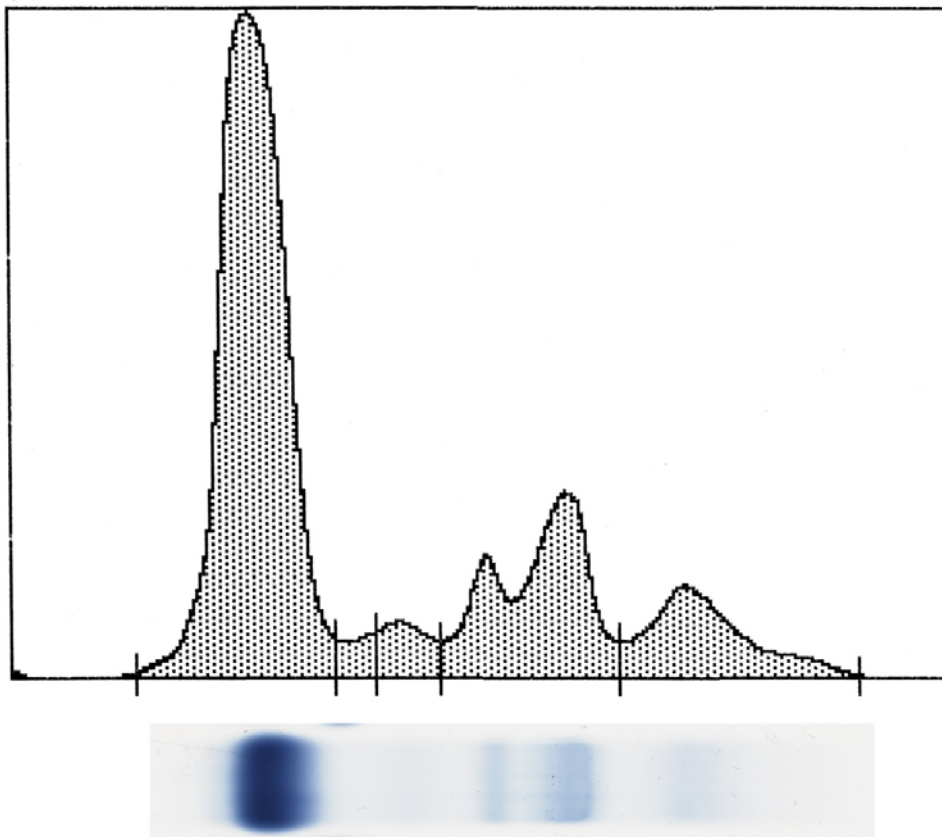


## Clinical Case 7: Prealbumin

### Normal EPH

This is a normal EPH pattern from an African Grey Parrot. African Grey Parrots often have low or no visible prealbumin fraction. Albumin, in a normal animal, is the predominant fraction as shown here. Albumin can decrease with acute inflammation. Alpha 1 globulins are not commonly found in significant levels in psittacines (but are a major fraction in other avian species). A small alpha 2 fraction is demonstrated below. This fraction can increase non specifically with acute inflammation. In African Greys as well as a few other parrot species, beta globulins are present as a double peak. The gamma globulins shown below conform to the normal polyclonal resting pattern.

In EPH interpretation, the clinical pathologist examines both this densitometer tracing as well as the gel itself (shown underneath the tracing below). The two give a combined impression with the quantitated fractions to lead the pathologist to give the submitting veterinarian the most accurate interpretation possible.

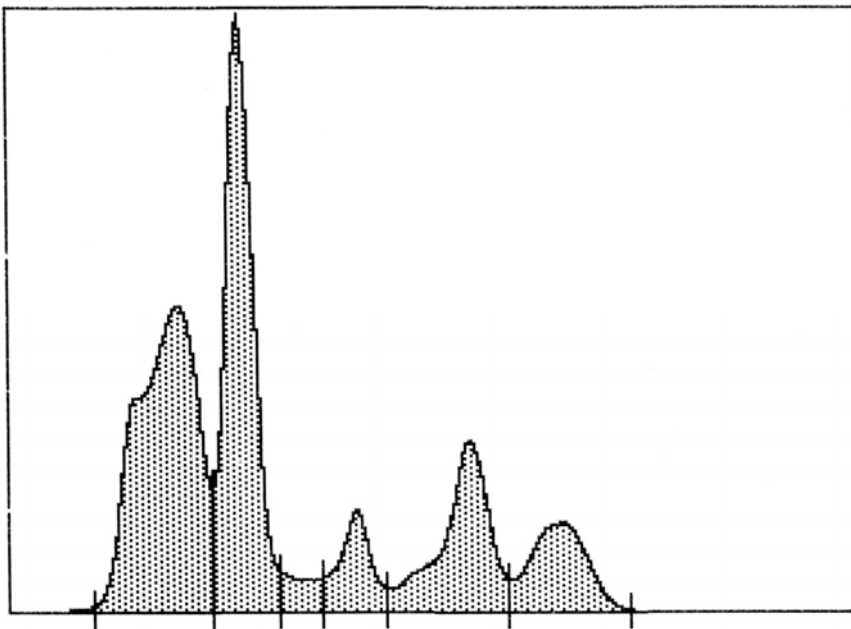


From left to right: albumin, alpha 1, alpha 2, beta, and gamma globulins. The prealbumin fraction is absent in this bird. The A/G ratio is 1.59.

## Prealbumin

Prealbumin is believed to function as albumin does as a major transporter present in the blood. Prealbumin is virtually absent in mammals but is found to be a major protein in many avian species – especially in psittacines. Cockatiels, quaker parrots, budgies, and various parakeet species have high concentrations of this protein. In some cases, prealbumin is found in higher amounts than albumin in normal birds of the aforementioned species. This is true in very young cockatiels. However, by approximately one year of age, the prealbumin decreases for a final prealbumin:albumin ratio of 0.75:1. With older age, the inverted ratio appears to recur.

Assigning a clinical significance to high prealbumin levels has been difficult. In our lab, some confirmed cases of liver disease have been associated with an inverted prealbumin:albumin ratio in cockatiels. In addition, birds with very poor nutrition have been found to have elevated prealbumin. Interestingly, both associations have been reported in humans. The laboratory has an ongoing study on prealbumin. If you submit a case with such a profile and have made a final diagnosis, please contact the lab.



EPH of a 7 month old normal cockatiel. All fraction values are actually within normal range for this species (A/G ratio = 2.03) but an inverted prealbumin:albumin ratio is present with 35% prealbumin and 32% albumin. These fractions “normalized” to adult values by one year of age.